department for
culture, media
and sport

Implementing the revised EU Electronic Communications Framework

Impact Assessment

April 2011

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Department for Culture, Media and Sport

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List of Impact Assessments

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7. E-Privacy Directive Annex 1: Internet Cookies
8. Authorisation Directive
9. Access Directive
10. Universal Services Directive

Title: **Implementing the Revised EU Electronic Communications Framework**	Impact Assessment (IA)
Lead department or agency: Department for Culture, Media and Sport	**IA No:** DCMS015
Other departments or agencies: Ofcom, ICO	**Date:** 04/03/2011
	Stage: Final
	Source of intervention: EU
	Type of measure: Secondary legislation
	Contact for enquiries: Stephen Fernando (020 7215 6320)

Summary: Intervention and Options

What is the problem under consideration? Why is government intervention necessary?

Without effective regulation, the electronic communications sector is characterised by natural monopoly, sunk costs and significant economies of scale. As a 'network industry', large operators have an overwhelming advantage over its competitors, resulting in a significant and non-transitory barrier to entry. Given the economics costs associated with monopolistic markets, such as deadweight loss and consumer detriment, it is necessary for Government or a public body to regulate the market in order to foster and promote competition. Furthermore, given that the vast majority of the public now access some form of electronic communication, it is necessary to address consumer issues such as security, privacy and universal access because failure to do so can lead to significant detriment.

What are the policy objectives and the intended effects?

This UK is required to implement the EU Electronic Communications Framework (composed of five Directives). The first Framework was implemented in 2003, mainly through the Communications Act 2003 but following a review that examined how well the regulatory framework had achieved its objectives, the package of Directives have been amended to better achieve their aims. These are:

- ensure effective competition which brings tangible benefits to consumers, in particular through greater choice of services and lower prices
- promote investment and innovation in high-speed communications infrastructure and new services
- protect consumers' interests

What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)

The Government is required to implement a number of changes within the Directives that allow for no flexibility in implementation. These include a requirement for Ofcom to conduct market reviews every 3 years (it currently does so every 4-5 years) and the provision of enhanced enforcement powers to Ofcom and ICO in order to ensure that firms are compliant with their regulatory obligations. These amendments are assessed against a counterfactual 'no change' scenario, without looking at other discrete options. For legislative changes where the UK has flexibility in implementation, a number of options are analysed. These include issues related to: the security and resilience of electronic communication networks; collecting information on the location and availability of infrastructure, and; options to implement the consumer's right to consent to any attempt to store (or access) internet cookies on a user's equipment. In accordance with Better Regulation principles, the Government's preferred option is to largely utilise a "copy out" approach for transposing the Directives into UK law.

Will the policy be reviewed? It will be reviewed. **If applicable, set review date:** 5/2016	
What is the basis for this review? Duty to review. **If applicable, set sunset clause date:** Month/Year	
Are there arrangements in place that will allow a systematic collection of monitoring information for future policy review?	Yes

SELECT SIGNATORY Sign-off For final proposal stage Impact Assessments:

I have read the Impact Assessment and I am satisfied that (a) it represents a fair and reasonable view of the expected costs, benefits and impact of the policy, and (b) the benefits justify the costs.

Signed by the responsible Minister: ..... Date: 24/03/2011

Summary: Analysis and Evidence — Policy Option 1

Description:

Government's preferred approach to implementing the EU Electronic Communications Framework

Price Base Year 2011	PV Base Year 2011	Time Period Years 2011	Net Benefit (Present Value (PV)) (£m)		
			Low: -130	**High:** -19.5	**Best Estimate: -74.3**

COSTS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	0.3	1	2.7	**23.5**
High	0.4		15.4	**133**
Best Estimate	0.35		9	**77.8**

Description and scale of key monetised costs by 'main affected groups'

Requirement for Ofcom to conduct market reviews every 3 years instead of 4-5 years may increase burden on Ofcom by 187k-£1.3m per year and industry by £1.6m-£10.6m per year. Requirement for industry to notify ICO of data breaches could cost £240k-£2m per year. Other costs are mostly associated with enhanced information gathering powers for both Ofcom and ICO, with industry needing to spend £380k-£750k responding to information requests, particularly on location of infrastructure.

Other key non-monetised costs by 'main affected groups'

Industry self-regulation will ensure that consumers can give consent to the storing of and access to internet cookies on their computer. Behavioural advertising and web-analytics companies will incur costs to provide more information (e.g. testing and standardisation). Browser vendors will incur costs to reprogramme browsers and provide enhanced settings. They will also need to communicate settings and technologies to web developers and third parties. Consumers will need time to read information.

BENEFITS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	0.22	1	0.32	**3**
High	0.45		0.41	**4**
Best Estimate	0.33		0.36	**3.5**

Description and scale of key monetised benefits by 'main affected groups'

Ofcom will have a cost recovery power for disputes that are brought to them, which should encourage greater alternative dispute resolution. Changes to the Access Directive reduce scope for disputes as well. Total annual saving to Ofcom/industry is could be £215k-£310k per year due to fewer disputes. Simplification of spectrum trading will reduce regulatory costs, resulting in a one-off saving of £210k-£450k and annual running cost savings of around £100k.

Other key non-monetised benefits by 'main affected groups'

EU regulatory changes are more applicable to other countries than the UK. Greater regulatory consistency within the internal market could increase UK trade in e-communication services, creating benefits of tens or hundreds of millions of pounds per year. Consumer protection measures could benefit consumers by millions of pounds per year if it leads to a reduction in data breaches, online fraud, scams etc. Improvements to UK regulatory environment could increase investment by millions of pounds per year.

Key assumptions/sensitivities/risks — **Discount rate (%)** 3.5

Cost estimates draw on information submitted by Ofcom and secondary literature. Very little quantitative data was received during the consultation and little quantitative evidence was provided in the Commission's impact assessment. Therefore, estimates should be treated as orders of magnitude. The key cost driver is the increase in market review frequency, though this may have been overestimated in the event that Ofcom delays some reviews (allowed under exceptional circumstances) or if some markets become competitive. Most of the costs and benefits will depend on how Ofcom implements the powers it has been given under the revised Framework. These will be subject to an impact assessment by Ofcom, which is required for any proposal that has significant impact either on communication firms or the general public

Direct impact on business (Equivalent Annual) £m):			In scope of OIOO?	Measure qualifies as
Costs: 8	**Benefits:** 0.3	**Net:** -7.7	No	NA

Enforcement, Implementation and Wider Impacts

What is the geographic coverage of the policy/option?			United Kingdom		
From what date will the policy be implemented?			25/05/2011		
Which organisation(s) will enforce the policy?			Ofcom, ICO		
What is the annual change in enforcement cost (£m)?			1		
Does enforcement comply with Hampton principles?			Yes		
Does implementation go beyond minimum EU requirements?			No		
What is the CO_2 equivalent change in greenhouse gas emissions? (Million tonnes CO_2 equivalent)			**Traded:** N/A	**Non-traded:** N/A	
Does the proposal have an impact on competition?			Yes		
What proportion (%) of Total PV costs/benefits is directly attributable to primary legislation, if applicable?			**Costs:**	**Benefits:**	
Distribution of annual cost (%) by organisation size (excl. Transition) (Constant Price)	**Micro**	**< 20**	**Small**	**Medium**	**Large**
Are any of these organisations exempt?	No	No	No	No	No

Specific Impact Tests: Checklist

Set out in the table below where information on any SITs undertaken as part of the analysis of the policy options can be found in the evidence base. For guidance on how to complete each test, double-click on the link for the guidance provided by the relevant department.

Please note this checklist is not intended to list each and every statutory consideration that departments should take into account when deciding which policy option to follow. It is the responsibility of departments to make sure that their duties are complied with.

Does your policy option/proposal have an impact on…?	**Impact**	**Page ref within IA**
Statutory equality duties[1] Statutory Equality Duties Impact Test guidance	Yes	17
Economic impacts		
Competition Competition Assessment Impact Test guidance	Yes	17
Small firms Small Firms Impact Test guidance	Yes	17
Environmental impacts		
Greenhouse gas assessment Greenhouse Gas Assessment Impact Test guidance	No	
Wider environmental issues Wider Environmental Issues Impact Test guidance	No	
Social impacts		
Health and well-being Health and Well-being Impact Test guidance	No	
Human rights Human Rights Impact Test guidance	No	
Justice system Justice Impact Test guidance	No	
Rural proofing Rural Proofing Impact Test guidance	No	
Sustainable development Sustainable Development Impact Test guidance	No	

[1] Public bodies including Whitehall departments are required to consider the impact of their policies and measures on race, disability and gender. It is intended to extend this consideration requirement under the Equality Act 2010 to cover age, sexual orientation, religion or belief and gender reassignment from April 2011 (to Great Britain only). The Toolkit provides advice on statutory equality duties for public authorities with a remit in Northern Ireland.

Evidence Base (for summary sheets) – Notes

Use this space to set out the relevant references, evidence, analysis and detailed narrative from which you have generated your policy options or proposal. Please fill in **References** section.

References

Include the links to relevant legislation and publications, such as public impact assessments of earlier stages (e.g. Consultation, Final, Enactment) and those of the matching IN or OUTs measures.

No.	Legislation or publication
1	Government consultation http://www.bis.gov.uk/Consultations/revised-eu-electronic-communications-framework
2	EC Legislative proposals and impact assessment http://ec.europa.eu/information_society/policy/ecomm/library/proposals/index_en.htm
3	Full European Legislation http://ec.europa.eu/information_society/policy/ecomm/doc/library/regframeforec_dec2009.pdf
4	Communications Act 2003 http://www.legislation.gov.uk/ukpga/2003/21/contents
5	Wireless Telegraphy Act 2006 http://www.legislation.gov.uk/ukpga/2006/36/contents
6	The Privacy and Electronic Communications (EC Directive) Regulations 2003 http://www.legislation.gov.uk/uksi/2003/2426/contents/made

Evidence Base

Ensure that the information in this section provides clear evidence of the information provided in the summary pages of this form (recommended maximum of 30 pages). Complete the **Annual profile of monetised costs and benefits** (transition and recurring) below over the life of the preferred policy (use the spreadsheet attached if the period is longer than 10 years).

The spreadsheet also contains an emission changes table that you will need to fill in if your measure has an impact on greenhouse gas emissions.

Annual profile of monetised costs and benefits* - (£m) constant prices

	Y_0	Y_1	Y_2	Y_3	Y_4	Y_5	Y_6	Y_7	Y_8	Y_9
Transition costs	0.35									
Annual recurring cost	9	9	9	9	9	9	9	9	9	9
Total annual costs	9.35	9	9	9	9	9	9	9	9	9
Transition benefits	0.33									
Annual recurring benefits	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36
Total annual benefits	0.69	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36

* For non-monetised benefits please see summary pages and main evidence base section

Evidence Base (for summary sheets)

Executive Summary

1. In 2002, EU Member States reached agreement on a regulatory Framework for electronic communication networks and services. The Framework – consisting of five Directives - provides a common set of rules for all communications that are transmitted electronically. Its aim was to harmonise regulation governing the provision of e-communications across the EU, which would help to reduce entry barriers and foster effective competition and ultimately lead to the creation of an internal market in this sector.

2. The Framework contained an inbuilt review mechanism. The purpose of the review was to examine how well the regulatory framework had achieved its objectives - namely promoting competition and the interests of citizens as well as working towards the creation of an internal market - and how the framework could be changed such that it continues to meet the needs of the sector and consumers. Consequently, the European Commission put forward its proposals for changes needed to better ensure the efficient working of the regulation.

3. The revised Framework was finally adopted in November 2009 after two years of complex negotiations. The amendments have been made to raise standards of regulation and competition across all 27 European Member State communications markets. As a Member State, it is mandatory under EU law that the provisions are transposed in the UK.

4. This Final Stage Impact Assessment accompanies the Government response to the paper, published in September 2010 which set out the Government's proposed approach to implementing the revised EU Electronic Communications Framework[1].

5. Being ahead of many other Member States, the additional costs of implementing the legislative changes will therefore be lower in the UK than other EU countries because there are fewer changes required to current regulation. This also means that the direct benefits to the UK from implementing the revised Framework are likely to be lower than in other Member States because businesses and consumers are already experiencing many of the benefits the amendments are designed to achieve.

6. A key benefit coming from the revised EU framework is the further development of the single market. The electronic communications market in the European Union is worth at least £152 billion in GVA and £345 billion in turnover[2]. Around 98 per cent of EU households have access to at least one telephone (fixed and/or mobile) whilst 57 per cent have an internet connection[3]. This means that there is a market of around 488 million electronic communication customers in the EU[4].

7. In 2009, the UK exported just over £3.5 billion worth of telecommunication services in total, an increase of more than one third since 2003[5]. However, whilst the absolute value of exports to the EU has increased over this period, DCMS analysis indicates that as a share of total telecommunication exports, exports to the EU actually fell from around two thirds in 2005 to just over one half in 2009 (around £18 billion), whilst imports remained fairly constant at one half[6]. Therefore, if the changes contribute to a higher standard of regulation in other EU countries – thus levelling the playing field for all European firms – then the potential benefits to the UK could be significantly larger than the costs outlined in Table 1 below.

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[1] http://www.bis.gov.uk/assets/biscore/business-sectors/docs/i/10-1132-implementing-revised-electronic-communications-framework-consultation.pdf

[2] Source: Structural Business Statistics, Eurostat. An exchange rate of 0.796 between the euro and pound sterling was used (Eurostat yearly average exchange rates). The value of the sector is likely to be higher as it may exclude parts of electronic communications as it relates to broadcasting.

[3] Eurobarometer, 'E-Communications Household Survey Report' (October 2010)

[4] Total population of EU27 countries was estimated to be around 498 million in 2009 (Source: Eurostat).

[5] ONS, 'Pink Book 2010'

[6] BIS Analysis of ONS trade statistics ('Pink Book') for Communication Services. The latter includes postal and courier services but it is assumed that the proportion of telecommunications is the same because the latter has made up 80-90 per cent of communications trade during the past five years.
In terms of foreign investment in the electronic communications sector (both inward and outward), it is difficult to obtain robust data as the relevant ONS publication includes it under a broad definition of 'Information and Communications'. See ONS' Business Monitor MA4, Foreign Direct Investment 2009 http://www.statistics.gov.uk/downloads/theme_economy/MA42009.pdf. In terms of obtaining time series data, this is made difficult by the fact that 'communications' was put under the same heading as 'transport'.

8. The scope of this Impact Assessment is to assess the changes that will have significant effects on consumers, communication providers and public bodies (including regulators in the UK). New articles or changes to existing articles that the UK is already compliant with, or where no impacts are likely to result, are not covered in the analysis. There are nine impact assessments that accompany this document, five of which discuss the impact of changes to individual directives and a further four to assess specific issues arising from these Directives that could have a significant impact on the market.

9. Most of the changes contained within the framework are largely technical: any significant changes are contained within the Framework Directive and the e-privacy Directive while the changes in the other directives – Authorisation, Universal Service and Access – are assessed to have generally small impacts.

10. Quantifying the costs and benefits of the additional impact of the legislative changes emanating from the revised EU framework has been quite difficult, with a general lack of evidence. It should be noted the European Commission's impact assessment[7] did not contain relevant quantitative estimates and the Government did not receive further evidence on the issue in response to the consultation.

11. As part of the consultation, officials organized four large-scale events for stakeholders (each attended by over 120 representatives) and four smaller events on specific policy issues of concern (including security and resilience and infrastructure sharing). At each of the events, officials put out a call for evidence. Officials also spoke at seven public events organized by stakeholders, at which the latter were asked to contribute any relevant data that could be included in the evidence base, in addition to meeting individually with over 82 stakeholders during the consultation period. The Impact Assessment accompanying the consultation also included a questionnaire to help build the evidence base and was sent out to over 400 stakeholders online. In addition, the Government commissioned two research projects on areas of potentially high impact – security & resilience and internet cookies.

12. Where possible, the evidence above has been built in the underlying impact assessments. However, in many cases, there is insufficient quantitative data to provide robust estimates of costs and benefits, either because firms were reluctant to provide information or because they were unable to. The latter is due to the fact that in a number of areas the impact of the legislative changes will depend on how Ofcom and ICO (Information Commissioner's Office) implement them as the independent regulators.

13. With regards to changes that require the UK to give Ofcom (or ICO) discretionary powers (for example with regards to functional separation and infrastructure sharing), it is not possible to accurately identify the costs and benefits because the regulatory impact depends on the manner in which Ofcom uses its power and implements the legislation. Furthermore, Government cannot direct Ofcom to implement the legislation in a certain way without compromising the regulator's independence. However, in the event that Ofcom exercises one of the powers it receives or if it decides to implement changes to its regulatory framework, it is under a legal obligation (under section 7 of the Communications Act 2003) to carry out impact assessments when it proposes to do anything for the purposes of carrying out its functions which will have a significant impact either on firms in the electronic communications sector or the general public. Therefore, the Act ensures that the regulator implements its powers in a proportionate, accountable and transparent manner.

14. Given the gaps in the evidence base outlined above, existing evidence has been used to provide ranges and order of magnitudes, as well as a qualitative assessment of impacts. A summary of these is provided in Table 1 below.

[7] European Commission, Impact Assessment – Accompanying document to Legislative Proposals, http://ec.europa.eu/information_society/policy/ecomm/doc/library/proposals/1472/comm_pdf_sec_2007_1472_1_en_documentdetravail.pdf.pdf

Table 1: Summary table of impacts

Directive	Costs	Benefits
Framework Directive	Costs to industry estimated to be **£2 million - £11.4 million per year**. The majority of this is due a requirement to conduct market reviews every 3 years compared to the current rate of 4-5 years, which will increase burdens associated with gathering evidence and responding to market reviews. Other significant costs are associated with providing Ofcom with more information, particularly requests on the location of key infrastructure. Costs to Ofcom estimated to be **£190k-£333k one-off** and **£366k - £1.5 million per year**. Costs are mostly incurred by conducting more market reviews and managing requests for information on infrastructure.	Direct regulatory impact cannot be estimated. However, benefits could be in the order of tens of millions of pounds. For example if improving information on the location and capacity of key infrastructure leads to greater sharing of infrastructure between network owners, even if this increases the roll-out of superfast broadband by 0.1%, the benefits could be worth around £18 million. An improvement in the UK's regulatory framework – e.g. more efficient and effective dispute resolution process - could increase investment by tens of millions of pounds.
e-Privacy Directive	Costs to industry estimated to be **£320k - £2.3 million per year**. This is due to a requirement to notify ICO of data breaches and respond to ICO audits and requests for information. Industry self-regulation will ensure that consumers can give consent to the storing and access of internet cookies on their computer. Browser vendors are likely to incur significant costs in reprogramming browsers and providing enhanced settings, whilst firms active in behavioural advertising will incur costs to provide more information to consumers. These cannot be quantified until the details of implementation have been finalised. Costs to ICO expected to be negligible.	Direct regulatory impact cannot be estimated. However, benefits could potentially exceed costs by a significant amount. If it leads to a 0.1% fall in the annual cost of identity theft or online scams, the benefits to consumers could be around £1.5 million per year. Making consumers fully informed about the nature and options regarding internet cookies are in the order of £300 million - £380 million per year. Legislative changes will give ICO more information and powers to pursue tens of thousands of consumer complaints regarding unwanted marketing calls, which currently cannot be tackled. Actual number of consumers affected likely to be much higher.
Authorisation Directive	Costs to industry estimated to be **£78k per year** to respond to Ofcom information requests on spectrum management. There may be further costs due to a strengthening of Ofcom's enforcement guidelines but this will not be clear until after Ofcom consultation. Costs should be minimal if firms are fully compliant with their obligations.	Direct regulatory impact cannot be estimated. Indicative estimate of consumer detriment in the telecommunications sector is £4.2 million per year. Ensuring that fewer companies breach their obligations should result in a reduction to this detriment. With regards to spectrum, Ofcom receive more than 5,000 spectrum complaints per month. Illegal broadcasting is estimated to affect radio quality for 2 million adults on a weekly basis. The size of the problem is therefore likely to be much greater than the quantified cost to industry. If additional information leads to more effective enforcement, the benefits could be significant.
Access Directive	The Access Directive requires the UK to give Ofcom certain discretionary powers, for example under the Communications Act it will be possible to operationally separate an incumbent network owner if it represents a proportionate and effective remedy to monopoly power. However, because changes to the Directive give Ofcom enabling powers (rather than directly regulate the electronic communications market) there is no direct cost. Ofcom has also already imposed functional separation on BT.	
Universal Services Directive	The Universal Service Directive aims to promote the interests of consumers and it includes a number of consumer protection measures including transparency in consumer contracts. In addition the Universal Service Directive also updates and strengthens provisions in the area of eAccessibility and the rights of users with disabilities. Some of these new obligations set out current UK practice and so will not constitute a new regulatory burden as such. Others empower (but do not require) Ofcom to impose regulation. At present, however, the direct cost is small.	

Background

15. In 2002, EU Member States reached agreement on a regulatory Framework for electronic communication networks and services. The Framework provides a common set of rules for all communications that are transmitted electronically, whether wireless or fixed, data or voice, internet-based or circuit switched, broadcast or personal. This means that it covers the transmission and access of fixed and mobile telephone services, the internet (including email) and content based broadcasting. Its aim was to harmonise regulation governing the provision of e-communications across the EU, which would help to reduce entry barriers and foster effective competition and ultimately lead to the creation of an internal market in this sector. The legislation was based on five EU Directives:

    - the "Framework" Directive (2002/21/EC)
    - the "Access" Directive (2002/19/EC)
    - the "Authorisation" Directive (2002/20/EC)
    - the "Universal Service" Directive (2002/22/EC)
    - the "E-Privacy" Directive (2002/58/EC)

16. The Framework, which was implemented in the UK through the Communications Act 2003, the Privacy and Electronic Communications (EC Directive) Regulations 2003 and the Wireless Telegraphy Act 2006[8], contained an inbuilt review mechanism (see Annex 2 for further details). The purpose of the review was to examine how well the regulatory framework had achieved its objectives (namely promoting competition and the interests of citizens) and how the framework could be changed in light of technological and market developments, such that it continues to meet the needs of the sector and consumers over the coming decade. The review also took into account policy developments that had taken place since the Framework was adopted that needed to be incorporated into the legal framework.

17. Consequently, the European Commission put forward its proposals for changes needed to better ensure the efficient working of the regulation in November 2007. The revised Framework was finally adopted in November 2009 after two years of complex negotiations, with amendments to the five directives being made through two amending EU Directives[9]. The amendments have been made to raise standards of regulation and competition across all 27 European Member State communications markets. As a Member State, it is mandatory under EU law that the provisions are transposed in the UK.

18. In September 2010, the Department for Business, Innovation and Skills (BIS) published a paper setting out Government's proposed approach to implementing the revised Framework[10], as well as questions for stakeholders on the areas where the Government has some discretion in implementation. The paper was accompanied by an Impact Assessment[11]. During the 3 month consultation period, stakeholders had an opportunity to engage with BIS[12] at a series of events, in addition to submitting written responses to the proposed approach. Furthermore, two research studies were commissioned in order to gain a better understanding of the likely effects of the security and resilience and e-Privacy provisions in the Framework, as these were identified as high impact.

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[8] The Wireless Telegraphy Act 2006 is a consolidation of previous Wireless Telegraphy Acts

[9] Directive 2009/140/EC of the European Parliament and of the Council of 25 November 2009 amending Directives 2002/21/EC on a common regulatory framework for electronic communications networks and services, 2002/19/EC on access to, and interconnection of, electronic communications networks and associated facilities, and 2002/20/EC on the authorisation of electronic communications networks and services (the so-called "Better Regulation amending Directive), and

Directive 2009/136/EC of the European Parliament and of the Council of 25 November 2009 amending Directives 2002/22/EC on universal service and users' rights relating to electronic communications networks and services, Directive 2002/58/EC concerning the processing of personal data and the protection of privacy in the electronic communications sector and Regulation (EC) No 2006/2004 on cooperation between national authorities responsible for the enforcement of consumer protection laws.

[10] http://www.bis.gov.uk/assets/biscore/business-sectors/docs/i/10-1132-implementing-revised-electronic-communications-framework-consultation.pdf

[11] http://www.bis.gov.uk/assets/biscore/business-sectors/docs/i/10-1133-implementing-revised-electronic-communications-framework-impact.pdf

[12] In December 2010, The Prime Minister decided that competition issues relating to the media, broadcasting, digital and telecoms sectors would transfer from the Department for Business, Innovation and Skills (BIS) to the Department for Culture, Media and Sport (DCMS). The machinery of government change has since taken place and responsibility has been transferred for these areas, which includes telecoms policy and the implementation of the EU framework.

Together, these responses and evidence have informed the Government's final decision on how to implement the legislation.

19. The Government intends to implement the amendments (which are targeted measures to bring specific areas in line with the EU electronic communications market) in a proportionate manner to achieve the desired outcomes without gold-plating. In this regard, it will largely utilise a "copy out" approach for transposing the Directives into UK law, in accordance with the guidance issued by the Better Regulation Executive[13].

20. This impact assessment looks at the effects of implementing the transposition requirements of the revised Framework in the UK (which is required by 25 May 2011) where these amendments are not already covered by existing legislation. The detailed analysis is divided into ten documents, five which look at the amended Directives individually and another five analysing specific topics that have the potential to have a significant impact in their own right.

21. The UK, which has a highly developed and sophisticated communications market, is already working towards the same goals as the revised Framework through the continued implementation of the Digital Economy Act 2010 and interventions to liberalise spectrum management. Therefore, a number of the amendments made to the Framework are already present in existing UK legislation. In addition, although the legislative proposals comprise around 150 changes as a whole, many are minor updates or repeals of obsolete provisions.

22. The scope of this impact assessment is therefore to analyse changes that will have significant effects on consumers, communication providers and/or Government and regulators. New articles or changes to existing articles that the UK is already compliant with, or where no impacts are likely to result, are not covered in the analysis. In determining which legislative amendments are 'significant', and therefore warrant assessment, DCMS has been guided by the topics covered in the Government consultation document <u>and</u> regulatory changes that were raised in a number of consultation responses as having a significant consequence.

23. The articles are grouped into two categories. Whilst both cover areas of legislation that require changes to be made, and are therefore likely to incur costs and benefits, Category 1 articles are those where the Framework contains no provisions for leeway in implementation. By contrast, Category 2 articles do have options available. In so far as it is possible, estimates of costs and benefits of all articles under categories 1 and 2 have been made. However, for category 1 it is not possible to identify discrete 'options' for implementation. Therefore, the costs and benefits of these are analysed without looking at various options for implementation.

24. It is important to note that one of the key objectives of the overall EU Framework is to harmonise regulation governing the provision of electronic communications across the EU, in order to reduce entry barriers and foster effective competition, ultimately leading to the creation of an internal market in the sector. Whilst progress has been made on this during the past seven years, there remain significant barriers in certain countries. In the UK, however, there is already a highly developed and competitive electronic communications market (see Annex 3 for further details).

25. UK regulation of the market is also very effective in comparison to other countries. Chart 1 below shows how the UK has performed in relation to its counterparts over a ten year period – the fact that the UK's score in 1998 was lower than most other European countries in 2007 shows how much progress it made relative to its counterparts. A separate regulatory scorecard also confirms the UK to be one of the leading European countries with regards to e-communications regulation[14].

[13] HM Government, 'Reducing Regulation Made Simple: Less regulation, better regulation and regulation as a last resort' (December 2010)
[14] For further details, see http://www.ectaportal.com/en/REPORTS/Regulatory-Scorecards/Regulatory-Scorecard-2009/

Chart 1: OECD Regulatory Reform Index for the Telecoms Sector

Source: OECD. The composition of the sectoral indicator for telecoms is based on the response to three types of questions: (1) The extent to which there is free entry into the market (from a regulatory perspective); (2) The extent to which the largest firms in the fixed and mobile sectors are owned by the Government; and (3) The market structure, based on market shares of new entrants. Scores are normalised to be between 0 and 6, such that a lower number represents a regulatory regime with fewer impediments.

The Electronic Communications Sector – Scale and Coverage

26. Electronic communications play a pivotal role in the UK economy and also permeate numerous social and cultural activities. Businesses rely on the sector both in terms of direct sales and for the efficiency and effectiveness of internal management and production processes. Recent research by Ofcom shows that among businesses in the UK as a whole, the majority use landline, internet and mobile phone services (91%, 90% and 71% respectively), with firms placing a high degree of importance on all of these[15]. This is demonstrated in a recent report on the internet economy, which found that in 2008 non-financial businesses made almost a quarter – or £360 billion – of their purchases over the internet and other electronic channels[16].

27. Consumers also heavily rely on e-communication in their daily activities, with almost half of people's waking hours spent engaging in media and communication activities, such as watching television, listening to the radio and social networking[17]. The overwhelming majority of households have digital television (93%) and listen to the radio (91%) on a weekly basis, whilst more than 90% of individuals in the country now have a mobile telephone and about three-quarters access the internet[18]. The latter facilitated around £50 billion of consumption on goods and services in 2009, with the average household saving almost £1,000 per year from shopping online. It is also estimated that consumer surplus from free internet content is worth around £5 billion annually[19].

28. Lastly, a high speed and reliable communications infrastructure is not only important to consumers and businesses but it is also crucial to the functioning of Government and the delivery of emergency

[15] Ofcom, 'The Business Consumer Experience' (December 2010)
[16] The Boston Consulting Group, 'The Connected Kingdom: How the Internet is Transforming the UK Economy' (October 2010)
[17] Ofcom, 'Communications Market Report' (2010)
[18] Ofcom, 'The Consumer Experience' (December 2010)
[19] The Boston Consulting Group, 'The Connected Kingdom: How the Internet is Transforming the UK Economy' (October 2010)

services. This is reflected in the Government's recent National Security Strategy[20], which lists attacks on UK cyber space as one of four Tier One priority risks.

29. In addition to acting as a key enabler of economic and social activity, electronic communications is significant in its own right. The sector generated around £50 billion of revenue in 2009 and has maintained a similar performance during the past five years[21]. The majority of this (about three quarters) comes from the telecommunications sector, which includes fixed and mobile telephones and internet access. According to the Office for National Statistics[22], the telecommunications and broadcasting sectors contribute almost £35 billion in Gross Value Added to the UK economy (about 2.7% of the total) and employ approximately 236,000 individuals, although it should be noted that the ONS include activities such as broadcasting content, programming, network installation and maintenance. Therefore, the figures will be slight overestimates compared to the definitions used by Ofcom.

30. As Ofcom does not operate a licensing regime, the exact number of electronic communication providers is unknown. However, it is estimated that there are currently more than 600 providers in the UK, divided into the following: fixed network operators; mobile network operators; cable operators, and; service providers. The latter includes firms that provide access to electronic communications even though they do not operate a network, for example some internet service providers. Table 2 shows the number of providers for some of these. In addition, there are a wide range of service providers for fixed telephone and the internet, as well as firms that purchase and resell network capacity without providing additional services ('resellers'). Whilst recent figures are not available, research by Ofcom in 2007 indicated that the UK niche ISP market was made up of approximately 686 service providing businesses[23], although it is likely that this has fallen in recent years due to market consolidation. In addition, there are an estimated 70 – 100 resellers in the UK that provide mobile phone services and more than 700 broadcast channels[24].

Table 2: Number of Communication Providers in the UK (2010)

Communication Type	Number of Providers
Fixed PSTN* (local, national and international)	120
Mobile	4
Mobile Virtual Network Operators**	30+
Licensed Cable Operators	2

Source: Ofcom and OECD
** Public switched telephone network (or PSTN) is the network that manages circuit-switched fixed-line telephone systems. This figure is an estimate as the UK does not have a licensing regime for the telecommunications industry.*
*** MVNOs are organisations which provide mobile telephone services to its customers, but do not have allocation of spectrum or their own wireless network*

31. The performance of the UK's electronic communications sector measures up strongly compared to its international counterparts. In terms of retail revenue, the UK has the third largest sector in Europe at £39 billion[25], behind Germany (£52 billion) and France (£44 billion). Furthermore, it has complete coverage for fixed and mobile telephone and broadband services, such that any household can access each form of electronic communication. In terms of household take up, only one per cent of UK households do *not* have access to at least one telephone (fixed and/or mobile), whilst the EU27

[20] HM Government, 'A Strong Britain in an Age of Uncertainty: The National Security Strategy' (October 2010)
[21] Ofcom, 'Communications Market Report 2010'. It should be noted that these figures represent wholesale and retail revenues for all communications and are not completely restricted to the transmission of electronic communications (particularly for radio and television, which includes advertising revenue).

[22] Annual Business Survey. The figures have been produced by using the 2007 SIC Codes for Programming and broadcasting activities (60) and Telecommunications (61).
[23] Ofcom, 'The Communications Market Special Report Niche ISPs' (2007)
[24] Statistics from the ONS Annual Business Survey suggest that there were 5,677 firms in the telecommunications industry in 2008 and 2,077 firms engaged in radio broadcasting and television programming and broadcasting. However, the latter includes numerous content and programme providers who rely on electronic communications for distribution but do not provide communication services in their own right (and so are out of scope of the EU Framework). The figures for telecommunications will also include firms that are not affected by the regulation as it includes activities such as the provision of specialised communications equipment (e.g. satellite tracking, communications telemetry and radar station operations) and the operation of satellite terminal stations and associated facilities. If one only uses the SIC Codes for wired telecommunication activities (SIC Code 61.1), wireless telecommunication activities (61.2) and satellite telecommunication activities (61.3) then the number of firms given is 636, which is reasonably consistent with Ofcom and DCMS estimates.
[25] This includes revenue from telecommunications, television and radio. It does not include wholesale revenues and so is less than the figure of £50 billion.

average is two per cent[26]. With regards to the levels of competition and investment in the market, the UK compares very well with other countries, offering lower prices and more choice than most of its counterparts and investing more in the sector than any other country in Europe. Annex 3 provides further evidence on the key issues of competition, investment and consumer protection in the UK and other countries.

Rationale for Government Intervention

32. Without effective regulation, the electronic communications sector is characterised by natural monopoly, sunk costs and significant economies of scale. As a 'network industry', it is very costly to build and deploy the transmission networks and infrastructure required to provide communication services, meaning that essential networks are concentrated in the hands of a few powerful operators. Therefore, a large supplier has an overwhelming cost advantage over other actual and potential competitors, serving as a significant and non-transitory barrier to entry. Given the economic costs associated with monopolistic markets, such as deadweight loss and consumer detriment, it is necessary for Government and the national regulator to play a role in the market in order to foster and promote competition. Furthermore, given the wider impacts of electronic communications on society and the economy that are mentioned above, it is also desirable to ensure an appropriate balance between static efficiency (i.e. productive and allocative efficiency) and dynamic efficiency, which is achieved when firms have the correct incentives to invest and innovate.

33. In addition to competition, there are specific consumer issues that are relevant to electronic communications. Given that the majority of the British population now access some form of electronic communication, it is necessary for Government and regulators to address consumer concerns such as security, privacy and universal access because failure to do so can lead to significant detriment in terms of economic cost and physical and emotional distress.

34. It is ultimately these key issues – competition, investment (and innovation) and consumer protection - that are at the heart of the European regulatory framework, the objectives of which are to promote competition, contribute to the development of the internal market and to promote the interests of citizens. The purpose of the Commission's review of the 2002 Framework was to examine how well it had achieved these objectives and the rationale for amending it is to make further progress on them, as well as ensuring that regulation continues to meet the needs of the sector and consumers. In some cases, this could mean simplifying and reducing regulatory burdens. Further details about the outcome of the Commission's review can be found in Annex 2. The purpose of implementing the legislative changes is to move EU countries towards a more competitive and innovative internal market that protects consumers.

Policy Objectives

35. The main objectives of the regulatory framework, as defined by the European Commission are: to create an open and competitive single market for electronic communications services and networks in Europe, and thereby; to encourage innovation in communications networks and services, by both new entrants and existing operators, for the benefit of European businesses and citizens[27]. The specific objectives that are addressed in the European Commission's impact assessment are those to:
    - foster investment and growth in the e-communications market
    - promote more efficient and flexible spectrum management
    - increase the consistency of regulatory actions, in line with the wider objective of creating a single e-communications market in Europe
    - reduce red-tape and administrative costs
    - reinforce user rights and consumer protection
    - improve network security

36. Each of the five Directives that are associated with the European Framework tackle different issues, and they are addressed in detail in the attached impact assessments. The purpose of each

[26] Eurobarometer, 'E-Communications Household Survey Report' (October 2010)
[27] European Commission, Impact Assessment – Accompanying document to Legislative Proposals, http://ec.europa.eu/information_society/policy/ecomm/doc/library/proposals/1472/comm_pdf_sec_2007_1472_1_en_documentdetravail.pdf.pdf

document is to analyse the regulatory impact in the UK, focusing on the legislative amendments that are likely to result in significant costs and/or benefits, either for communication providers, consumers and/or Government and Ofcom. As discussed above, given that the UK compares well with most other countries in terms of effective regulation and promoting competition in electronic communications, many of the amendments will not affect the regulatory regime or they will only have a minimal impact. This means that a number of the benefits arising from the Framework will not apply to the UK, but are nevertheless important in other European countries and in the continued drive to make regulation across the EU consistent.

Summary of impacts

37. Table 3 below presents a summary of the most significant impacts of implementing four of the Directives. With regards to the Access Directive, all of the changes are enabling regulations that will be implemented by Ofcom, which will conduct its own impact assessment. Further detail on the impacts can be found in the specific impact assessments.

38. It is worth noting that although Ofcom's non-spectrum functions are funded by industry, there are no plans for the resource burdens associated with implementing the EU Framework's new requirements to be passed onto communication providers. In accordance with an agreement with HM Treasury, there is an overall ceiling on Ofcom's spending that has been reduced year-on-year since its creation. Furthermore, during the next four years Ofcom is expected to cut its overall real-terms budget by 28%[28]. Therefore, any burdens incurred from implementing the Framework will most likely need to be met under Ofcom's existing budget and work plan, although further cost recovery cannot be completely ruled out in the future due to uncertainties in aspects of implementation (e.g. number of information requests for infrastructure location).

39. The one exception to cost-recovery, however, is in relation to dispute resolution (see Article 20 of the Framework Directive), where Government will give Ofcom a power to recover the costs of disputes from the disputing parties. In the event that Ofcom sees fit to make use of this power, the direct cost will be met by the firm(s) involved in the dispute rather than industry as a whole; therefore the net cost to industry will be zero. However, if the Framework leads to more or fewer disputes than would have been the case without the revised legislation, the costs/benefits could apply to industry rather than Ofcom. Further details on this issue can be found in the Framework Directive impact assessment.

Table 3: Table of impacts

	Legislative change	Costs	Benefits
Framework Directive	**Article 5 – provision of information** Ofcom may request additional information from communication providers, relative to what it can already request under existing legislation.	Costs to industry estimated to be **£0 - £78,000 per year** (depending on the number of requests per year) Costs to Ofcom **– negligible** as it already has an information gathering power	Not quantifiable. However, a regime that facilitates reporting obligations can provide a number of benefits, including: - assurance that Ofcom can monitor and enforce firms' obligations - assurance regarding future competitiveness of the market - swift resolution of disputes and investigations
	Article 16 – market analysis procedure Ofcom will be required to conduct market reviews every 3 years rather than every 4-5 years.	Costs to industry of responding to more market reviews - **£1.6 million - £10.6 million per year** Costs to Ofcom of conducting more market reviews - **£187,000 - £1.3 million per year**	Not possible to quantify. Potential benefits include greater certainty in terms of forecasting trends, usage patterns of electronic communications and technological developments. Given the current divergence within the EU on timescales for concluding market reviews, these changes may ensure more regulatory consistency within the EU market and will potentially reduce barriers within the internal market.
	Article 9 – spectrum provisions	One-off implementation costs – negligible.	Facilitating spectrum leasing is estimated to result in one-off savings

[28] Public Accounts Committee, http://www.publications.parliament.uk/pa/cm201011/cmselect/cmpubacc/688/68804.htm

			for Ofcom of between **£210,000 and £450,000** and annual savings of **£100,000 per year**.
	Article 12 - infrastructure sharing (preferred option) Ofcom will have a power to gather information on the location of infrastructure on an ad-hoc basis	Costs to industry - **£300,000 per year** to provide information, though costs are heavily dependent on the number of information requests Costs to Ofcom – **one-off cost of £190,000 - £333,000** (depending on implementation method) and subsequent ongoing cost of **£37,500 per year**	Not possible to quantify at this stage given existing developments and measures. However, if preferred option even contributes 0.1% to superfast broadband access, the economic benefit could be worth around £18 million.
	Articles 13a and 13b – security and resilience (preferred option) Ofcom and communication providers must comply relevant measures on risk management, guarantee of integrity, notification of security breaches and implementation enforcement	Costs to industry – around **£55,000 per year** to respond to an investigation and complete a security audit. Costs to Ofcom – around **£141,000 per year** to manage and respond to breach notification, conduct investigations and produce annual report. Costs also include background resourcing requirements.	Communication providers are largely already compliant so benefits are not expected to be significant. Possible that risk management within the sector will be improved and better harmonised.
	Article 20 – dispute resolution (preferred option) Scope of parties with access to dispute resolution may increase. Ofcom will be given the power to recover dispute costs where necessary.	Costs to industry – **up to £420,000 per year**. Framework Directive increases the scope for dispute resolution (actual cost will depend on the increased number of disputes).	Benefits to industry – **£215,000 £310,000 per year**, Access Directive and cost-recovery power likely to reduce the number of disputes. Incentive structure is re-aligned, as the costs of disputes fall to the parties involved rather than industry as a whole (i.e. cost internalised rather than subsidised). Potential benefit of Ofcom devoting more resources and attention to disputes with significant consumer and competition issues at stake could be significantly higher than burdens quantified above.
	Wider impacts of the Framework Directive		Whilst it is not possible to robustly quantify the wider impacts of the Framework, they could potentially be an order of magnitude greater than the costs and benefits outlined above. An improvement in the UK's regulatory framework – e.g. more efficient and effective dispute resolution process - could increase investment by tens of millions of pounds. Similar benefits could arise if the Framework improves the regulatory regime in other countries, bringing a degree of regulatory certainty closer to the UK model. For example a 1 per cent increase in UK telecommunication exports to the EU would bring benefits of around £18 million per year.
e-Privacy Directive	**Article 4 – security of processing** Communication providers must notify ICO of breaches in data security and possibly the individual affected. ICO will also be given audit powers.	Costs to communication providers of data breach notification and audits - **£240,000 - £ 2 million per year** Costs to ICO of notification, audits and producing guidance **- negligible**	Not quantifiable as it is not possible to forecast the potential fall in data breaches (or what impact this will have). However, communication providers have an extra incentive to ensure security measures are robust. If it leads to a 0.1% fall in the annual cost of identity theft or online scams would benefit consumers £1.4 million-£1.7 million per year.
	Article 15(1b)	Costs to communication providers of	Information can be used by security

	Communications providers must have internal procedures to respond requests for data from police or security services. ICO will be able to request information on the procedures.	implementing internal procedures to respond to information requests – **up to £150,000 per year** Costs to ICO - **negligible**	services and the police to enhance the protection of UK citizens. Not possible to estimate the extent to which this will occur.
	Article 5 – confidentiality of communications (preferred option) Industry self-regulation to ensure that consumers can give consent to storing and access of internet cookies on their computer	Firms active in behavioural advertising and web-analytics will incur costs to provide more information to consumers (e.g. testing and standardisation). Browser vendors will incur costs to reprogram browsers and provide enhanced settings. They will also incur costs to communicate the settings and technologies to web developers and third parties. Consumers will need time to read information. Self-regulatory so no enforcement cost to ICO	Majority of 40 million internet users will feel more secure and perform more transactions on the web. The consumer benefits of being fully informed about the nature and options regarding internet cookies are in the order of £300 million - £380 million per year, though it is not yet possible to indicate what proportion of this will materialise in practice.
	Article 15a (preferred option) ICO can request information from third parties with regards to regulatory breaches. ICO's sanctioning powers under PECR will be enhanced by giving it a civil penalty power of £500,000	Provision of information from third party communication providers will cost - **£80,000 – £150,000 per year** Costs to ICO - **negligible**	More than 40,000 complaints are made per year about the telephone preference service (an opt-out of unsolicited marketing calls). Actual number of consumers affected (but don't complain) likely to be much higher. ICO is currently unable to investigate around 40% of complaints due to insufficient information. Co-operating with third party communication providers should help to reduce consumer detriment. Tens of thousands of complaints received about direct marketing firms even though ICO has taken enforcement action against the firm. Civil penalty powers should act as a more effective deterrent and reduce consumer detriment.
Authorisation Directive	**Article 10 – compliance with general authorisations and rights of use** Strengthening of Ofcom's enforcement powers	Costs to industry – not quantifiable as implementation details are not yet known. Ofcom will to consult on revisions to enforcement guidelines, after which costs will become clear. Fully compliant firms will bear negligible costs though. Costs to Ofcom – negligible	Indicative estimate of consumer detriment in the telecommunications sector is £4.2 million per year. Ensuring that fewer companies breach their obligations should result in a reduction to this detriment. In the wider context, strengthening enforcement and regulatory compliance in other countries may also increase incentives for UK communication providers to export their services in the EU.
	Article 10(1) - information gathering and spectrum Ofcom given a power to request information on spectrum-related functions	Costs to industry of responding to information requests - **£78,000 per year** Costs to Ofcom - negligible	Not possible to quantify. Ofcom receive more than 5,000 spectrum complaints per month. Illegal broadcasting is estimated to affect radio quality for 2 million adults on a weekly basis. The size of the problem is therefore likely to be much greater than the quantified cost to industry. If additional information leads to more effective enforcement, the benefits could be significant.
	Articles 10 and 11 – dissuasive sanctions	Costs to industry – no cost if firms are compliant with their regulatory	Increased penalty will act as a deterrent for firms to comply with their

	(preferred option) Ofcom can impose a penalty of up to £2 million if firms breach their obligations to provide information	obligations Costs to Ofcom - negligible	obligations, as currently not all communication providers are 100% compliant. This should reduce the level of consumer detriment in the market.
Universal Service Directive	**Article 23a (1) Ensuring equivalence in access and choice for disabled end-users**. Ofcom given the power to specify, where appropriate, measures that undertakings will have to take to ensure equivalence.	As part of the requirement to ensure equivalence Ofcom proposes to mandate the provision of an emergency SMS service, with one-off capital costs of **£80,000** and ongoing costs of **£71,500 per year**.	Benefits of ensuring equivalence for users and society are not quantifiable.
	Article 23a (2) – Ensuring the availability of terminal equipment The Government intends to apply this provision through the e-accessability forum.	Minimal costs, as the forum has already been set up.	Enhanced opportunities for business and engagement of disabled users in the wider economy, which is not possible to quantify.

Specific Impact Tests

Competition

The impacts on competition are addressed in the Directive and topic-specific impact assessments.

Small Firms

The impacts on small firms are addressed in the Directive and topic-specific impact assessments.

Other Specific Impact Tests

Other environment/ rural proofing

After an initial screening it has been deemed that no significant impact is anticipated on the environment and rural proofing.

Statutory Equality Duties

The Equality Impact Assessment provides an assessment on these issues.

Other tests

Other specific impact tests have been considered including Legal Aid, Sustainable Development and Carbon Assessment. Again, after initial screening, it has been deemed that no significant impact is anticipated.

Annexes

Annex 1 should be used to set out the Post Implementation Review Plan as detailed below. Further annexes may be added where the Specific Impact Tests yield information relevant to an overall understanding of policy options.

Annex 1: Post Implementation Review (PIR) Plan

A PIR should be undertaken, usually three to five years after implementation of the policy, but exceptionally a longer period may be more appropriate. If the policy is subject to a sunset clause, the review should be carried out sufficiently early that any renewal or amendment to legislation can be enacted before the expiry date. A PIR should examine the extent to which the implemented regulations have achieved their objectives, assess their costs and benefits and identify whether they are having any unintended consequences. Please set out the PIR Plan as detailed below. If there is no plan to do a PIR please provide reasons below.

Basis of the review: [The basis of the review could be statutory (forming part of the legislation), i.e. a sunset clause or a duty to review , or there could be a political commitment to review (PIR)]; As this legislation implements European law, it is not subject to the Government's new sunsetting obligations. However, it is subject to a mandatory 5 year review of regulation. The Directives of the Framework have review provisions in them which say that the Commission shall periodically review the functioning of the Directive and report to the European Parliament and the Council. The first review of the Framework was required to be within 3 years of implementation, and it is from this review that the amended Framework has been negotiated. The UK will be required to provide the Commission with information when they perform a review and will carry out its own review of implementation at this that time. The PIR would be expected to take place within the standard 3 – 5 year timeframe, by May 2016: the timing of such a review, and the nature of the review itself, would also be influenced by the Commission's intentions.
Review objective: [Is it intended as a proportionate check that regulation is operating as expected to tackle the problem of concern?; or as a wider exploration of the policy approach taken?; or as a link from policy objective to outcome?] The objective is to review the effective implementation of the provisions of the amended EU Electronic Communications Framework. The Framework is intended to raise standards of regulation and competition across all 27 European Member State communication markets.
Review approach and rationale: [e.g. describe here the review approach (in-depth evaluation, scope review of monitoring data, scan of stakeholder views, etc.) and the rationale that made choosing such an approach] The UK Government will review the implementation of the Framework at the same time as it is required to provide information to the Commission for their review. This method of review is chosen so as to avoid an unnecessary burden on the Government, Stakeholders or Ofcom. The form that the review will take is not yet known.
Baseline: [The current (baseline) position against which the change introduced by the legislation can be measured] The review will use the do nothing or 'no change' options detailed in the Impact Assessment as a baseline against which the change introduced by the legislation can be measured.
Success criteria: [Criteria showing achievement of the policy objectives as set out in the final impact assessment; criteria for modifying or replacing the policy if it does not achieve its objectives] The review will assess the effective implementation of the provisions of the revised EU Electronic Communication Framework that were not previously covered under existing legislation. The review will evaluate whether the provisions have been transposed in such a way as to deliver the main aims of the revised Framework to UK users and businesses. The main aim is to raise standards of regulation and competition across all Member States.
Monitoring information arrangements: [Provide further details of the planned/existing arrangements in place that will allow a systematic collection systematic collection of monitoring information for future policy review] Under the revised Framework, Ofcom, the National Regulatory Authority, is required to carry out a review of the markets that are considered to have aspects of Significant Market Power every three years. These reviews will be able to provide information for the review because they will assess the state of competition within the markets, which will give an idea of whether the provisions of the Framework are achieving their aim of increasing competition and investment. In addition, the Government plans to have ongoing engagement with stakeholders over the implementation and effects of the provisions.
Reasons for not planning a review: [If there is no plan to do a PIR please provide reasons here] Not Applicable

Annex 2: Summary of the Review of the EU Regulatory Framework[1]

The EU regulatory framework for telecommunications was created in the 1990s to open up national markets to competition, which until then had been dominated by state-owned monopolies. This process culminated in the liberalisation of national markets in 1998 and a further step was taken in 2002 with the adoption of the current set of rules, which take account of the convergence of technologies and apply to all forms of 'electronic communications'. The regulatory model under the 2002 framework relies on implementation of a common set of EU rules by different national regulatory authorities (NRAs) to which responsibility for overseeing markets has been entrusted. The Framework also introduced the competition law concept of dominance as the threshold for 'ex-ante' regulation, to ensure that regulation is imposed only on firms with significant market power.

In 2006 and 2007, the Commission reviewed the functioning of the EU framework against its main objectives, which are to promote competition, to consolidate the internal market and to promote the interests of the citizen. In the light of technological and market developments, especially improved competition in some areas, but also continued dominance by one or a few operators on a number of key markets as well as a continued lack of a single market for electronic communications and increasing divergence of regulatory approaches in the enlarged EU, a substantial reform of the regulatory framework was considered necessary by the Commission. The 2007 Reform Proposals of the Commission can be grouped under the three pillars of better regulation, completing the single market and connecting with citizens.

Better regulation for competitive electronic communications

One of the Commission's specific objectives is to simplify and improve the quality of the regulatory environment, by reducing ex-ante regulation where market developments allow and by simplifying the market review procedure. In addition, better regulation of radio spectrum — by simplifying access to and use of this scarce resource and moving to a more market-oriented allocation of spectrum — will improve competition in wireless services and release the economic potential of spectrum.

Following a period of public consultation and review, the Commission recommended the following proposals:

- **Deregulation of the sector -** the Commission revised its Recommendation on relevant markets to phase out ex-ante regulation[2] and the list of markets was reduced from 18 to 7 markets (see impact assessment for the Framework Directive for further detail). Oversight of markets where competition is not yet effective is expected to intensify and markets that are crucial for Europe's competitiveness will be carefully monitored, in particular markets associated with the delivery of broadband access.

- **Market review procedures** - the legislative proposals allow for the notification requirements in the system of market reviews to be simplified.

- **Functional separation** - NRAs provided with the additional remedy of functional separation, i.e. forced separation of activities without divestiture of assets, as an exceptional remedy subject to Commission oversight.

- **Access to and use of spectrum** - the Commission's legislative proposals strengthened the principles of technology and service neutrality, and created a mechanism to designate certain bands where, across the EU, rights acquired to use spectrum are allowed to be traded (secondary trading). Regulatory provisions to encourage licence-free spectrum use and to reinforce the coordination of conditions for spectrum authorisations were also proposed. The proposals took into account the policy objective to achieve economies of scale, but also the need

[1] This Annex is drawn from the European Commission document, "Report on the outcome of the Review of the EU regulatory framework for electronic communications networks and services: Summary of the 2007 Reform Proposals"

[2] *Ex ante* regulation is distinct from *ex post* regulation; the former is anticipatory and mainly concerned with market structure (e.g. levels of market concentration, entry conditions, product differentiation), whilst *ex post* regulation addresses specific allegations of anti-competitive behaviour or market abuse and aims to redress proven misconduct through a range of enforcement options, including fines, injunctions or bans. It is therefore mainly concerned with market conduct.

to avoid harmful interference and the achievement of general interest objectives such as social and regional cohesion, ensuring safety of life, avoiding inefficient spectrum use, and promoting cultural and linguistic diversity and media pluralism.

Completing the single market in electronic communications

Under the previous set of rules, NRAs exercised considerable discretion in implementing the regulatory framework but their perspective remained largely confined to national borders, despite the efforts made to improve coordination via the European Regulators Group (ERG), a forum bringing together national regulators. This has led to regulatory inconsistency and distortions of competition, hindering the development of a single European market in which undertakings can operate seamlessly across borders and where private and business consumers can profit from the availability of comparable communications services independently of geographic location. The Commission therefore proposed the establishment of an independent European Electronic Communications Market Authority, in order to build on the combined expertise of NRAs and improve the existing coordination mechanisms. At the same time, it proposed to strengthen the independence and enforcement powers of national authorities. This will ensure consistent implementation of (de-)regulation across the EU, under the supervision of the Commission, and a level playing field for operators in the single market.

Specifically, the Commission recommended the following proposals:

- **Strengthen the independence and enforcement powers of national authorities** - to improve the effective and speedy implementation of the regulatory framework.

- **European Electronic Communications Market Authority** - it was proposed to establish an independent European Electronic Communications Market Authority, bringing together the NRAs currently meeting within the ERG. The intention was to advise the Commission, have a clear mandate to act in furtherance of the single market, and be accountable to the European Parliament. The new Authority would thus replace loose cooperation among NRAs inside the ERG by a more efficient, more authoritative and more accountable system.

- **Strengthen the Commission's oversight on remedies** - the legislative proposals extended the Commission's power under the market review procedure to oversee remedies proposed by NRAs, in close cooperation with the new European Authority, with a view to contributing to a more consistent, efficient and speedy application of remedies across the EU.

- **Technical harmonisation** - in order to reduce divergence in the implementation of the regulatory framework, the Commission, drawing upon the expertise of the Authority, will be able to adopt technical harmonisation measures in areas such as costing methodologies, implementation of number portability, consumer protection, and accessibility to electronic communication services and equipment for end-users with disabilities.

Completing the single market in electronic communications

In a rapidly changing market environment, new measures are needed in order to preserve and enhance consumer protection and user rights and ensure that consumers can reap the full benefits of a dynamic and increasingly borderless communications market. The Commission proposals aimed in particular to strengthen security and privacy, to make number portability speedier and more efficient, and to promote a high quality of service and unobstructed access to digital and online content. The reform proposals also ensured that users with disabilities, elderly users and people with special needs have better access to electronic communications services.

- **Consumer protection** - The legislative proposals included:

- Improving the transparency of information from service providers to consumers, including information on supply conditions and on tariffs.
- Setting a time limit of one working day for 'porting' (transferring) a telephone number following a change of fixed or mobile operator.
- Enhancing the implementation of '112' emergency services in the EU, in particular by ensuring more efficient access to caller location information.

- Enabling NRAs to impose minimum requirements for the quality of services based on standards drawn up at Community level.

- **eAccessibility and the rights of users with disabilities** -The legislative proposals included:

- Facilitating access by users with disabilities to 112 emergency services
- Strengthening the existing provisions to ensure that users with disabilities, elderly users and people with special needs are not prevented from using and accessing eCommunications services.

- **Security of networks and services and user privacy** - The Commission's legislative proposals address a range of issues, included:

- Ensuring that consumers are informed if their personal data have been compromised as a result of a breach of network security;
- Giving operators and NRAs more responsibility with respect to the security and integrity of all electronic communications networks and services;
- Strengthening implementation and enforcement powers for competent authorities, in particular in the fight against 'spam';
- Clarifying the application of the EU rules to data collection and identification devices using public electronic communications networks.

Annex 3: Electronic Communications in the UK and international comparisons

Market

The performance of the UK's electronic communications sector measures up strongly compared to its international counterparts. In terms of retail revenue, the UK has the third largest sector in Europe at £39 billion[3], behind Germany (£52 billion) and France (£44 billion). Furthermore, it has complete coverage for fixed and mobile telephone and broadband services, such that any household can access each form of electronic communication. In terms of household take up, only one per cent of UK households do *not* have access to at least one telephone (fixed and/or mobile), whilst the EU27 average is two per cent[4]. With regards to internet connections, Chart A1 shows that UK take-up is above the EU average at 62 per cent, although it is significantly below the likes of the Netherlands, Denmark and Sweden. A similar scenario has developed for household access to internet broadband.

Chart A1: Households having an Internet and Broadband connection

Source: Eurobarometer (fieldwork carried out in November-December 2009)

Competition

Under section 3(1) of the 2003 Communications Act, Ofcom is required to "further the interests of consumers in relevant markets, where appropriate by promoting competition". One of the objectives is to achieve greater static efficiency in the market, which can be broken down into productive efficiency (when the costs of production are minimised for a given level of output) and allocative efficiency, which is when prices are close to cost. However, a competitive market should also deliver choice and diversity to the market, therefore Ofcom has a number of tools at its disposal to foster and promote competition[5].

One indicator of the competitiveness of the UK sector is illustrated in Chart A2, which shows the weighted average pricing of five baskets of communication services in the UK and five other comparative countries. Overall, prices in the UK compare favourably to its competitors, offering the lowest prices for

[3] This includes revenue from telecommunications, television and radio. It does not include wholesale revenues and so is less than the figure of £50 billion in the main evidence base.
[4] Eurobarometer, 'E-Communications Household Survey Report' (October 2010)
[5] For further detail, see Ofcom, 'Final statements on the Strategic Review of Telecommunications' (September 2005)

four of the five baskets – this is driven particularly by low mobile prices, which could be due to the relatively low level of market concentration. The UK had the second least concentrated mobile market at the end of 2009, as measured by the Herfindahl-Hirschman Index of market concentration (HHI), with no single operator having a connection share of more than 30%[6]. However, it should be noted that this index will have increased in 2010 due to the merger of the UK operations of Orange and T-Mobile into Everything Everywhere.

Chart A2: Comparative 'weighted average' pricing of 'single services' for six countries

Source: Ofcom using data supplied by Teligen. Weighted average prices are the best-value tariffs from each of the three largest operators by market share in each country. Note 'single-service' broadband in Spain and Germany includes the best value 'voice and broadband' tariff as single-service broadband was not available from the largest operators. PPP adjusted.

In terms of consumer choice and the range of operators available, as discussed above the UK has more than 600 providers that offer some type of electronic communication. With regards to fixed line operators, the UK has the fourth largest number of providers in the EU, behind the Netherlands, Poland and Austria. The majority of countries have 3-4 cellular mobile network operators (the UK has four) whilst the UK has more MVNOs than most countries (again with the exception of the Netherlands).

It is also important that consumers are sufficiently engaged in the market, such that they are aware of a variety of suppliers and their products. Spontaneous awareness of a variety of fixed line suppliers has recently dropped slightly (from 49 per cent in 2009 to 45 per cent in 2010) whilst the proportion for mobile and broadband suppliers has remained fairly constant at around three quarters and 70 per cent respectively for the past three years[7]. Given the nature of the market and the economies of scale that exist, certain firms have significant market shares for each type of communication and therefore many consumers will mostly be aware of the larger providers. In the case of fixed telephone services, BT remains the biggest supplier but – as Chart A3 below shows – its share of fixed-line connections has been continually declining during the past six years at the expense of smaller operators, illustrating the effect of increased competition.

[6] The HHI scale ranges from 0 (for a hypothetical perfectly competitive market) to 10,000 (for a monopoly). The UK index was 1,794 at the end of 2009, second only to India at 1,552. The respective indices for France, Germany and the US were 3,261, 2,843 and 2,260. China was the largest at 5,335.
[7] Ofcom, 'The Consumer Experience' (December 2010)

Chart A3: Proportion of fixed-line connections, by operator

Source: Ofcom, Communications Market Report 2010

With regards to mobile phone services, the four network operators in the UK are Vodafone, O2, Everything Everywhere (following the merger in 2010 between the European owners of Orange and T-Mobile UK) and 3UK. Between them, these firms had just over 80 million subscriptions in the UK in 2009; 3UK had the smallest share at 6 per cent whilst Vodafone and O2 made up 23 per cent and 28 percent respectively of the market. However, within this market there are a number of MVNOs that are active and offer consumers greater choice (for example Tesco Mobile resells mobile services that it purchases on a wholesale basis from O2). In 2009, 13 per cent of total mobile connections were made by MVNOs, which is an increase of three percentage points from 2004. With the exception of Germany (where MVNOs account for almost a quarter of mobile connections), this is the highest share in Europe and also compares favourably to other countries such as the US and Japan[8].

Lastly, in terms of internet access, although the number of providers is greater than for both fixed and mobile phone, the market has become increasingly concentrated during the past five years. Research by Ofcom shows that the retail connection share of the top three broadband providers (BT, TalkTalk and Virgin Media in the UK) was 72 per cent in 2009, compared to 47 per cent in 2004. This compares favourably with some countries, such as France (91 per cent), Spain (82 per cent) and the Netherlands (78 per cent) but it is larger than some counterparts such as Poland (63 percent)[9]. In the UK, the increase was largely a result of a series of mergers and acquisitions (e.g. the acquisition of AOL Broadband and Tiscali by TalkTalk) as well as the increasing popularity of bundled services – for example the household take-up of fixed voice and broadband services increased from 9 per cent in Q1 2005 to 22 per cent in Q1 2010, whilst take-up of fixed voice, broadband and multichannel TV increased from 3 per cent to 17 per cent over the same period. However, whilst the bundling of communication services may contribute to increases in market concentration, it nevertheless offers significant benefits to consumers, such as value for money (52 per cent of consumers using bundled services indicated that it was cheaper to do so) and the convenience of dealing with one supplier[10].

The level of consumer switching between communications providers is also an indicator of effectively operating competition. Recent research by Ofcom, illustrated in Chart A4 below, shows that the UK compares well with France and Germany and has a significantly higher switching rate than the US and

[8] Ofcom, 'International Communications Market Report' (December 2010)
[9] Ofcom, 'International Communications Market Report' (December 2010)
[10] Ofcom, 'Communications Market Report' (2010)

Japan[11]. However, within this context, it should be emphasised that it is not necessary to achieve a switching rate of 100% to have a well-functioning market. As long as consumers have a credible threat of switching provider, this should be sufficient to discipline existing providers. This is illustrated by the fact that the majority of electronic communications users in the UK are satisfied with their services, for example around 78 per cent are either very or fairly satisfied with ease of use, whilst 69 per cent are satisfied with the cost (both of these are higher than the EU averages)[12]. Satisfaction with the overall service of communications suppliers ranged from 80 to 90 per cent for fixed line, mobile, broadband and television in 2010[13].

Chart A4: Proportion of users of a service who have switched provider in the last twelve months, 2010

Source: Ofcom, 'International Communications Market Report 2010' (December 2010)

UK Regulatory Framework

Evidence suggests that UK regulation of its electronic communications market is effective in comparison to other countries. The European Competitive Telecommunications Association (ECTA) publishes an annual regulatory scorecard, which compares the regulatory environment of the electronic communications sector in 22 European countries and its effectiveness in promoting the objectives of the EU regulatory framework. The scope of the survey includes the wider institutional and legislative environment affecting the sector as well as the application of regulation by National Regulatory Authorities (NRAs) and the market outcomes in key wholesale access and retail markets. In its most recent report, ECTA listed the UK as one of the leading countries that performed well across all five sections (the overall institutional environment, key enablers for market entry, the NRA's regulatory processes, application of regulation by the NRA and regulatory and market outcomes). Overall, it ranked second in the 2009 scorecard behind the Netherlands, having come first in all previous scorecards[14].

[11] Evidence from Eurobarometer also shows that the UK has one of the highest switching rates in the EU for the Internet. 12 per cent of respondents indicated that they had switched ISP at some point, with only three other countries having higher rates (Denmark at 22%, Sweden at 15% and Finland at 13%)
[12] Eurobarometer, 'E-Communications Household Survey Report' (October 2010)
[13] Ofcom, 'The Consumer Experience' (December 2010)
[14] For further details, see http://www.ectaportal.com/en/REPORTS/Regulatory-Scorecards/Regulatory-Scorecard-2009/

Chart A5: ECTA Regulatory Scorecard 2009

Source: ECTA Regulatory Scorecard 2009

In addition, the OECD produces annual indicators of regulation in energy, transport and communications that summarise regulatory provisions in seven sectors, including telecommunications. In the latest data for 2007, the UK achieved the best possible score for entry regulation and public ownership (i.e. no government ownership in the sector and all potential entrants are free to enter the market) and its overall score was second only to the US[15]. Chart A6 shows how the UK has performed in relation to its counterparts over a ten year period – the fact that the UK's score in 1998 was lower than most other European countries in 2007 suggests that it led the way on regulatory reform and that a significant portion of the EU's regulation was more relevant to other countries that were lagging behind.

[15] For further details on these indicators, see http://www.oecd.org/dataoecd/62/19/44754663.pdf?contentId=44754664

Chart A6: OECD Regulatory Reform Index for the Telecoms Sector

Source: OECD. The composition of the sectoral indicator for telecoms is based on the response to three types of questions: (1) The extent to which there is free entry into the market (from a regulatory perspective); (2) The extent to which the largest firms in the fixed and mobile sectors are owned by the Government; and (3) The market structure, based on market shares of new entrants. Scores are normalised to be between 0 and 6, such that a lower number represents a regulatory regime with fewer impediments.

Investment and innovation

The EU Framework requires NRAs to promote efficient investment and innovation in new and enhanced infrastructures[16]. The main drivers of investment for any business are the level of expected returns and the degree of risk and uncertainty associated with those returns. A company will only choose to invest in a particular project if the expected returns to be made outweigh the costs involved. The higher and more certain the expected future returns are likely to be, the more willing the firm will be to invest in that project. In the electronic communications industry, investment in infrastructure is both costly and risky. The upgrade and maintenance of existing networks tend to involve significant levels of capital expenditure while investment in new infrastructure (such as next generation super-fast broadband) involve high levels of risk because of the significant uncertainties surrounding future revenue streams. This means that that services providers, and especially network operators, require assurances of a higher return on investment on account of the greater degree of risk that they face compared to companies operating in other sectors of the economy.

Furthermore, when regulating electronic communications, there may be trade-offs between maximising static and dynamic efficiency (the latter being is achieved when firms have the correct incentives to invest and innovate). For example, there may be dynamic benefits from innovation of network infrastructure being duplicated, although this would increase overall costs and reduce static efficiently. Alternatively, a high level of infrastructure sharing may lead to allocative efficiency but it could act as a barrier to network investment and innovation. Therefore, the optimal model of competition and investment will depend on specific circumstances and it is important to understand the parts of a network where the costs of duplication are unlikely to be offset by the dynamic benefits of competition[17].

[16] Article 8(2) of the Framework Directive

[17] A further discussion on regulation and investment can be found in Friederiszick and Grajek, 'Analyzing the Relationship between Regulation and Investment in the Telecom Sector' (2008). The study found that tough entry regulation in the telecommunications sector in Europe discourages investment in the fixed-line sector but had no significant impact on investment on mobile telephony.

Tables A1 and A2 below highlight trends in investment in the telecommunications sector across the 27 EU countries during an eleven year period (it should be noted that this does not include electronic communications related to broadcasting). It shows that the British regulatory environment has been effective in fostering investment, as the UK has invested more than every other country each year. Compared to the late 1990s/early 2000s, investment rates are not as high in countries with advanced telecommunication industries such as the UK, France, Italy Spain and Germany (see Table 3). By contrast, they are higher in some countries that have recently joined the EU, such as Latvia, Slovakia and Romania.

Table A1: Gross Investment in Tangible Goods in the Telecommunications Sector (Million Eur)

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Belgium	838	1,438	1,729	1,617	:	1,725	655	1,942	942	921	:
Bulgaria	:	:	129	316	:	334	322	:	336	419	283
Czech Republic	:	:	:	:	837	448	400	:	:	:	431
Denmark	707	700	678	:	:	:	:	440	516	664	917
Germany	:	:	14,469	7,769	5,746	4,653	6,267	5,269	6,098	5,661	5,724
Estonia	:	:	:	:	:	50	45	50	82	99	92
Ireland	:	:	:	:	:	:	:	:	:	723	:
Greece	:	1,452	1,727	:	:	948	744	1,083	793	787	:
Spain	1,006	4,243	6,405	5,631	4,005	2,759	3,232	3,890	3,470	3,560	4,089
France	:	:	:	6,976	6,273	4,088	4,471	4,676	4,953	5,363	:
Italy	5,301	4,816	5,455	6,183	5,719	5,000	4,658	5,423	4,668	4,731	4,929
Cyprus	72	67	76	72	:	71	149	130	103	92	94
Latvia	150	142	:	162	164	94	77	102	120	156	154
Lithuania	:	:	181	179	167	88	86	88	107	147	118
Luxembourg	173	:	:	:	:	83	45	:	:	:	:
Hungary	:	648	848	790	638	485	620	598	529	517	592
Malta	:	:	:	:	:	:	:	:	:	:	:
Netherlands	:	:	:	:	:	:	1,568	1,978	2,032	1,548	1,965
Austria	1,156	1,563	2,033	1,261	1,021	852	843	694	822	957	985
Poland	:	:	:	:	:	:	:	:	:	:	1,701
Portugal	1,619	1,647	1,595	1,601	1,300	593	:	823	889	1,000	1,338
Romania	1,771	1,398	:	1,801	633	492	708	4,128	1,964	:	:
Slovenia	:	274	283	186	201	175	:	:	:	290	353
Slovakia	410	232	:	213	267	230	294	253	305	388	430
Finland	677	755	1,093	882	873	1083	498	451	440	655	:
Sweden	:	:	2,251	1,903	:	1,797	1,578	1,189	909	1,229	998
UK	***11,611***	***14,063***	***18,103***	***12,421***	***12,470***	***9,337***	***10,274***	***10,148***	***11,822***	***10,508***	***8,930***

Source: Structural Business Statistics, Eurostat. Unavailable data is marked by :

Table A2: Investment Rates (Investment as a % of Value Added at Factor Cost)

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Belgium	25	38	42	39	:	32	11	31	15	14	:
Bulgaria	:	:	:	46	:	45	37	:	40	44	28
Czech Republic	:	:	:	:	41	22	20	:	:	:	15
Denmark	32	30	32	:	:	:	:	17	19	24	33
Germany	:	:	77	36	21	15	16	16	17	17	18
Estonia	:	:	:	:	:	22	19	20	30	33	29
Ireland	:	:	:	:	:	:	:	:	:	33	:
Greece	:	52	55	:	:	27	20	32	23	21	:
Spain	10	57	64	47	29	18	20	23	20	19	22
France	:	:	:	38	29	17	18	19	19	21	:
Italy	34	33	33	33	28	23	20	24	20	22	21
Cyprus	34	25	25	21	:	22	43	36	32	26	25
Latvia	:	59	:	46	46	27	22	29	31	39	38
Lithuania	:	:	68	68	50	29	28	26	28	35	33
Luxembourg	40	:	:	:	:	13	5	:	:	:	:
Hungary	:	:	64	53	36	27	32	28	28	24	27
Malta	:	:	:	:	:	:	:	:	:	:	:

Netherlands	:	:	:	:	:	:	:	24	:	:	24
Austria	49	61	102	46	34	26	28	23	27	32	34
Poland	:	:	:	:	:	:	:	:	:	:	29
Portugal	73	66	63	58	44	19	:	27	29	32	42
Romania	:	:	:	146	54	40	49	222	91	:	:
Slovenia	:	:	194	118	106	43	:	:	:	51	64
Slovakia	:	:	:	47	50	38	43	33	37	42	41
Finland	42	40	58	43	43	50	23	25	22	32	:
Sweden	:	:	50	51	:	53	46	30	21	29	:
UK	***48***	***53***	***62***	***40***	***40***	***28***	***31***	***27***	***32***	***28***	***25***

Source: Structural Business Statistics, Eurostat. Unavailable data is marked by :

Research analysing investment in the sector[18] found that the decline in investment in countries such as the UK was due in part to a 'natural reduction' as part of the investment cycle. Following the high levels of spending in earlier years on infrastructure – for example to support 2G mobile telephony, fixed networks (as a result of local loop unbundling) and auctions for 3G mobile telephony licenses - less was needed and firms focused on achieving higher returns with existing capital (which also allowed some firms to deleverage, where they had previously borrowed to finance investment). It is also likely that the collapse of the financial telecoms bubble was a key factor as the availability of credit became more limited, in addition to improvements in technology and digitalisation and increases in competition. By contrast, the increase in investment in new member states was probably indicative of firms viewing them as new market opportunities and seeing an opportunity to upgrade older infrastructure.

However, investment is still of great importance to the electronic communications sector in the UK because in the coming years, both fixed line and mobile network operators will seek to drive growth in data services by offering higher-speed connectivity[19]. The growth is a response to increasing demand for bandwidth as a result of services such as iPlayer, Voice over Internet Protocol (VoIP), the emergence of increasingly sophisticated smartphones and a higher take up of mobile broadband for connected laptops, handsets and new wirelessly connected devices (such as e-readers and tablets). In order to respond to demand, investment will be required in areas such as Next Generation Access networks (for example to deliver super fast broadband) and 3G+ and 4G services.

Ultimately, investment will be primarily driven by the expected returns and the associated risk and uncertainty (see Table A3). However, industry-level regulation is one of the key secondary drivers of investment in the electronic communications sector. This is supported by econometric analysis, which shows that a better performing regulatory regime, as measured by the OECD or ECTA index, contributes to higher levels of investment[20]. A separate analysis also explored the relationship between telecommunications investment and a country's regulatory framework (as measured by the ECTA scorecard). The study calculated an elasticity coefficient which showed that for every 1% increase in regulatory effectiveness, there will be a 0.47% increase in investment[21].

A survey in 2006 of wholesale and service providers in the electronic communications market provides further evidence of this, as it found that a significant proportion of respondents (from 36 per cent of retail broadcasting to 57 per cent of mobile network providers) believed that the EU regulatory framework had improved incentives to invest whilst a much smaller proportion (from 7 per cent of satellite and cable retailers to 15 per cent of fixed wholesale providers) said that it damaged incentives. The remaining companies indicated that the regulation either had no impact or did not know[22].

[18] London Economics in association with PricewaterhouseCoopers, 'An Assessment of the Regulatory Framework for Electronic Communications – Growth and Investment in the EU e-Communications Sector' (July 2006)
[19] Ofcom, 'Communications Market Report' (2010).
[20] London Economics (2006)
[21] SPA Network, 'European Telecom's Lost Investment: An analysis of the ECTA Scorecard' (April 2006)
[22] London Economics (2006)

Table A3: Analysis of investment drivers

Primary Drivers	• Levels of expected returns • Risk and uncertainty associated with expected returns		
	Economy-wide	Industry-specific	Company-specific
Secondary Drivers	• GDP per capita • Demographic/geographic characteristics • Economic cycle (financial bubble) • General regulation (not sector-specific)	• Regulation (sector-specific) • Competition • Technological process • Demand for e-Communication services	• Cost of capital • Credit rating and debt levels • Take-overs and mergers • Company performance

Source: London Economics and PwC

Innovation and Research and Development

Electronic communications is one of the leading sectors in terms of expenditure on research and development. Between 2001 and 2009, R&D spending in the telecommunications sector increased from around £750 million to more than £1 billion (peaking at £1.5 billion in 2007)[23]. In 2009, the sector accounted for almost 7% of total R&D performed by UK businesses, with only the pharmaceuticals, aerospace, computer (and related activities) and motor vehicle sectors spending more. The fact that the telecommunications sector accounts for a much larger proportion of R&D than it does of the UK's GVA (just over 2%)[24] illustrates that it is an R&D-intense sector.

In terms of innovation, telecommunication firms in the UK are not as innovation active to the same extent as their European counterparts (see Chart A7 below), with only 59% of firms active in some type of innovation, be it product, process, organisational, marketing etc. This is below the EU average. However, this is an indicator of the quantity of innovation across firms in a country rather than the level and quality of firm-specific innovation.

Chart A7: Proportion of Telecommunication Firms that are Innovation Active, by EU Country

Source: Eurostat (Community Innovation Survey)

[23] Source: ONS
[24] Source: ONS

Consumer protection

Ensuring a high level of protection of personal data and privacy, as well as ensuring the integrity and security of public communications networks, is one of the central goals of the regulatory framework. This is important for two reasons: firstly, there is scope for severe detriment if privacy and security concerns are not sufficiently addressed, and secondly; the success of the electronic communications sector is dependent on consumers having trust and confidence in the service. Failure to address privacy and security concerns can have significant impacts, some of which are outlined in Table A4.

Table A5: Impacts of Security and Privacy Failures

Consumers	Businesses	Government
• Loss of confidential data and risk of misuse • Financial loss • Emotional and physical stress • Damage to hardware and software	• Loss of confidential data and risk of misuse • Intellectual property theft • Loss of revenue and productivity • Loss of customers (e.g. due to negative publicity) • Damage to assets that are linked to communication networks	• Loss of confidential data and risk of misuse • Loss of service provisioning for critical government functions • Loss of productivity • Loss of confidence of citizens • Damage to hardware and software

As discussed earlier, the electronic communications market is generally working well for the majority of consumers. Furthermore, there is already a high level of inherent resilience in electronic communications networks and the services that run over them, especially those which form part of the critical national infrastructure.

Nevertheless, there remains a certain level of detriment in the market that requires tackling. Around four per cent of consumers have been the victim (or know someone that was a victim) of online identity theft in the past 6 months, whilst seven per cent have been the victim of people making transactions using someone else's bank details[25]. Furthermore, a quarter of UK companies suffer a serious breach of security each year and the costs of such incidents can range from £10,000 for small firms to more than £1 million for larger companies[26].

The economic cost of cybercrime in general was recently estimated to be between £3.1 billion per year for citizens, which was mostly split between identity theft (£1.7 billion) and online fraud (£1.4 billion). The cost of online fiscal fraud to Government was calculated at £2.2 billion per year, whilst the cost to business was estimated to be £21 billion per year (including IP theft and industrial espionage)[27]. Shortcomings in security and privacy protection also have costs in terms of emotional stress to consumers; whilst these have not been quantified, survey evidence shows that one in twenty adults have been the victim of people saying upsetting things about others on internet sites, whilst three per cent have experienced children accessing adult content through the internet[28].

In addition to the direct costs outlined above, consumer concerns about privacy and data security can also prevent them from making the optimal use of the internet. Almost one-in-five internet users do not buy goods online or carry out banking activities due to security concerns (see Table A6 below), meaning that they do not benefit from the potential savings that the internet offers. More than one fifth of users are reluctant to engage in social and professional networking due to security concerns. Furthermore, more than one quarter would never enter their home or mobile phone number, whilst one-in-eight would never enter their personal email address[29]. As a result, some consumers may be missing out on product offers or certain information that they would otherwise prefer to receive, or they may not be able to access certain websites that they would use if they had more confidence and trust in the network. Therefore, ensuring a greater level of consumer protection is ultimately in the interests of both users and providers of electronic communication.

[25] Ofcom Consumer Concerns; June 2010 data
[26] Ibid
[27] Detica in partnership with the Office of Cyber Security and Information Assurance in the Cabinet Office, 'The Cost of Cyber Crime' (February 2011)
[28] Ofcom Consumer Concerns; June 2010 data
[29] Ofcom, Media Literacy Wave 1 tables 2010 adults

Table A6: Internet activities prevented by security concerns, 2010

	All
Per cent	
Ordering or buying goods or services for private use	17
Carrying out banking activities such as account management	19
Providing personal information to online communities for social and professional networking	21
Communicating with public services or administrations	4
Downloading software, music, video files, games or other data files	14
Using the Internet with mobile device (eg laptop) via a wireless connection from places other than home	7
None of these	59

Source: ONS Statistical Bulletin 'Internet Access 2010'. Base: UK adults who accessed the internet in the last twelve months

Title: **Implementing the Revised EU Electronic Communications Framework - Framework Directive**	Impact Assessment (IA)
Lead department or agency: Department for Culture, Media and Sport	**IA No:** DCMS016
Other departments or agencies: Ofcom	**Date:** 04/03/2011
	Stage: Final
	Source of intervention: EU
	Type of measure: Secondary legislation
	Contact for enquiries: Stephen Fernando (020 7215 6320)

Summary: Intervention and Options

What is the problem under consideration? Why is government intervention necessary?

The electronic communications sector is characterised by markets that have monopolistic characteristics. The Framework Directive enables national regulatory authorities (Ofcom in the UK) to achieve more competitive outcomes. Intervention is also required to facilitate the continued development of a single EU market, as inconsistencies in the application of the regulatory framework could act as a barrier to entry and prevent firms competing across borders.

What are the policy objectives and the intended effects?

The overall objective of the Framework Directive is aligned with the general aim of promoting competition, investment and innovation in electronic communications, so that user needs are met and consumer interests are protected. The specific aims within this more general objective are:

- ensure effective competition which brings tangible benefits to consumers, in particular through greater choice of services and lower prices; and
- promote investment and innovation in communications infrastructures and new services

What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)

The Government is required to implement a number of changes within the Directive that allow for no flexibility in implementation. These include a requirement for Ofcom to conduct market reviews every 3 years (it currently does so every 4-5 years), the provision of greater information gathering powers to Ofcom and a requirement for the latter to consult with the European Commission after a national consultation has been completed. These are assessed against a counterfactual 'no change' scenario, without looking at other discrete options. For legislative changes where the UK has some flexibility in implementation, a number of options are analysed. These include issues related to the security and resilience of electronic communication networks, collecting information on the location of infrastructure and allowing Ofcom to recover its costs for dispute resolution. In accordance with Better Regulation principles, the Government's preferred option is to largely utilise a "copy out" approach for transposing the Directive into UK law.

Will the policy be reviewed? It will be reviewed. **If applicable, set review date:** 5/2016	
What is the basis for this review? Duty to review. **If applicable, set sunset clause date:** Month/Year	
Are there arrangements in place that will allow a systematic collection of monitoring information for future policy review?	Yes

SELECT SIGNATORY Sign-off For final proposal stage Impact Assessments:

I have read the Impact Assessment and I am satisfied that (a) it represents a fair and reasonable view of the expected costs, benefits and impact of the policy, and (b) the benefits justify the costs.

Signed by the responsible Minister: ..... Date: 24/03/2011

Summary: Analysis and Evidence — Policy Option 1

Description:

Implementation of the Framework Directive - articles for which there are no options in implementation

Price Base Year 2011	PV Base Year 2011	Time Period Years 10	Net Benefit (Present Value (PV)) (£m)		
			Low: -15.5	**High:** -103.3	**Best Estimate: -59.4**

COSTS (£m)	**Total Transition** (Constant Price)	Years	**Average Annual** (excl. Transition) (Constant Price)	**Total Cost** (Present Value)
Low		N/A	1.8	**15.5**
High			12	**103.3**
Best Estimate	0		6.9	**59.4**

Description and scale of key monetised costs by 'main affected groups'

Industry may be required to respond to more information requests on future network service developments, which could cost up to £78k per year. Ofcom required to conduct market reviews every 3 years rather than every 4-5 years, costing industry an additional £1.6m- £10.6m per year (gathering evidence, collecting information and data, responding to Ofcom findings/decisions etc.) and Ofcom £187k - £1.3m per year (collecting information, market analysis, data processing, consultation, notification).

Other key non-monetised costs by 'main affected groups'

Shorter market review period could compromise Ofcom's analytical capability. In addition to the requirement for Ofcom to conduct a European consultation after a national consultation, this could have consequences on competition and consumer protection if Ofcom's remedies are sub-optimal.

BENEFITS (£m)	**Total Transition** (Constant Price)	Years	**Average Annual** (excl. Transition) (Constant Price)	**Total Benefit** (Present Value)
Low		N/A		
High				
Best Estimate	0		Unquantifiable	**Unquantifiable**

Description and scale of key monetised benefits by 'main affected groups'

It has not been possible to quantify the benefits or accurately identify the wider impacts on competition and consumers, for example potential welfare gains and changes in consumer detriment. This is partly due to a lack of feedback in this area during the consultation, in addition to existing evidence gaps (for example the Commission's own impact assessment was unable to quantify the wider market impacts).

Other key non-monetised benefits by 'main affected groups'

Benefits of information provision can include better Ofcom monitoring and enforcement of communication providers' obligations. Disputes and investigations can also be resolved more quickly. Shorter market review periods may increase certainty in the market in terms of forecasting trends, usage patterns and technological developments. Broader benefits of enhancing regulatory consistency within the EU may result in UK firms being more willing and able to invest and export to other countries.

Key assumptions/sensitivities/risks — **Discount rate (%)** 3.5

Cost estimates draw on secondary research and information submitted by Ofcom. No quantitative data on the impact of the Framework Directive was submitted during the consultation; therefore robust estimates are not possible. Key cost driver is the increase in market review frequency. These may be overestimates if Ofcom can delay some reviews (which is allowed under exceptional circumstances) or if certain markets become fully competitive.

Direct impact on business (Equivalent Annual) £m):			**In scope of OIOO?**	**Measure qualifies as**
Costs: 6	**Benefits:** 0	**Net:** -6	No	NA

Enforcement, Implementation and Wider Impacts

What is the geographic coverage of the policy/option?			United Kingdom		
From what date will the policy be implemented?			25/05/2011		
Which organisation(s) will enforce the policy?			Ofcom		
What is the annual change in enforcement cost (£m)?			0.8		
Does enforcement comply with Hampton principles?			Yes		
Does implementation go beyond minimum EU requirements?			No		
What is the CO_2 equivalent change in greenhouse gas emissions? (Million tonnes CO_2 equivalent)			**Traded:** N/A	**Non-traded:** N/A	
Does the proposal have an impact on competition?			Yes		
What proportion (%) of Total PV costs/benefits is directly attributable to primary legislation, if applicable?			**Costs:**	**Benefits:**	
Distribution of annual cost (%) by organisation size (excl. Transition) (Constant Price)	**Micro**	**< 20**	**Small**	**Medium**	**Large**
Are any of these organisations exempt?	No	No	No	No	No

Specific Impact Tests: Checklist

Set out in the table below where information on any SITs undertaken as part of the analysis of the policy options can be found in the evidence base. For guidance on how to complete each test, double-click on the link for the guidance provided by the relevant department.

Please note this checklist is not intended to list each and every statutory consideration that departments should take into account when deciding which policy option to follow. It is the responsibility of departments to make sure that their duties are complied with.

Does your policy option/proposal have an impact on…?	**Impact**	**Page ref within IA**
Statutory equality duties[1] Statutory Equality Duties Impact Test guidance	Yes	30
Economic impacts		
Competition Competition Assessment Impact Test guidance	Yes	30
Small firms Small Firms Impact Test guidance	No	
Environmental impacts		
Greenhouse gas assessment Greenhouse Gas Assessment Impact Test guidance	No	
Wider environmental issues Wider Environmental Issues Impact Test guidance	No	
Social impacts		
Health and well-being Health and Well-being Impact Test guidance	No	
Human rights Human Rights Impact Test guidance	No	
Justice system Justice Impact Test guidance	No	
Rural proofing Rural Proofing Impact Test guidance	No	
Sustainable development Sustainable Development Impact Test guidance	No	

[1] Public bodies including Whitehall departments are required to consider the impact of their policies and measures on race, disability and gender. It is intended to extend this consideration requirement under the Equality Act 2010 to cover age, sexual orientation, religion or belief and gender reassignment from April 2011 (to Great Britain only). The Toolkit provides advice on statutory equality duties for public authorities with a remit in Northern Ireland.

Summary: Analysis and Evidence — Policy Option 2

Description:

Preferred implementation of the Framework Directive - articles for which there are options in implementation

Price Base Year 2011	PV Base Year 2011	Time Period Years 10	Net Benefit (Present Value (PV)) (£m)		
			Low: -5.2	**High:** -0.5	**Best Estimate: -2.8**

COSTS (£m)	**Total Transition** (Constant Price)	Years	**Average Annual** (excl. Transition) (Constant Price)	**Total Cost** (Present Value)
Low	0.19	1	0.53	**4.5**
High	0.33		0.95	**8.2**
Best Estimate	0.26		0.74	**6.3**

Description and scale of key monetised costs by 'main affected groups'

Industry may be required to respond to ad hoc information requests on the location of its infrastructure, which could cost £300k per year. In order to manage these requests, Ofcom will incur a one-off cost of £190k-£333k and an annual cost of £37.5k. Security and resilience obligations will cost industry around £55k per year and Ofcom £141k per year. Possible increase in disputes brought to Ofcom/industry could cost up to £420k per year as more parties are eligible to bring them.

Other key non-monetised costs by 'main affected groups'

BENEFITS (£m)	**Total Transition** (Constant Price)	Years	**Average Annual** (excl. Transition) (Constant Price)	**Total Benefit** (Present Value)
Low	0.22	1	0.32	**3**
High	0.45		0.41	**4**
Best Estimate	0.33		0.36	**3.5**

Description and scale of key monetised benefits by 'main affected groups'

Ofcom will have a cost recovery power for disputes that are brought to them, which should encourage greater alternative dispute resolution. Changes to the Access Directive reduce scope for disputes as well. Total annual saving to Ofcom/industry is could be £215k-£310k per year due to fewer disputes. Simplification of spectrum trading will reduce regulatory costs, resulting in a one-off saving to Ofcom of £210k-£450k and annual running cost savings of around £100k.

Other key non-monetised benefits by 'main affected groups'

If gathering the location of certain parts of key infrastructure contributes even 0.1% to the roll-out of superfast broadband (through sharing) the economic benefit would be worth around £18m. Risk management within the electronic communications sector may be improved and better harmonised. Dispute resolution costs will now fall to the parties involved and not the wider industry. Potential benefit to Ofcom focusing more resource only on disputes with significant consumer and competition issues a

Key assumptions/sensitivities/risks — **Discount rate (%)** 3.5

The enforcement cost to Ofcom will increase significantly if a large number of security breaches are reported. However, as the threshold for notification will be set reasonably high, this is not expected to occur. The cost to industry of providing information on the location of infrastructure will heavily depend on the number of requests made. At this time, neither DCMS nor Ofcom has any experience of the likely size and type of such requests. Current cost estimates are based on two recent surveys but the actual costs could deviate significantly. Giving Ofcom a power to recover the costs of dispute resolution will also need to be accompanied by Ofcom tackling key areas of industry concern, as they relate to regulatory policy issues.

Direct impact on business (Equivalent Annual) £m):			**In scope of OIOO?**	**Measure qualifies as**
Costs: 0.6	**Benefits:** 0.3	**Net:** -0.3	No	NA

Enforcement, Implementation and Wider Impacts

What is the geographic coverage of the policy/option?			United Kingdom		
From what date will the policy be implemented?			25/05/2011		
Which organisation(s) will enforce the policy?			Ofcom		
What is the annual change in enforcement cost (£m)?			0.2		
Does enforcement comply with Hampton principles?			Yes		
Does implementation go beyond minimum EU requirements?			No		
What is the CO_2 equivalent change in greenhouse gas emissions? (Million tonnes CO_2 equivalent)			**Traded:** N/A	**Non-traded:** N/A	
Does the proposal have an impact on competition?			Yes		
What proportion (%) of Total PV costs/benefits is directly attributable to primary legislation, if applicable?			**Costs:**	**Benefits:**	
Distribution of annual cost (%) by organisation size (excl. Transition) (Constant Price)	**Micro**	**< 20**	**Small**	**Medium**	**Large**
Are any of these organisations exempt?	No	No	No	No	No

Specific Impact Tests: Checklist

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Wider environmental issues Wider Environmental Issues Impact Test guidance	No	
Social impacts		
Health and well-being Health and Well-being Impact Test guidance	No	
Human rights Human Rights Impact Test guidance	No	
Justice system Justice Impact Test guidance	No	
Rural proofing Rural Proofing Impact Test guidance	No	
Sustainable development Sustainable Development Impact Test guidance	No	

[1] Public bodies including Whitehall departments are required to consider the impact of their policies and measures on race, disability and gender. It is intended to extend this consideration requirement under the Equality Act 2010 to cover age, sexual orientation, religion or belief and gender reassignment from April 2011 (to Great Britain only). The Toolkit provides advice on statutory equality duties for public authorities with a remit in Northern Ireland.

Evidence Base (for summary sheets) – Notes

Use this space to set out the relevant references, evidence, analysis and detailed narrative from which you have generated your policy options or proposal. Please fill in **References** section.

References

Include the links to relevant legislation and publications, such as public impact assessments of earlier stages (e.g. Consultation, Final, Enactment) and those of the matching IN or OUTs measures.

No.	Legislation or publication
1	Government consultation http://www.bis.gov.uk/Consultations/revised-eu-electronic-communications-framework
2	EC Legislative proposals and impact assessment http://ec.europa.eu/information_society/policy/ecomm/library/proposals/index_en.htm
3	Full European Legislation http://ec.europa.eu/information_society/policy/ecomm/doc/library/regframeforec_dec2009.pdf
4	Communications Act 2003 http://www.legislation.gov.uk/ukpga/2003/21/contents
5	Wireless Telegraphy Act 2006 http://www.legislation.gov.uk/ukpga/2006/36/contents

Evidence Base

Ensure that the information in this section provides clear evidence of the information provided in the summary pages of this form (recommended maximum of 30 pages). Complete the **Annual profile of monetised costs and benefits** (transition and recurring) below over the life of the preferred policy (use the spreadsheet attached if the period is longer than 10 years).

The spreadsheet also contains an emission changes table that you will need to fill in if your measure has an impact on greenhouse gas emissions.

Annual profile of monetised costs and benefits* - (£m) constant prices

	Y_0	Y_1	Y_2	Y_3	Y_4	Y_5	Y_6	Y_7	Y_8	Y_9
Transition costs	0.3	0	0	0	0	0	0	0	0	0
Annual recurring cost	7.3	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6
Total annual costs	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6
Transition benefits	0.33									
Annual recurring benefits	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36
Total annual benefits	0.69	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36

* For non-monetised benefits please see summary pages and main evidence base section

Evidence Base (for summary sheets)

Background

1. The Framework Directive provides the overall structure for the regulatory regime governing the provision of electronic communication networks and services across the EU and sets out fundamental rules and objectives which read across all five Directives. It aims to establish a harmonised regulatory framework governing electronic communications networks and services, associated facilities and services. It also sets out the role of national regulators and established procedures to ensure harmonised application of the regulatory framework across all Member States. Some of the principles of the Directive are set out below.

National regulatory authorities

2. Member states must guarantee the independence of national regulatory authorities (NRAs) by ensuring that they are legally distinct from and independent of all organisations providing electronic communication networks, equipment or services. An NRA is responsible for *ex ante* regulation[1] of markets and must not accept instructions from any other body in respect of the tasks assigned to it under the Directives which make up the Framework.

3. The obligations and tasks of NRAs include the following:

   - Promote competition in the provision of electronic communications networks and services by ensuring that users derive maximum benefit in terms of choice, price and quality and encouraging efficient use and management of radio frequencies and numbering resources
   - Contribute to the development of the internal market by encouraging the establishment and development of trans-European networks and the interoperability of pan-European services and by cooperating which each other and the Commission to ensure the development of consistent regulatory practice
   - Promote public interests by ensuring that all citizens have access to a universal service (as specified in the Universal Service Directive), ensuring the availability of simple and inexpensive dispute resolution procedures and by contributing to ensuring a high level of protection of personal data and privacy

Management of radio frequencies

4. NRAs also manage the radio frequencies for electronic communication networks and services. Such frequencies must be allocated and assigned on the basis of objective, transparent, non-discriminatory and proportionate criteria. Member states may provide restrictions in certain circumstances on the services which can be provided or the type of technology that can be used in particular frequency bands (e.g. to avoid harmful interference, protect public health, ensure technical quality of service, safeguard efficient use of spectrum).Beyond that, any undertaking intending to transfer rights to use radio frequencies must notify the NRA responsible for spectrum assignment. Competition should not be distorted as a result of such transactions.

Significant market power and regulatory controls

5. Under the Commission guidelines, an undertaking is considered to have significant market power (SMP) if (either individually or jointly with other firms) it has a position that allows it to behave or operate in a way that is appreciably independent of its competitors and consumers. NRAs examine markets where competitive conditions are likely to be imperfect, starting with a list of markets recommended by the Commission. Table 1 below lists the original 18 markets that were recommended in the 2002 Framework. However, following a review in 2006-07 the Commission reduced the list to seven markets that were mostly wholesale, as it was deemed that the remaining markets were effectively competitive. However, regulators can still regulate outside these markets if they are deemed uncompetitive and require ex ante regulation. After defining the relevant markets,

[1] *Ex ante* regulation is distinct from *ex post* regulation; the former is anticipatory and mainly concerned with market structure (e.g. levels of market concentration, entry conditions, product differentiation), whilst *ex post* regulation addresses specific allegations of anti-competitive behaviour or market abuse and aims to redress proven misconduct through a range of enforcement options, including fines, injunctions or bans. It is therefore mainly concerned with market conduct.

NRAs must assess competition in each market, particularly whether any firms in those markets have SMP

Table 1: Electronic Communications Markets of the original and updated Regulatory Framework

Market	Description	Comment
1	**Access to the public telephone network at a fixed location for residential customers**	Provision of connections to the fixed public telephone network for the purpose of making and/or receiving telephone calls and related services (such as faxes and dial-up internet).
2	**Access to the public telephone network at a fixed location for non-residential customers**	
3	Publicly available local and/or national telephone services provided at a fixed location for residential customers	All outgoing telephone calls from a fixed location. Publicly available telephone services for residential and non-residential customers are still commonly provided over traditional fixed telephone networks. However, the introduction of new technologies, in particular Voice over Internet Protocol, is changing the market environment.
4	Publicly available international telephone services provided at a fixed location for residential customers	
5	Publicly available local and/or national telephone services provided at a fixed location for non-residential customers	
6	Publicly available international telephone services provided at a fixed location for non-residential customers	
7	The minimum set of leased lines	A leased line is a permanently connected communications link between two premises dedicated to the customer's exclusive use.
8	**Call origination on the public telephone network provided at a fixed location**	Wholesale call origination enables alternative operators to provide end users with retail fixed telephone services, including dial-up Internet services.
9	**Call termination on individual public telephone network provided at a fixed location**	The wholesale service offered by operator A to operator B that enables the subscribers of operator B to call subscribers of operator A.
10	Transit services in the fixed public telephone network	The (long distance) conveyance of switched calls on the public fixed telephone network.
11	**Wholesale unbundled access (including shared access) to metallic loops and subloops for the purpose of providing broadband and voice services**	Wholesale access to the metallic local loops and sub-loops, i.e. to the "last mile" of the public fixed telecommunications network connecting the subscriber to the local exchange and to the main distribution frame, respectively. Once access is granted, new market entrants can provide both voice and data services to end users over local loop rented from the incumbent operator.
12	**Wholesale broadband access**	Enables new entrants to provide retail broadband access services to end users by using their own backbone network in combination with access to the more “local” parts of the incumbent's network. Also known as "bitstream".
13	**Wholesale terminating segments of leased lines**	Dedicated, unmanaged connections between two points. Operators use such leased lines either to complete their own network infrastructure or to provide retail lease line services (see market 7).
14	Wholesale trunk segments of leased lines	
15	Access and call origination on public mobile telephone networks	Allows new entrants to make use of the infrastructure of a mobile network operator to provide mobile telephone services to retail customers.
16	**Voice call termination on individual mobile networks**	As market 9 above. When provided on a mobile network, these are referred to as mobile termination services. Also provides the basis for national “Roaming”.
17	The wholesale national market for international roaming on public mobile networks	When a mobile user travels abroad, his home operator needs to have a network access agreement with a mobile network operator in that country, so that the user can make and receive calls. (Known as wholesale international roaming services.)
18	Broadcasting transmission services, to deliver broadcast content to end users	Includes the transmission of broadcasting signals (radio and television) on behalf of the content providers to the end users.

*NB: Only markets 1,2,8,9,11,12,13 and 16 (in **bold**) are now listed in the Framework. Markets 1 and 2 are also now grouped together, such that the list comprises 7 markets of the original 18.*

6. If a market is found to be uncompetitive – and when competition law is not sufficient to address the problem – then operators with SMP are subject to *ex ante* regulatory obligations (or remedies) in order to stimulate competition. These remedies must be based on the nature of the problem identified, proportionate and justified whilst *ex ante* access and price regulation must be set up in such a way that it does not negatively influence incentives for market players and encourages companies to ascend the 'investment ladder'. *Ex ante* regulation is distinct from *ex post* regulation; the former is anticipatory and mainly concerned with market structure (e.g. levels of market concentration, entry conditions, product differentiation), whilst *ex post* regulation addresses specific allegations of anti-competitive behaviour or market abuse and aims to redress proven misconduct through a range of enforcement options, including fines, injunctions or bans. It is therefore mainly concerned with market conduct. The EU framework provides NRAs with a 'toolbox' of remedies, allowing for flexibility in designing appropriate measures to tackle market failures and achieve the intended regulatory objectives. If, however, a market is found to be competitive then the NRA must remove existing SMP designations and any accompanying regulatory requirements.

Right of appeal

7. Effective national mechanisms must allow any user or provider of electronic communications networks or services the right of appeal to an independent appeal body in the event of any disputes with an NRA.

Impartiality and transparency

8. Member States must ensure that national regulatory authorities exercise their powers impartially and transparently. They must also ensure that the NRAs make arrangements for consultation of the interested parties if they intend to take measures which could have a significant impact on the market. The NRAs are responsible for making the results of the consultation public.

Consolidation of the internal market

9. The NRAs, the Commission and the Body of European Regulators for Electronic Communications (BEREC) must cooperate to determine the instruments, as well as the most appropriate solutions, to deal with any situation which may arise within the internal market for electronic communications. In certain cases, the Commission has the power to refuse measures proposed by the NRAs.

<u>Ofcom</u>

10. The relevant NRA in the UK is the Office of Communications (Ofcom), which was established by the Office of Communications Act 2002 and formally took on its powers under the Communications Act 2003. It brought together the functions of five previous regulators covering the telecommunications, television broadcasting, radio and spectrum industries, as well as other new powers and duties. Ofcom's statutory duties fall into two parts: its principal duty, which is to further the interests of citizens in relation to communication matters and consumers in relevant markets (where appropriate by promoting competition), and a further six specific duties. These require Ofcom to secure:

    - the optimal use for wireless telegraphy of the electro-magnetic spectrum
    - the availability throughout the UK of a wide range of electronic communications services
    - the availability throughout the UK of a wide range of television and radio services which (taken as a whole) are both of high quality and calculated to appeal to a variety of tastes and interests
    - the maintenance of sufficient plurality of providers of different television and radio services
    - the application, in the case of all TV and radio services, of standards that provide adequate protection to members of the public from the inclusion of offensive and harmful material in such services
    - the application, in the case of all TV and radio services, of standards that provide protection to members of the public and all other persons

11. In 2009-10 Ofcom's expenditure was around £122 million, which is funded through income from regulated companies through broadcast licence fees, administrative and other charges (£56.5 million) and through grant-in-aid from the Department for Business, Innovation and Skills (£75.7

million) and the Department for Culture, Media and Sport (£0.6 million). The grant-in-aid is primarily for managing the radio spectrum[2].

Rationale for Government Intervention

12. As highlighted above, and in the overarching Impact Assessment, the electronic communications sector is characterised by markets that have monopolistic characteristics and the purpose of the Framework Directive is to enable NRAs to achieve more competitive outcomes. Intervention is also required to facilitate the continued development of a single EU market, as inconsistencies in the application of the regulatory framework could act as a barrier to entry and prevent companies competing across borders.

Policy Objectives

13. The overall objective of the Framework Directive is aligned with the general aim of promoting competition, investment and innovation in electronic communications, so that user needs are met and consumer interests are protected. The specific aims within this overall objective are:

    - Ensure effective competition which brings tangible benefits to consumers in particular through greater choice of services and lower prices; and
    - Promote investment and innovation in high-speed communications infrastructures and new services

14. It is hoped that the proposed changes to the existing Directive will promote competition by – among other things - increasing the frequency of market reviews, promoting the sharing of infrastructure and facilitating disputes between firms more quickly and effectively. In addition, the interests of consumers are furthered by including provisions on the security and resilience of electronic communications networks.

Options Analysis

15. The revised Framework Directive introduces a number of new articles and amendments to existing legislation that covers a wide range of issues in the electronic communications market. Some of these articles require significant changes to the UK regulatory regime, whilst others do not. The focus of this impact assessment is on the former. In determining which legislative amendments are 'significant', and therefore warrant assessment, DCMS has been guided by the topics covered in the Government consultation document <u>and</u> regulatory changes that were raised in a number of consultation responses as having a significant consequence.

16. Significant changes to the legislation have also been separated into two categories. The first group of legislative changes are articles that have no provision for leeway in implementation (category 1), whilst the second group can be implemented in more than one manner (category 2). In so far as it is possible, estimates of the costs and benefits of all articles under these categories have been made. However, for category 1, it is not possible to identify discrete 'options' for implementation, therefore they are assessed against a baseline 'no change' scenario without looking at alternatives. For articles that fall under category 2, however, a number of options are appraised. The impact of the two categories are considered and assessed separately.

Category 1 – changes to existing regime; no options available

<u>Article 5 – Provision of Information</u>

17. The purpose of this article is that ensure that communication providers provide all necessary information (including financial information) to the NRA for the latter to be able to ensure conformity with the provisions of the Framework Directive. The revised Article gives NRAs a specific power to require providers to submit information concerning future network or service developments that could have an impact on the wholesale services that they make available to competitors, whilst providers with SMP may also be required to submit accounting data on the retail markets that are associated

[2] Ofcom Annual Report 2009-10

with wholesale markets. The purpose of having this information is so that the NRA can assess the impact that planned upgrades of changes to network topology will have on competition or on wholesale products made to other parties

18. The UK is required to implement the above legislative change, which will impose greater administrative burdens on those communications providers for whom Ofcom requests information. In addition to the previous requirements for communication providers to provide the necessary information to confirm with the Directive and Ofcom decisions, the Article now states that NRAs, '*shall have the power to require…undertakings to submit information concerning future network or service developments that could have an impact on the wholesale services that they have to make available to competitors.'* Undertakings with SMP on wholesale markets may also be required to submit account data on the retail markets that are associated with those wholesale markets. The purpose of these extended powers is to enable the regulator to assess the impact that planned upgrades or changes to the network topology would have on the development of competition, or on wholesale products made available to other parties.

Costs

19. Section 135 of the Communications Act 2003 already gives Ofcom wide information gathering powers, for example for the purposes of a market review, ascertaining whether a contravention of a condition or other requirement has occurred and various other purposes. The administrative burdens currently incurred by communication providers as a result of this part of the legislation is around £78,000 per year, consisting of preparation, familiarisation, reporting and other activities[3]. In the absence of further evidence (no other data was submitted in response to the consultation) it is not possible to validate whether this cost still applies in 2011, but it still provides a useful approximation.

20. The additional cost of revising Article 5 has not been quantified or estimated by communication providers, though many have indicated that they could be significantly burdensome. Ultimately, the cost will depend on the extent and scope of Ofcom's additional requests, but it is it not possible to produce a forecast for this given the uncertainties and number of variables that affect future network and service developments. It is not expected that the new requirement will result in a doubling of the current burden; therefore, in the absence of further evidence, the most reasonable estimate of the cost of amending Article 5 is that it lies within a range of **£0 - £78,000 per year for industry** – for the purposes of producing a 'best estimate', the mid-point of £39,000 per year can be used.

Benefits

21. The benefits of information provision and reporting obligations is difficult to quantify, as acknowledged in previous Ofcom impact assessments[4]. However, a regime that facilitates important reporting obligations can provide a number of benefits, including:

    - communication providers and consumers have assurance that Ofcom has the information to monitor and if necessary enforce obligations associated with the Directive.
    - communication providers have greater assurance regarding the future competitiveness of the market, enabling them to produce business plans and compete more effectively; and
    - disputes and investigations will be resolved more quickly, efficiently and on the basis of more reliable information

22. By being able to access information on future network and service developments, Ofcom will be in a stronger position to anticipate short and medium-term developments in the market, which should facilitate more timely and effective interventions (be they direct or promoting self-regulation) in the electronic communications market.

Risks and Assumptions

23. Whilst the costs outlined above are of an order of magnitude lower than many of the other costs associated with the revised EU Electronic Communications Framework, it is possible that the administrative burdens associated with section 135 have increased since the above estimates were

[3] Better Regulation Executive, Administrative Burdens Calculator, https://www.abcalculator.bis.gov.uk/index.php
[4] See for example Ofcom, 'Regulatory financial reporting obligations on BT: Taking a fresh view' (June 2006)

produced. However, in the absence of further evidence following the consultation, the impact assessment is reliant on available data.

24. It will be important that Ofcom does not use the revised regulation as a general power to seek information about future network or service developments, as it should only do so to the extent that it is needed to verify compliance with the provisions of (or directions made in accordance with) the Directives.

Article 6 – Consultation and transparency mechanism

25. Where NRAs intend to take measures in accordance with the EU Electronic Communications Framework that will have a significant impact on the relevant market, this article ensures that they give interested parties the opportunity to comment on draft measures within a reasonable period. It also requires them to publish national consultation procedures and that Member States ensure the establishment of a single information point through which all current consultations can be accessed.

26. Although the Article only requires Member States to consult where the measures they intend to provide for will have a significant impact on the market, it was not fully transposed at the time of previous legislation. Therefore, the Government intends to amend UK legislation to provide for this caveat in respect of required consultations. Based on consultation feedback, it is unlikely that this will have a significant impact, but it may result in a slight reduction in burden (for Ofcom and industry) as low-impact measures will not be consulted upon.

Articles 7 and 7a – Consolidating the internal market for electronic communications

27. A major goal of the EU framework is to create an internal market of electronic communications in Europe, in particular through transparent, predictable and effective regulation. A fully integrated internal market will make the EU more attractive to investors and deliver benefits to citizens and consumers living in and travelling across Europe.

28. As acknowledged by the Commission, since the Framework was adopted in 2002 markets have become more integrated. Whilst they remain mostly national (except for satellite services) there has been a trend towards consolidation of market players and the emergence of operators with a trans-national footprint. Figure 1 shows that the volume of trade in telecommunication services more than doubled between 2000 and 2009 in terms of both imports and exports.

Figure 1: UK Trade in Telecommunication Services

Source: ONS, 'Pink Book 2010'

29. However, the internal EU market for electronic communications is far from complete and differences in the implementation of the regulatory framework across the EU creates significant barriers in some cases to the development of cross-border services and cross-border investment. Analysis by DCMS shows that British exports of telecommunication services to European Union countries as a share of total telecommunication exports actually fell from around two thirds in 2005 to just over one half in 2009, whilst imports remained fairly constant at one half[5].

30. It is therefore one of the Commission's aims to create a consistent regulatory approach throughout the single market. The Framework Directive contains an 'internal market consolidation mechanism': the process of notification to the Commission and consultation of other NRAs under Article 7. The purpose of Article 7 is to ensure that the benefits of consistent regulatory policy feed through to all European users and limit *ex ante* regulation to where it is really necessary. Accordingly, if an NRA identifies competitive blockages at a local and/or national level, or decides that access obligations are necessary, it must submit the draft regulatory measures (in cases where the measure would affect trade between Member States) for consultation to the Commission and to NRAs of other Member States. Each NRA must take full account of opinions of other national authorities and of the Commission; Member States are also required to establish a single information point on all current consultations and to make the results of the consultation publicly available.

31. The Commission has the additional power, after further examination, to ensure consistency of NRA measures by requiring the notifying NRA to withdraw the draft regulatory measures "if it would create a barrier to the single market or if it has serious doubts as to its compatibility with Community law". Whereas this power has been given to the Commission with regard to two aspects of *ex ante* regulation (defining relevant markets and designating undertakings as having SMP), it does not cover the regulatory proposed remedies.

32. Whilst there has been significant progress in the development of an internal market, the Commission has identified a number ways in which NRAs across Europe are inconsistent in their regulation of the electronic communications sector. These include issues around the length of appeal procedures, legal standards for the suspension of NRAs decisions and the standards of market review[6]. Other problems that were identified were that NRAs apply different regulatory measures in similar circumstances and that the effectiveness of implementation is undermined by significant delays in market review procedures. With this in mind, the revised EU Framework Directive establishes BEREC, which aims to intensify cooperation and coordination among NRAs and provide the Commission with a source of independent technical expertise (including advice in market review procedures). BEREC subsumes the role of the European Regulators Group (ERG), which was previous established to be an advisory group to the Commission.

33. Although a more consistent regulatory framework across Europe will be of benefit to all countries, the direct impact of the above changes in the UK will not be as significant as other countries given that the country has one of the leading regulatory regimes in the EU (see evidence in the overarching impact assessment, for example the regulatory scores by the OECD and ECTA). However, changes to Article 7 in the Framework Directive will have an effect on certain aspects of Ofcom's regulatory role.

34. Ofcom is required to consult on market reviews (which may lead to market power and SMP determinations) and any measures that it takes with respect to parts of the Access Directive. Ofcom's current practice to consult the Commission (as required by Article 7) at the same time that it consults nationally. However, following amendments to Article 7(3), Ofcom will have an obligation to consult with the Commission and BEREC of any draft measures (e.g. to set, modify or revoke SMP conditions and access-related conditions) only once the national consultation has been completed. The reasoning for this is that it allows the views of interested parties to be reflected in the European

[5] BIS Analysis of ONS trade statistics ('Pink Book') for Communication Services. The latter includes postal and courier services but it is assumed that the proportion of telecommunications is the same because the latter has made up 80-90 per cent of communications trade during the past five years.
In terms of foreign investment in the electronic communications sector (both inward and outward), it is difficult to obtain robust data as the relevant ONS publication includes it under a broad definition of 'Information and Communications'. See ONS' Business Monitor MA4, Foreign Direct Investment 2009 http://www.statistics.gov.uk/downloads/theme_economy/MA42009.pdf. In terms of obtaining time series data, this is made difficult by the fact that 'communications' was put under the same heading as 'transport'.
[6] European Commission, Impact Assessment – Accompanying document to Legislative Proposals, http://ec.europa.eu/information_society/policy/ecomm/doc/library/proposals/1472/comm_pdf_sec_2007_1472_1_en_documentdetravail.pdf.pdf

consultation and avoids the need for a second such consultation in the event of changes to a planned measure (following the national consultation). In practice, the change means that Ofcom will have to reach a further provisional view on its consultation proposals after considering every response received during the national consultation before it notifies the draft measure to the Commission (and BEREC and other NRAs). Furthermore, the addition of Article 7a to the Framework Directive allows the Commission – taking into account BEREC's views – a limited right of veto over a proposed Ofcom SMP remedy; currently the veto power only extends to market definition but the revised legislation allows it to scrutinise proposed remedies and veto them if they create a barrier to the single market or are incompatible with community law. This is a limited right of veto in respect of SMP measures because an NRA could proceed despite concerns raised by the Commission.

Costs

35. It is not possible to robustly identify the costs of adding Article 7a to the Framework Directive as it is not known the extent to which the Commission would veto Ofcom remedies and interventions (which would have an affect on final outcomes). However, given that the Commission has not, to date, ever launched a "serious doubts" procedure against Ofcom, this change to the legislation is not expected to have a significant impact on the UK regulatory framework.

36. However, changes to Article 7(3) that require Ofcom to conduct a European consultation *after* a national consultation is likely to add significant time to Ofcom's market review process. Currently, Ofcom market reviews have lasted between 3-18 months, though the majority are complete within 6 months (longer periods are usually required for the review of wholesale terminating segments of leased lines, i.e. market 13 in Table 1)[7]. Whilst the Commission and BEREC will have one month to comment on the consultation, it is likely that the review length would extend longer as Ofcom would need to consider the comments and possibly amend its final decision. However, there are unlikely to be any significant monetary costs in this new process because only the timing of Ofcom's European consultation has changed (rather than imposing a completely new burden).

Benefits

37. As discussed above, the rationale for amending Article 7(3) is that the Commission, BEREC and other NRAs will be able to reflect on the views of interested parties in the European consultation and it also avoids the need for a second consultation should certain measures be changed following the national consultation. This could potentially balance out the lengthier processes that Ofcom will need to comply with (as set out above).

38. The broader benefits of enhancing regulatory consistency within the EU are that UK firms may be more willing and able to invest and export to other countries if they are confident that partner countries have a regime that provides the regulatory certainty seen in the UK. For example, if the revised Framework develops the internal market further and results even in a 1 per cent increase in UK telecommunication exports to the EU, the industry would benefit to the tune of around £18 million per year[8].

Risks and Assumptions

39. In the event that changes to Article 7(3) make the market review process more lengthy and onerous, it is possible that Ofcom will find it more difficult to impose remedies in as timely a manner as they would like. Should the Commission decide to veto an Ofcom measure, there is a subsequent three month standstill period and a further two months during which the Commission can either make a recommendation or lift its concerns (it has one month to do so) and Ofcom has to notify its final measure (also within one month). So it is possible that the condition would not be adopted until four or give months after the end of the European consultation process.

40. However, this should be mitigated by Article 7(9) of the Framework Directive, which allows Ofcom to derogate from the above process if it considers that there is an urgent need to act, in order to safeguard competition and protect the interests of users. Specifically, Ofcom may immediately adopt

[7] ECTA, 'Regulatory Score Card 2009: UK Consolidated Annex'.
[8] ONS statistics (Pink Book) show that in 2009, UK exports of Telecommunications were valued at £3,583 million. Internal BIS analysis suggests that the EU share of this was about 51%, or £1,827 million.

proportionate and provisional measures without delay (communicating these measures and supporting reasons to the Commission and BEREC), before a decision to render them permanent will be taken subject to the normal Article 7 requirements.

Article 11 – Rights of Way

41. This Article concerns applications for the granting of rights to install facilities on (or over/under) public or private property to undertakings that are authorised to provide public communications networks or electronic communications networks other than to the public. It sets out the principles of transparency and non-discrimination that competent authorities should follow when granting such rights.

42. The article has been amended such that the competent authority makes its decision within six months of the application. Previously there was no time limit, and the competent authority was simply required to act without delay. This change is intended to streamline the regulatory process and in the UK rights of way are usually implemented through the Electronic Communications Code. Ofcom normally process applications for Code powers within three months and, therefore, this change is unlikely to significantly affect the procedure for such applications. However, decisions on rights of way also relate to the right to install apparatus in the public highway, as well as the right to seek an order from a county court, or the Sheriff's Court in Scotland, where the network operator wants to install apparatus on private land, where access has been refused. In the latter case, the six month requirement could be a challenging timescale. However, at this stage Government does not expect the courts' costs to significantly increase, whilst businesses are not expected to be affected at all.

Article 16 – Market analysis procedure

43. Under the current transposition of the Framework Directive, Ofcom is required to carry out market reviews to monitor the amount of competition in certain markets, and to impose remedies to increase the level of competition. As discussed above, until 2007 there was a requirement to review 18 markets (see table 1) but the Commission found 11 of these to be competitive and therefore no longer need to be reviewed on a regular basis (unless Ofcom find that they are still characterised by SMP).

44. An Ofcom market review involves three stages:

- Define the market
- Competition assessment and identification of SMP operators in the market
- Decide on remedies to address any SMP – under the Framework the remedies can take one of four forms as non-discrimination, transparency obligations, access obligations or pricing

45. Ofcom is required to notify the Commission when it carries out a review and the Commission is able to veto the findings of stages 1 or 2 of the review and is able to send comments on the last stage, though under the revised Directive it will also be able to scrutinise stage 3 (see Article 7a above).

46. Under the original terms of the Directive, no time scale was specified in which market reviews were required to take place. Ofcom's current practice is to carry out a forward looking review – and implement remedies – every 4 to 5 years. This provides sufficient time to produce strong analytical evidence to support the remedies they choose to impose, to challenge any appeals against the remedies, and to observe the effects of the remedies before starting the next review.

47. In the revised Directive, however, Article 16 has been amended such that NRAs will have an obligation to review all recommended markets every three years to ensure the harmonisation of the market review process throughout Member states (though the period may be extended for up to three additional years in exceptional circumstances and the NRA notified a reasoned proposed extension to the Commission).

48. The UK is legally required to implement the changes to Article 16, therefore an assessment of the costs and benefits is made without reference to multiple options. In order to analyse the costs, it is useful to compare the number of market analyses that Ofcom has completed since its inception and compare that to the likely requirements in the coming years. Table 2 below shows the number of market analyses completed for 17 of the 18 markets listed above, in addition to the current level of competition in each of these markets.

Table 2: Competition Assessment of 17 Markets in the UK (as of September 2010)

Market (New recommendation)	Description	Assessment of Competitiveness	Number of Market Analyses Completed
1	**Access to the public telephone network at a fixed location for residential and non-residential customers**	Partial competition – partial ex-ante regulation	2*
2	**Call origination on the public telephone network provided at a fixed location**	No effective competition – ex-ante regulation	2
3	**Call termination on individual public telephone network provided at a fixed location**	No effective competition – ex-ante regulation	2
4	**Wholesale unbundled access (including shared access) to metallic loops and subloops for the purpose of providing broadband and voice services**	No effective competition – ex-ante regulation	1
5	**Wholesale broadband access**	Partial competition – partial ex-ante regulation	2
6	**Wholesale terminating segments of leased lines**	Partial competition – partial ex-ante regulation	2
7	**Voice call termination on individual mobile networks**	No effective competition – ex-ante regulation	2
Market (Old recommendation)	**Description**	**Assessment of Competitiveness**	
Ex-Market 3	Publicly available local and/or national telephone services provided at a fixed location for residential customers	Partial competition – partial ex-ante regulation	2
Ex-Market 4	Publicly available international telephone services provided at a fixed location for residential customers	Partial competition – partial ex-ante regulation	2
Ex-Market 5	Publicly available local and/or national telephone services provided at a fixed location for non-residential customers	Partial competition – partial ex-ante regulation	2
Ex-Market 6	Publicly available international telephone services provided at a fixed location for non-residential customers	Partial competition – partial ex-ante regulation	2
Ex-Market 7	The minimum set of leased lines	No effective competition – ex-ante regulation	2
Ex-Market 10	Transit services in the fixed public telephone network	Partial competition – partial ex-ante regulation	2
Ex-Market 14	Wholesale trunk segments of leased lines	No effective competition – ex-ante regulation	2
Ex-Market 15	Access and call origination on public mobile telephone networks	Effective competition – no ex-ante regulation	1
Ex-Market 18	Broadcasting transmission services, to deliver broadcast content to end users	Effective competition – no ex-ante regulation	1

Source: European Commission Market Overviews (September 2010). Ex-market 17 not included due to the proposed regulation on international roaming charges (the UK has conducted one market analysis in this area since 2003).
** Under the old recommendation, this was split into two markets (residential and non-residential) but it is assumed here that reviewing both markets is the equivalent of one market review.*

49. Between Ofcom's inception in 2003 and 2009, it carried out 30 market reviews (including market 17)[9], based on the Commission's definitions – or 4.3 reviews per year. However, in regulating the UK's communications sector, Ofcom defines markets much more specifically than the Commission's more general approach (for example it defines exchange lines as a separate market and separates "call origination" into local tandem conveyance, inter-tandem conveyance and call origination). It also divides markets by geographic area and, in the case of termination, by operator. Taking this into account and based on Ofcom definitions, it has reviewed 780 markets since its creation. If one excludes reviews of wholesale international services (which includes reviewing international call conveyance from the UK to 235 other countries/territories), then the figure falls to 310 markets.

50. The costs of conducting a market review include the following:

- collecting market information and data from operators – this entails costs both for operators and for Ofcom
- market analysis, national public consultation on draft measures organised by Ofcom – this entails the cost of data processing and drafting measures by Ofcom, preparing the public consultation, collection of inputs and the cost for operators of providing comments on the draft measures
- notification of market definition, market analysis (including designation of SMP) and proposed remedies to the Commission – this entails costs of preparing notifications by Ofcom

51. In order to quantify these costs, the European Commission conducted an on-line survey of NRAs and operators (based on a standard cost model). Given that collecting data for each of the 18 markets across all operators would have been a significant and costly exercise, the Commission chose a sample market (voice call termination on individual mobile networks – current market 7) and the costs for operators and NRAs were calculated on this basis[10].

52. NRAs and operators provided data for all the relevant stages of the market review process (e.g. number of hours spent and hourly labour costs of each stage of one market review), whilst they were also asked to estimate a percentage reduction in the next round of market reviews in order to account for the learning process and increased efficiency of future reviews. It should be noted that the data represent expert estimates, as neither operators nor NRAs have an obligation to monitor and assess their administrative costs related to market reviews.

53. As this exercise was carried out for a mobile market review, the estimated cost for network operators was around €52,000[11] per market review and €9,000 for mobile service providers per market review. In the UK, there are currently four network operators and an estimated 130 service providers (at least 30 MVNOs and around 70-100 resellers). By aggregating the earlier cost estimates, the total cost to mobile communication providers of one market review is estimated to be €1.38 million. As the data was collected in 2007, this is equivalent to about £1 million per market review[12].

54. The costs incurred by NRAs of carrying out a market review - set out above - acknowledge that national regulators deal with markets of different sizes and that the number of staff dedicated to market reviews differs from countries to country. In general, the Commission found that 10% - 20% of the staff working on electronic communications issues work specifically on market review procedures. Based on the Commission's analysis of 'big countries' (which included the UK as well as Poland, Germany, Spain, Italy and France) the costs of a market review for an NRA was estimated to be around €176,000[13]. At the 2007 exchange rate used above, this equates to £121,000 per review for Ofcom.

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[9] ECTA, 'Regulatory Score Card 2009: UK Consolidated Annex'. As of 31 December 2009, the UK had completed second round market analyses for 14 markets identified in the 2003 Recommendation. Of the four remaining markets, no SMP was found in the first round analysis of markets 15 and 18, market 17 was not reviewed due to other regulation and Ofcom was currently in the process of carrying out a full second-round market analysis of market 11.

[10] European Commission, Impact Assessment – Accompanying document to Legislative Proposals, http://ec.europa.eu/information_society/policy/ecomm/doc/library/proposals/1472/comm_pdf_sec_2007_1472_1_en_documentdetravail.pdf.pdf

[11] This is broken down as 264 working hours spend on data and information, 419 hours for inputs and comments and €76 per hour in labour costs (including overheads, social security payments etc.)

[12] Using the 2007 average exchange rate of 0.684 (Source: Eurostat)

[13] This was made up of 1770 hours in data collection, 1092 hours in public consultation and 973 hours in notifying the Commission – the labour cost per hour was given as €46

55. It is important to note that the above represents the cost of a mobile market review. Whilst the Commission stressed that this is one of the more resource-intensive markets, it does not have as many providers as the fixed service market. Recent evidence submitted by Ofcom for the Wholesale Local Access (WLA) market review – published in 2010[14] - suggests that the cost to the regulator for conducting that review was around £650,000 (this includes internal staff costs, training and development, external consultancy and other miscellaneous costs)[15]. Whilst the WLA review was more complex than most and needed to be completed under a tight timescale, Ofcom have indicated that there have still been other reviews that cost more. However, in the absence of further evidence, it is estimated that a market review costs Ofcom an amount within the range £120,000 - £650,000. If one uplifts the costs to industry by the same amount then the cost to industry of a market review lies within the range £1 million - £5.4 million[16].

56. In the subsequent analysis, these ranges are used to cost the market review process. The figures provide an indication of the order of magnitude of the costs of carrying out one market review; they should not be considered definitive. Nevertheless, based on the fact that Ofcom carried out 4.3 market reviews per year in 2003-2009 (based on the broad definitions employed by the commission), it suggests that the annual cost of market reviews has been around £4.3 million - £23.2 million per year for communication providers and £516,000 - £2.8 million per year for Ofcom.

Costs

57. This section provides an analysis of the costs of implementing Article 16 of the revised Framework Directive. In order to do so, an assessment of the costs is provided against a hypothetical baseline of 'no change'. In the Commission's impact assessment, a number of assumptions were made in terms of future administrative burdens, including:

- other things being equal, the next round of market review will be less resource-intensive due to a learning process
- streamlining of market reviews (e.g. introduction of simplified procedures for notifications found to be competitive and for notifications where only minor changes are proposed) – much of this can be achieved under the current legislation

58. Having surveyed a range of European network operators and NRAs, the Commission found that there could be a possible reduction of market review costs by between 0% and 20% during the next round of reviews (i.e. the effect is static rather than dynamic, therefore only a one-off reduction is assumed). This cost reduction would have occurred without changes to Article 16, therefore they cannot be attributed to the amended legislation.

59. The requirement to increase the number of reviews will have an impact on both industry and Ofcom. Assuming that a review of each market is carried out every three years, Ofcom will be required at a minimum to review the 7 recommended markets, resulting in 7 market reviews every three years (based on the Commission's market definitions). However, as shown in Table 2 above, there are another 7 markets that are still not fully (or effectively) competitive, meaning that they will still require review.

60. It is extremely difficult to estimate the cost of increasing the number of reviews because, as discussed above, the definition of markets that is employed by Ofcom is much more detailed than the Commission's broader definition. Thus in practice, if one defines markets by geographic region and (in some cases) operator, then Ofcom could be required to conduct hundreds of market reviews every three years. Furthermore, the costs of a market review will depend on reach review as it is undertaken.

61. Nevertheless, a rough approximation is made based on the fact that Ofcom currently conducts market reviews every 4-5 years, which suggests that shortening the period to three years could increase the total cost of market reviews by 50 per cent. As highlighted above, Ofcom has recently undertaken 4.3 market reviews per year; however this will fall on the basis that two markets are now considered competitive (see Table 2) and one (ex-market 17) is dealt with in separate regulation.

[14] http://stakeholders.ofcom.org.uk/consultations/wla/
[15] Source: Ofcom
[16] Uplifting £120,000 to £650,000 increases the cost by a factor of 5.41. This has been applied to the £1 million cost to industry of a market review, as estimated by the Commission.

Therefore, costs are estimated on the basis that in the counterfactual scenario (i.e. review of the remaining 14 markets would be done every 4-5 years) the number of market reviews per year would be 3.9[17]. This means that the costs – based on the assumptions outlined above – would be £3.9 million-£21.1 million for industry and £468,000-£2.5 million for Ofcom.

62. In addition, the counterfactual scenario may also see a 0-20% reduction in costs based on the learning effect mentioned above. This means that annual costs of conducting market reviews would actually be £3.1 million - £21.1 million for industry and £374,000 - £2.5 million for Ofcom (depending on a reduction of 0-20%)[18], then the additional cost of revising Article 16 is approximately **£1.6 million - £10.6 million per year for industry** and around **£187,000 - £1.3 million per year for Ofcom**. If the increased frequency of market reviews increases the amount of resources and associated costs, it is possible that the actual costs may be towards the upper end of these ranges. However, it is also possible that these annual costs will fall if any of the non-recommended markets become fully competitive. In the absence of further evidence, however, the above estimates are used.

63. In addition to the direct cost of carrying out a greater number of reviews, changes to Article 16 will also have an effect by shortening the time allowed each market review. Ofcom's current procedures allow sufficient time to produce strong analytical evidence to support their chosen remedies and to challenge any appeals. It also gives them time to observe and evaluate the impact of their remedies before starting the next review. It is possible that some of these strengths of the current review process will be compromised by the reduced timeframe, which could in turn have consequences on the level of competition and consumer protection in the market. Unfortunately it has not been possible to quantify this cost without data or evidence on the likely economic gains that have resulted from having longer market review timelines.

Benefits

64. Conducting a review of uncompetitive markets on a more regular basis may facilitate more timely interventions in areas of market failure. Furthermore, some consultation responses suggested that longer periods between market reviews result in greater uncertainty in terms of forecasting trends, usage patterns and technological developments. By reducing this period, such uncertainties may be reduced. As with the wider costs, it is not possible to quantify the potential benefits that could arise from having shorter timeframes between market reviews with the current evidence available. However, if it provides a higher level of regulatory certainty that increases the level of investment in the sector – in addition to more forward business planning - then the benefits to the sector as a whole could very well exceed the administrative costs outlined above.

65. As with a number of legislative changes, the principle benefit to this amendment is likely to be that it raises the standard of effective regulation in other countries. There are significant divergences within the EU both on timescales for concluding market reviews and in regulatory approaches and effectiveness in addressing market power[19]. If changes to Article 16 improve the timeliness and quality of market review in other countries, it will be of benefit to UK firms in terms of ensuring greater regulatory consistency within the EU market and possibly reducing barriers to the internal market.

Risks and Assumptions

66. As discussed above, the cost estimates are based on the assumption that Ofcom will review the 7 recommended markets each year, in addition to the other 7 that remain partially uncompetitive. Should any of the latter seven markets become fully competitive, the cost burdens on both industry and Ofcom will fall over time. Furthermore, if certain market reviews are delayed (which is allowed under the current legislation in exceptional circumstances, for example if an appeal is pending) then this will further reduce costs. On the other hand, in the event that markets that are currently competitive start to exhibit SMP or uncompetitive characteristics, the number of reviews could increase again.

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[17] During 2003 and 2009 there were 30 market reviews (4.3 per year). If the market reviews for ex-markets 15, 17 and 18 are removed then there were 27 market reviews or 3.9 per year.

[18] The maximum assumes that there will not be any reduction in market review costs and that it will remain at the current maximum (£21.1 million for industry and £2.5 million for Ofcom). The minimum assumes that there will be a 20% reduction in market review costs of the current minimum (i.e. 80% of £3.9 million for industry = £3.1 million plus 80% of £468,000 for Ofcom = £374,000)

[19] ECTA Regulatory Scorecard 2009

67. The above costs are based on the data obtained by the European Commission (for market review of voice call termination on individual mobile networks) and the costs to Ofcom of conducting a review of wholesale local access. Whilst it would have been preferable to have cost estimates for each of the 18 markets across a range of UK firms, such data was not provided during the consultation and does not exist for previous market reviews as operators and service providers have no obligation to assess their administrative costs related to market reviews. Therefore, estimates for the above markets were used for all other markets as well. It is likely that the cost of market reviews will vary across the 18 markets. Nevertheless, they provide an approximation with regards to the potential effects of revising Article 16, namely that the changes will incur direct costs of an order of magnitude of at least millions of pounds.

Article 19 – Harmonisation

68. Article 19 gives the Commission power to take action where divergences in the approach taken by NRAs across various Member States threaten the internal market. Specifically, it allows the Commission to issue a recommendation on the harmonised application of provisions within the Framework in pursuit of specified objectives in areas where it considers there has been an inconsistent regulatory approach taken by Member States.

69. Previously, such recommendations were non-binding and Ofcom was required to take utmost account of them. However, changes to Article 19 in the revised Directive grants powers to the Commission to "upgrade" non-binding recommendations to binding decisions in certain circumstances. The Commission can only issue a decision in respect of certain limited areas – market reviews and numbering – and in respect of market reviews, a draft decision can only be proposed after at least 2 years following the adoption of a Commission recommendation on the same subject.

70. Whilst the above changes may have an impact on the timing of Ofcom decisions vis-à-vis market reviews and numbering, at the moment it is too soon to know when and how the Commission will use its powers. However, in the short-term it is unlikely to result in a significant monetary cost (or benefit) for the regulator, particularly as the UK has one of the stronger regulatory regimes in the EU.

Article 21a - Penalties

71. This is a new article that strengthens the sanction powers of NRAs in relation to the EU Framework. An analysis of penalty powers is provided in the impact assessment for the Authorisation Directive, which also includes changes to the use of sanctions by regulatory authorities.

Category 2 – changes to existing regime; options available

Article 9 – Management of radio frequencies for electronic communication services and Articles 9a and 9b

72. The potential impact of changes to Articles 9, 9a and 9b are assessed in Annex 1 to this impact assessment. It is summarised along with the other changes in a table at the end of this document.

Article 12 – Co location and sharing of network elements and associated facilities for providers of electronic communications networks

73. The potential impact of changes to Article 12 is assessed in Annex 2 to this impact assessment. It is summarised along with the impact of the other legislative changes in a table at the end of this document.

Article 13a – Security and Integrity and Article 13b – Implementation and enforcement

74. The potential impact of new articles 13a and 13b are assessed in Annex 3 to this impact assessment. It is summarised along with the impact of the other legislative changes in a table at the end of this document.

Article 20 – Dispute resolution between undertakings

75. This article sets out the NRA's duties regarding dispute resolution, specifically it states that any dispute arising under the EU Framework Directives between communication providers which has been referred to the regulator must be resolved within four months (except in exceptional circumstances) All parties must cooperate fully with the NRA. In the UK, Ofcom's duties and powers in resolving regulatory disputes are set out in sections 185-191 of the 2003 Communications Act. In exercising its dispute resolution functions, Ofcom acts as the regulator and not as a commercial mediator or arbitrator; it's dispute resolution role must be exercised consistently with Ofcom's statutory duties and obligations.

76. There are two key procedural stages in Ofcom's assessment of a dispute resolution: the first stage is an enquiry phase (usually 15 working days) where Ofcom considers whether the statutory grounds for a dispute referral have been met and whether it is appropriate for Ofcom to handle the dispute; the second stage is formal proceedings, where Ofcom will determine the dispute in consultation with parties to the dispute. Before Ofcom accepts a dispute, undertakings must provide evidence that they have exhausted possible means to resolve the dispute themselves. Figure 2 below sets out the key states in a typical four month timetable for the resolution of a dispute.

Figure 2: Dispute Resolution Timeline

Source: Ofcom, Consultation on Ofcom's guidelines for the handling of regulatory disputes' (December 2010)

77. Under the current Framework, Ofcom must consider disputes, '*arising in connection with obligations under the…(Directive)…between undertakings providing electronic communication networks or services in a Member State*'. However, revisions to Article 20 will result in two key changes:

- Ofcom will only be obliged to consider disputes arising in connection with <u>existing</u> obligations - that is the subject matter of disputes must related to obligations already imposed rather than obligations which *could be* imposed. Ofcom should also not be required to resolve purely commercial disputes where there are no competition and/or consumer issues
- The scope of the Article has been expanded to include undertakings that "benefit from obligations of access and/or interconnection" – therefore, it includes non-telecommunications network and service operators that benefit from obligations under the Framework

78. As acknowledged in the Government's consultation, the group of undertakings that could be said to "benefit from access or interconnection obligations" is potentially very wide (for example providers of downstream services); therefore, in the above context it is considered that the amended scope includes "one step" direct beneficiaries, to which the existing obligation in question refers. So, for example, in the case of a dominant network provider, only those parties that directly have access to the former's network will fall under the 'one step' direct beneficiary test[20]. However, it should be noted that undertakings within the scope of the revised Article 20 may not just be electronic communication operators and service providers; they may also include providers of associated facilities or broadcasters.

79. Changes to dispute resolution have also been affected by amendments to Article 5 of the Access Directive; section 185 of the Communications Act implemented a requirement that the NRA was empowered to intervene in disputes on access and interconnection at the request of either of the parties involved in such disputes. However, this requirement has been deleted in the revised Access Directive, meaning that section 185 will be amended to give Ofcom a power (rather than a duty) to intervene in certain types of network.

Options

80. The above amendments to EU legislation will have a direct impact on both Ofcom and industry with regard to dispute resolution. These impacts are discussed below under Option 1 – minimum implementation. However, Government also consulted on a further option during the consultation that attempts address current shortcomings in the dispute resolution procedure.

81. Evidence from ECTA suggests that the UK lags behind some European countries (for example Finland and Germany) in delivering a quick and efficient dispute settlement process. Based on the two years up to 31st December 2009, 60 per cent of disputes were resolved within the statutory four month period, placing the UK 9th out of 14 countries for which there is sufficient data[21]. The number of appeals over two years in those 14 countries ranged from 3 to almost 50 – there were 15 in the UK. This indicates that the exceptional circumstances for not resolving a dispute in 4 months is being relied on more in the UK than in many other countries. Some consultation responses have indicated that this could be due to disputes involving significant regulatory policy issues, which Ofcom will address independently.

82. However, Ofcom have also suggested that there are a number of disputes that are currently being resolved that most likely could have been settled through commercial negotiations. In light of this and also the cost of resolving disputes to Ofcom (see below) - which is ultimately borne by industry as the latter funds this Ofcom function through licence and administration fees – Government consulted on giving Ofcom a discretionary power to recover (where appropriate) from disputing parties the costs and expenses it incurs in relation to resolving a dispute.

83. Between 1 January 2004 and October 2010, Ofcom accepted 48 disputes; Figure 3 below shows how these have been distributed since the regulator was created and highlights that the number has significantly increased during the past few years. During 2004, regulatory disputes represented 13 per cent of all Ofcom cases/investigations (which includes Competition Law cases, Consumer Law enforcement, compliance with the Broadcasting Code and spectrum enforcement) compared to 41 per cent in 2008[22]. In addition to these, Ofcom has dealt with 16 cases that were not accepted as being appropriate for Ofcom to handle (e.g. commercial negotiations were not exhausted) and 6 other cases that were referred to Alternative Dispute Resolution.

[20] It should be noted though that this may include certain 'third parties' to which the dominant provider has to provide network access to, upon the third party's reasonable request.

[21] ECTA Regulatory Scorecard 2009. The countries analysed are Denmark, France, Germany, Greece, Hungary, Ireland, Italy, Netherlands, Portugal, Slovenia, Spain, Sweden and the UK.

[22] Ofcom, 'Enforcement Report: A report on Ofcom's approach to enforcement and recent activity' (May 2009)

Figure 3: Regulatory Disputes (by date opened)

Source: Ofcom. NB: Disputes are resolved within a four month deadline other than where exceptional circumstances apply

84. The average cost of a dispute is around £70,000, which consists of a core case team and oversight by three senior members of Ofcom's Senior Management Team. This indicates that the average annual cost of Ofcom's dispute resolution service is approximately £490,000 (based on an average of 7disputes per year between 2004-2010), though if one takes the year to September 2010 the cost would have been around £840,000.

<u>Option 1 – Implement changes required changes to dispute resolution</u>

85. This option is assessed against a hypothetical 'no change' baseline scenario, whereby no changes the dispute resolution regime are made.

Costs

86. By expanding the scope of Article 20 such that the dispute resolution process is accessible to a greater number of undertakings, it is possible that the number of disputes will increase, which will in turn incur costs on both Ofcom and the relevant parties. It is not possible to forecast the extent to which disputes would increase as this will depend on specific undertakings but to provide an illustration, if disputes increased by up to 50 per cent then the total cost of resolving them would be **up to £250,000-£420,000 per year** (depending on whether disputes remain at the recent high level of 12 per year or fall back to a lower average of around 7 per year).

87. In addition to these direct costs that would be incurred, an increasing number of disputes could exacerbate the more serious impediments to Ofcom delivering an efficient and speedy dispute resolution procedure, which is integral in preventing harm to competition and consumers. Whilst this indirect cost cannot be monetised, it is likely to be significantly greater than the direct administrative costs of dispute resolution outlined above.

Benefits

88. Due to changes in Article 5 of the Access Directive, Ofcom will no longer be obliged to consider all disputes related to network access, which previously could be defined very widely. Ofcom have

indicated that this could lead to an overall reduction in disputes of between 15-20%, resulting in a cost saving of around **£75,000-£170,000 per year** (again depending on whether disputes remain at a higher level or revert to the mean) which could effectively neutralise the increased cost of expanding the scope of undertakings.

89. Furthermore, by giving Ofcom discretion to intervene in certain access disputes (rather than obliging them to intervene in all of them), the regulator should be able to focus on the more serious and complicated disputes that have the potential to cause detriment to consumers (or wider competition), which may result in quicker and more efficient resolution. Again, this could balance out the wider costs outlined above.

Risks and assumptions

90. In the Government consultation published in September 2010, it was suggested that the changes to Article 5 of the Access Directive could be implemented by removing Ofcom's obligation to consider disputes related to network access and interconnection and limit disputes obligations that arise in the EU Framework Directives. Given that a number of past disputes have been related to network access and interconnection, many respondents expressed concern regarding the resolution of such disputes in the future. This should be mitigated by the fact that Government is now proposing that Ofcom will have a power to intervene in certain types of network disputes. Furthermore, undertakings will have an opportunity to appeal Ofcom's decision on whether it will conduct a dispute resolution (whether Ofcom accepts the resolution role or not) to the Competition Appeal Tribunal.

<u>Option 2 – Implement changes that are required and give Ofcom a power to recover dispute resolution costs</u>

91. When the dispute resolution provisions were originally drafted in 2003, it was felt that Ofcom should generally recover its costs from the whole of the industry through the administration charges that it levies. Whilst it has the power to recover costs from a disputing party under section 190(6)(b) of the Communications Act, section 190(7) makes it clear that the regulator can only do this where the dispute relates to spectrum matters or where the reference of the dispute by that party was frivolous or vexatious. Under option 2, the restriction in section 190(7) would be lifted to give Ofcom a discretionary power to recover dispute resolution costs from the relevant parties.

Costs

92. Whilst there is no economic cost of implementing Option 2, in that dispute resolution costs are simply passed on from one group to another, those parties that bring disputes to Ofcom will obviously bear a direct financial cost. That is a proportion of the £500,000 that is spent on dispute resolution per year will be paid for by disputing parties rather than all firms that are regulated by Ofcom (furthermore Ofcom's statutory regime for administrative charging requires that an over-recovery of costs in any financial year will be returned to stakeholders in the following year). Not all of the cost will be passed on as the regulator will only recover costs in certain circumstances; however, it is not possible to forecast how much will be recovered as this will be implemented on a case-by-base basis.

93. This option would have to be accompanied alongside option 1, as the changes to Article 20 of the Framework Directive and Article 5 of the Access Directive still require implementation. Therefore, in order provide a comparison with the baseline 'no change' scenario, option 2 will still incur a potential cost of expanding the scope of undertakings that can bring a dispute to Ofcom, which could be **up to £420,000 per year**.

Benefits

94. The benefit of pursuing this option is that it provides more appropriate incentives regarding disputes; specifically, the costs of Ofcom's dispute resolution role fall directly on undertakings that bring the dispute rather than the industry as a whole (through Ofcom's administrative charges), including a number of firms that do not use the service. Essentially, the cost becomes internalised for firms that bring disputes rather than allowing the resolution process to be subsidised by the broader market. This should discourage the referral of disputes to Ofcom that could be resolved without the regulator's intervention and encourage disputing parties to seek resolution of their disputes through

compromise or alternative dispute resolution (ADR), which is often both more cost effective and less bureaucratic than the Ofcom process.

95. Ofcom has indicated that there are a number of disputes that are currently being resolved (and some that have been resolved in the past) that could have been settled through commercial negotiations, had the parties been incentives to do so by the possibility of paying costs. As highlighted above, Ofcom has already referred six disputes to ADR that was subsequently resolved between the parties. Ofcom has indicated that giving it a power to recover costs could result in approximately two fewer disputes per year being referred to Ofcom resolution, resulting in a saving to Ofcom (and therefore industry) of £140,000 per year. As this will also be implemented alongside option 1, the total savings of options 2 could be **£215,000 - £310,000 per year**.

96. Whilst these savings are welcome, it is important to note that the Government's objective is not to minimise the number of disputes that undertakings bring to Ofcom. Dispute resolution is an important element of an effective regulatory regime that promotes competition and consumer interests. Therefore, the most significant benefit of pursuing option 2 – which will be more highly valued than the above administrative savings – is that Ofcom will be better enabled to swiftly address any potential harm that could be caused to competition and consumers by commercially unresolved disputes. As discussed above, this is an aspect of electronic communications regulation where the UK does not compare so well to leading European countries and it is this issue that option 2 should go some way towards remedying.

97. Although it has not been possible to quantify these wider benefits, two recent cases illustrate how significant dispute resolution can be for competition and consumers. The 2009 dispute regarding Partial Private Circuits resulted in BT being ordered to make repayments to its competitors totalling £41 million[23]. This level of repayment can obviously have a significant impact on the competitive positions of companies in the industry and so increase competition and ultimately lead to lower prices to consumers.

98. Furthermore, in 2010 a dispute resulted in BT being prevented from raising termination charges to mobile operators for calls to 0845 and 0870 numbers[24]. Mobile operators estimated the impact of the prices change to be tens of millions of pounds per year, which would ultimately have been paid by consumers through their mobile phone bills.

99. These two disputes concerned a considerable number of companies and potentially impacted on a large number of consumers; it is therefore important that Ofcom can address these sorts of disputes in a swift and efficient manner. However, such efforts are compromised if certain disputes are referred to Ofcom inappropriately. For example other disputes referred involve significantly smaller amounts of money and have little or no potential impact on competition and consumers. A recent case involving two parties – neither of whom held significant market power in any market – could not agree on a contractual dispute[25]. In 2009, having undertaken a three week enquiry into the case, Ofcom referred the parties to ADR to resolve their dispute. In 2010 the parties returned to Ofcom having failed to agree to the terms of ADR and Ofcom was obliged to resolve the dispute. Two months into Ofcom's consideration of the dispute, the parties settled the dispute between themselves.

100. Even though this dispute did not focus on a regulatory or competition issues (it was purely an historic contractual dispute as to whether certain prices were fair and reasonable), Ofcom was still required to assign sufficient resources to ensure that the dispute was fully considered and resolved according to all relevant case law. The fact that this dispute was settled between the parties demonstrates that it could have been resolved in a more appropriate way but the least cost option for the parties was to refer the dispute to Ofcom, even though the cost to Ofcom of resolving this dispute is likely to have exceeded the amount in dispute between the parties. Having to devote resources to this sort of dispute can prevent Ofcom from addressing more significant disputes in an efficient manner.

[23] http://stakeholders.ofcom.org.uk/enforcement/competition-bulletins/open-cases/all-open-cases/cw_992/
[24] http://stakeholders.ofcom.org.uk/enforcement/competition-bulletins/closed-cases/all-closed-cases/cw_01042/
[25] http://stakeholders.ofcom.org.uk/enforcement/competition-bulletins/closed-cases/all-closed-cases/cw_01057/

101. As discussed above, it has not been possible to robustly quantify the wider consumer and competition benefits of giving Ofcom a cost recovery power for dispute resolutions. However, the case studies above – demonstrating the widely differing impacts of dispute resolution – demonstrate how important it is that Ofcom's resources are efficiently targeted to where they are most needed. By correcting the incentives-structure with regards to dispute resolution, this should allow Ofcom to focus its resource and attention to those disputes where there are significant consumer and competition issues at stake.

Risks and assumptions

102. The benefit of £140,000 per year that is mentioned above assumes that the whole cost of a dispute resolution process is saved; of course this is likely to be an over-estimate given that the disputing parties will still incur some cost (albeit smaller) in utilising ADR. However, the figure does represent a saving to Ofcom and firms that have no involvement in that specific dispute.

103. In terms of risk, a number of respondents to the consultation expressed concern that lifting the current restriction on cost recovery could deter undertakings from bringing genuine complaints, which would leave them unresolved - to the detriment of both the firms and their customers (it would also negate the investment benefits identified above and possibly lead to a reduction in sectoral investment). Many undertakings that bring disputes to Ofcom already exhaust alternative mechanisms such as commercial negotiation and ADR and only seek Ofcom intervention as a last resort[26]. Indeed, when the 2003 Act was drafted one of the reasons for restricting cost recovery was that it would help ensure that companies would not be put off referring a dispute to Ofcom because of the potential costs. The risk that certain undertakings could be deterred from making genuine complaints could apply particularly for smaller firms, who are less likely to be able to afford the costs than larger firms such as BT and mobile network operators. Furthermore, whilst disputes are usually bilateral between two parties, the outcome can often apply across the market, which means that other communication providers actually benefit from the resolution by having certain rules and obligations clarified.

Preferred option

104. Given the benefits that have been identified above, the Government intends to implement option 2 and give Ofcom a discretionary power to recover the costs of dispute resolution. However, the issues raised in the previous paragraph represent significant risks for the proposed regime. These will therefore be mitigated by ensuring that Ofcom will not immediately seek to recover costs; it will instead consider a number of issues to inform its judgement on how to exercise its discretion, for example: the conduct of disputing parties; the efforts made before and during the proceedings in order to try and resolve the dispute; the amount of money at stake; and the importance of the case in relation to Ofcom's statutory duties. In this way, the legislation should facilitate a consistent approach to the recovery of both Ofcom's costs and those of the disputing parties.

105. It is also important to note that the high proportion of dispute resolutions that exceed the statutory four month period (and therefore require exceptional circumstances) is not solely due to the number of disputes and the failure to exhaust alternatives. The nature of the dispute is also important, for example whether it involves significant regulatory policy issues (e.g. a number of past disputes concerned termination rates for calls to number translation service numbers), and in order to bring the UK in line with more efficient dispute resolution procedures that are seen in certain European countries, it will be important for Ofcom to tackle areas of key industry concern.

106. It should also be noted that a separate consultation recently closed on Ofcom's dispute resolution guidelines, which will be updated in order to reflect past experiences, the increasing number of disputes and current resource constraints[27]. This should provide further clarity for network operators and service providers, particularly after the CAT judgement of May 2008 on mobile termination rates (which obliged Ofcom to use its dispute resolution powers to modify – where appropriate – its earlier regulatory decisions), which has been a significant driver of disputes during the past two years[28]. The revisions to the dispute resolution guidelines should make operators better informed as to the

[26] ADR may also be inappropriate for multi-party disputes, which are also brought to Ofcom
[27] Ofcom, 'Dispute Resolution Guidelines: Ofcom's guidelines for handling of regulatory disputes' (December 2010)
[28] European Commission, '15th Progress Report on the Single European Electronic Communications Market' (2009)

information that should be included in their applications, which will in turn allow Ofcom to deal with disputes more quickly.

One-in, One-Out

107. Whilst it is accepted that giving Ofcom a power to recover costs for dispute resolutions is not legally required by the EU amendments to the Framework Directive, the preferred option does not fall under the scope of the Coalition Government's 'One-In One-Out' rule because it relates to fees and charges[29]. Furthermore, giving Ofcom a cost-recovery power does not result in any increased cost to industry over and above the minimum requirements of the legislation. It therefore does not result in an additional regulatory burden (or "in"). At worst, option 2 is cost-neutral to business relative to option 1 (implementing the minimum requirement) because the costs are incurred directly by the parties involved in the dispute rather than industry as a whole. Furthermore, as highlighted above, Ofcom's statutory regime for administrative charging requires that an over-recovery of costs in any financial year will be returned to stakeholders in the following year[30]. At best, it may be a benefit to industry if it acts as an incentive for some firms to seek more cost-effective ADR.

Wider Impacts

108. The specific changes highlighted above largely reflect the direct costs and benefits to industry and Ofcom in terms of administrative burdens and compliance costs. Unfortunately, it has not been possible to accurately identify the wider impacts on competition and consumers, for example potential welfare gains and changes in consumer detriment. This is partly due to a lack of feedback in this area during the consultation, in addition to the fact that the evidence base on the issue has significant gaps (for example the Commission's own impact assessment was unable to quantify the wider market impacts)[31].

109. However, whilst it has not been possible to quantify these impacts directly, it should be acknowledged that given the size of the electronic communications sector and the current levels of investment and trade (see overarching impact assessment), even a small regulatory impact could have significant benefits. To illustrate this point, one can use an econometric analysis[32] that explored the relationship between telecommunications investment and a country's regulatory framework (as measured by the ECTA scorecard). The study calculated an elasticity coefficient which showed that for every 1% increase in regulatory effectiveness, there will be a 0.47% increase in investment. In 2009, the UK achieved an ECTA score of 368. In the case of dispute resolution – where the UK has room for improvement - if the Government's implementation of the Directive improves the efficiency of its resolution system, the UK would gain a further 2 'points', meaning an increase of 0.5% in its score and possibly an increase in investment of 0.23%. Based on the most recent 2009 ONS figures for investment in the telecommunications sector, this suggests that the investment benefits around £13.7 million[33]. Of course in the case of dispute resolution, it is unlikely that the full benefit will be realised without addressing other issues such as the nature of disputes and revising Ofcom guidelines on dispute resolution (see above). However, what the analysis shows is that the wider impacts of the EU Framework on competition and investment are potentially an order of magnitude larger most of the administrative burdens that have been costed under each legislative change. Furthermore, in the event that investment increased, there would also be 'knock-on' effects to consumers in terms of having new and/or more innovative services available.

Summary of impacts

110. Table 3 below summarises the main impacts of the UK implementing the changes to the Framework Directive. It includes the impacts of the Government's preferred options to implement the

[29] HM Government, 'One-In, One-Out Methodology' (January 2011) states that "fees and charges" are out of scope for OIOO.
[30] This will be in the form of a reduction to the annual tariff for the regulatory sector to which the over-recovery of costs pertains. For further details, see section 38(1) of the Communications Act and Ofcom's Statement of Charging Principles.
[31] European Commission, Impact Assessment – Accompanying document to Legislative Proposals, http://ec.europa.eu/information_society/policy/ecomm/doc/library/proposals/1472/comm_pdf_sec_2007_1472_1_en_documentdetravail.pdf.pdf

[32] SPA Network, 'European Telecom's Lost Investment: An analysis of the ECTA Scorecard' (April 2006)
[33] ONS, Annual Business Survey. Total net capital expenditure is used for Telecommunications (SIC Code 61) , which was £5,978 million in 2009.

changes to Articles 9, 12, 13a and 13b, which have been assessed in detail in separate, annexed impact assessments.

Table 3: Summary table of impacts

Legislative change	Costs	Benefits
Article 5 – provision of information Ofcom may request additional information from communication providers, relative to what it can already request under existing legislation.	Costs to industry estimated to be **£0 - £78,000 per year** (depending on the number of requests per year) Costs to Ofcom **– negligible** as it already has an information gathering power	Not quantifiable. However, a regime that facilitates reporting obligations can provide a number of benefits, including: - assurance that Ofcom can monitor and enforce firms' obligations - assurance regarding future competitiveness of the market - swift resolution of disputes and investigations
Article 16 – market analysis procedure Ofcom will be required to conduct market reviews every 3 years rather than every 4-5 years.	Costs to industry of responding to more market reviews - **£1.6 million - £10.6 million per year** Costs to Ofcom of conducting more market reviews - **£187,000 - £1.3 million per year**	Not possible to quantify. Potential benefits include greater certainty in terms of forecasting trends, usage patterns of electronic communications and technological developments. Given the current divergence within the EU on timescales for concluding market reviews, these changes may ensure more regulatory consistency within the EU market and will potentially reduce barriers within the internal market (see wider impacts below).
Article 9 – spectrum provisions	One-off implementation costs – negligible.	Facilitating spectrum leasing is estimated to result in one-off savings to Ofcom of between **£210,000 and £450,000** and annual savings of **£100,000 per year**.
Article 12 - infrastructure sharing (preferred option) Ofcom will have a power to gather information on the location of infrastructure on an ad-hoc basis	Costs to industry - **£300,000 per year** to provide information, though costs are heavily dependent on the number of information requests Costs to Ofcom – **one-off cost of £190,000 - £333,000** (depending on implementation method) and subsequent ongoing cost of **£37,500 per year**	Not possible to quantify at this stage given existing developments and measures. However, if preferred option even contributes 0.1% to superfast broadband access, the economic benefit could be worth around £18 million.
Articles 13a and 13b – security and resilience (preferred option) Ofcom and communication providers must comply relevant measures on risk management, guarantee of integrity, notification of security breaches and implementation enforcement	Costs to industry – around **£55,000 per year** to respond to an investigation and complete a security audit. Costs to Ofcom – around **£141,000 per year** to manage and respond to breach notification, conduct investigations and produce annual report. Costs also include background resourcing requirements.	Communication providers are largely already compliant so benefits are not expected to be significant. Possible that risk management within the sector will be improved and better harmonised.
Article 20 – dispute resolution (preferred option) Scope of parties with access to dispute resolution may increase. Ofcom will be given the power to recover dispute costs where necessary.	Costs to industry – **up to £420,000 per year**. Framework Directive increases the scope for dispute resolution (actual cost will depend on the increased number of disputes).	Benefits to industry – **£215,000 £310,000 per year**, Access Directive and cost-recovery power likely to reduce the number of disputes. Incentive structure is re-aligned, as the costs of disputes fall to the parties involved rather than industry as a whole (i.e. cost internalised rather than subsidised). Potential benefit of Ofcom devoting more resources and attention to disputes with significant consumer and competition issues at stake could be significantly higher than burdens quantified above.

Wider impacts of the Framework Directive		Whilst it is not possible to robustly quantify the wider impacts of the Framework, they could potentially be an order of magnitude greater than the costs and benefits outlined above. An improvement in the UK's regulatory framework – e.g. more efficient and effective dispute resolution process - could increase investment by tens of millions of pounds. Similar benefits could arise if the Framework improves the regulatory regime in other countries, bringing a degree of regulatory certainty closer to the UK model. For example a 1 per cent increase in UK telecommunication exports to the EU would bring benefits of around £18 million per year.

Specific Impact Tests

Competition

The impacts on competition have been addressed in the main evidence base and annexed impact assessments, where relevant. However, the Directive as a whole is expected to have a pro-competitive effect because it promotes a level playing field within the single EU electronic communications market. This will allow companies to compete from a level playing field, and will make it easier for consumers to compare price and quality throughout the Member States. The potential benefits of these are addressed in the overarching impact assessment.

Small Firms

The provisions on infrastructure sharing may make it easier for small firms that wish to enter broadband markets to find out where they will be able to commercially enter a market and provide competition to the incumbent supplier (see infrastructure sharing impact assessment for more detail).
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Other Specific Impact Tests

Other environment/ rural proofing

After an initial screening it has been deemed that no significant impact is anticipated on the environment and rural proofing.

Statutory Equality Duties

The Equality Impact Assessment provides an assessment on these issues.

Other tests

Other specific impact tests have been considered including Legal Aid, Sustainable Development and Carbon Assessment. Again, after initial screening, it has been deemed that no significant impact is anticipated.

Annexes

Annex 1 should be used to set out the Post Implementation Review Plan as detailed below. Further annexes may be added where the Specific Impact Tests yield information relevant to an overall understanding of policy options.

Annex 1: Post Implementation Review (PIR) Plan

A PIR should be undertaken, usually three to five years after implementation of the policy, but exceptionally a longer period may be more appropriate. If the policy is subject to a sunset clause, the review should be carried out sufficiently early that any renewal or amendment to legislation can be enacted before the expiry date. A PIR should examine the extent to which the implemented regulations have achieved their objectives, assess their costs and benefits and identify whether they are having any unintended consequences. Please set out the PIR Plan as detailed below. If there is no plan to do a PIR please provide reasons below.

Basis of the review: [The basis of the review could be statutory (forming part of the legislation), i.e. a sunset clause or a duty to review , or there could be a political commitment to review (PIR)]; See PIR plan in overarching impact assessment
Review objective: [Is it intended as a proportionate check that regulation is operating as expected to tackle the problem of concern?; or as a wider exploration of the policy approach taken?; or as a link from policy objective to outcome?]
Review approach and rationale: [e.g. describe here the review approach (in-depth evaluation, scope review of monitoring data, scan of stakeholder views, etc.) and the rationale that made choosing such an approach]
Baseline: [The current (baseline) position against which the change introduced by the legislation can be measured]
Success criteria: [Criteria showing achievement of the policy objectives as set out in the final impact assessment; criteria for modifying or replacing the policy if it does not achieve its objectives]
Monitoring information arrangements: [Provide further details of the planned/existing arrangements in place that will allow a systematic collection systematic collection of monitoring information for future policy review]
Reasons for not planning a review: [If there is no plan to do a PIR please provide reasons here]

Title: **EU Framework Directive Annex 1: Spectrum**	Impact Assessment (IA)
Lead department or agency: Department for Culture, Media and Sport	**IA No:** DCMS017
Other departments or agencies: Ofcom	**Date:** 04/03/2011
	Stage: Final
	Source of intervention: EU
	Type of measure: Secondary legislation
	Contact for enquiries: Stephen Fernando (020 7215 6320)

Summary: Intervention and Options

What is the problem under consideration? Why is government intervention necessary?

The Electronic Communications Framework's scope includes the management of spectrum used for the provision of electronic communications networks and services, and there are a large number of new articles that relate to it. Most of the changes are already in place in the UK and do not require further UK Government intervention or legislation. But small changes to the Wireless Telegraphy Act are needed to simplify the process by which spectrum is leased. Government intervention is required to ensure the UK is compliant with EU law and to reduce the administrative burden on those involved.

What are the policy objectives and the intended effects?

The changes to the Electronic Communications Framework with respect to spectrum leasing are intended to encourage more efficient use of spectrum within the EU by extending the liberalisation of the spectrum market. The ability to lease spectrum should encourage it to be put to the most efficient use both economically and for society. Ofcom already have the ability to allow spectrum leasing, however the process that businesses have to go through in order to do this is the same as the current process to transfer licences. Making an amendment to the Wireless Telegraphy Act allows spectrum to be leased without going through this process. This should reduce the burden on both business and Ofcom when leasing spectrum.

What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)

1. Do Nothing: Under this option Ofcom will be able to meet the requirement of the revised Electronic Communications Framework, however the process by which spectrum is leased will continue to be long winded, putting a burden on businesses and Ofcom.

2. Amend the Wireless Telegraphy Act: Under this option the process for leasing spectrum will be simplified and will become less of a burden for both Ofcom and business. This is expected to have the benefit of helping spectrum be put to more efficient use, as fewer transactions should be discouraged because of the cost and time involved in the current lengthy process. This is the preferred option.

Will the policy be reviewed? It will be reviewed. **If applicable, set review date:** 5/2016	
What is the basis for this review? Duty to review. **If applicable, set sunset clause date:** Month/Year	
Are there arrangements in place that will allow a systematic collection of monitoring information for future policy review?	Yes

SELECT SIGNATORY Sign-off For final proposal stage Impact Assessments:

I have read the Impact Assessment and I am satisfied that (a) it represents a fair and reasonable view of the expected costs, benefits and impact of the policy, and (b) the benefits justify the costs.

Signed by the responsible Minister: ..... Date: 24/03/2011

Summary: Analysis and Evidence

Policy Option 1

Description:

Amend the Wireless Telegraphy Act

Price Base Year 2011	PV Base Year 2011	Time Period Years 10	Net Benefit (Present Value (PV)) (£m)		
			Low: +1	**High:** +1.2	**Best Estimate: +1**

COSTS (£m)	**Total Transition** (Constant Price)	Years	**Average Annual** (excl. Transition) (Constant Price)	**Total Cost** (Present Value)
Low		N/A		
High				
Best Estimate	0		Negligible	**Negligible**

Description and scale of key monetised costs by 'main affected groups'

Ofcom may face some implementation costs to introducing leasing but these are not considered to be significant and would be outweighed by the lower per transaction costs of leasing compared to transfer.

Other key non-monetised costs by 'main affected groups'

Spectrum leasing provides some risks if the fact that Ofcom are not involved in the contract process leads to leasing arrangements not being monitored for their impacts on competition or impairs effective interference investigation. This will be mitigated by use of Ofcom's general competition powers and by imposing a requirement on licensees to keep and make available information about leaseholders.

BENEFITS (£m)	**Total Transition** (Constant Price)	Years	**Average Annual** (excl. Transition) (Constant Price)	**Total Benefit** (Present Value)
Low	£0.215m	1		**£1m**
High	£0.45m			**£1.2m**
Best Estimate	£0.33m		£0.1m	**£1.1m**

Description and scale of key monetised benefits by 'main affected groups'

The purpose of the changes is to ensure that Ofcom will not need to be involved in the process for leases – they can be agreed contractually by the parties without involving Ofcom. There is expected to be a reduction in the administrative burden faced by companies who wish to lease spectrum and Ofcom who currently process the application, due to the simplification of the application process. Ofcom analysis published in the Simplifying Spectrum Trading consultation suggests that the reduction in regulatory costs from spectrum leasing, compared to a counterfactual of no amendments to the Wireless Telegraphy Act and reliance on the current transfer process that involves the issue of new licences, would comprise a one-off saving ranging between around £210,000 and £450,000 (depending on the complexity of the system) and ongoing annual running cost savings of up to around £100,000 compared to the alternative of automated trading. The precise savings for Ofcom will depend on the exact details of the leasing process to be introduced by Ofcom, which have not yet been finalised and will be subject to further consultation, but stakeholders responding to Ofcom's September 2009 consultation were supportive of the leasing concept as they considered that the introduction of leasing would reduce their regulatory overhead.

Other key non-monetised benefits by 'main affected groups'

The flexibility of the proposed new processing method is expected to strengthen the spectrum market because it would open up new opportunities for spectrum leasing in addition to spectrum transfer. It could make it operationally and commercially feasible for stakeholders to operate through spectrum leasing, especially for short-term spectrum assignments. This is expected to make the spectrum market more efficient and attract a wider range of stakeholders enabling them to benefit from faster spectrum access. This in turn will promote innovation and competition and benefit citizens and consumers.

Key assumptions/sensitivities/risks — **Discount rate (%)** 3.5

Direct impact on business (Equivalent Annual) £m):			**In scope of OIOO?**	**Measure qualifies as**
Costs: 0	**Benefits:** 0	**Net:** 0	No	NA

Enforcement, Implementation and Wider Impacts

What is the geographic coverage of the policy/option?			United Kingdom		
From what date will the policy be implemented?			25/05/2011		
Which organisation(s) will enforce the policy?			Ofcom		
What is the annual change in enforcement cost (£m)?			Minimal		
Does enforcement comply with Hampton principles?			Yes		
Does implementation go beyond minimum EU requirements?			No		
What is the CO_2 equivalent change in greenhouse gas emissions? (Million tonnes CO_2 equivalent)			**Traded:** N/A	**Non-traded:** N/A	
Does the proposal have an impact on competition?			Yes		
What proportion (%) of Total PV costs/benefits is directly attributable to primary legislation, if applicable?			**Costs:**	**Benefits:**	
Distribution of annual cost (%) by organisation size (excl. Transition) (Constant Price)	**Micro**	**< 20**	**Small**	**Medium**	**Large**
Are any of these organisations exempt?	No	No	No	No	No

Specific Impact Tests: Checklist

Set out in the table below where information on any SITs undertaken as part of the analysis of the policy options can be found in the evidence base. For guidance on how to complete each test, double-click on the link for the guidance provided by the relevant department.

Please note this checklist is not intended to list each and every statutory consideration that departments should take into account when deciding which policy option to follow. It is the responsibility of departments to make sure that their duties are complied with.

Does your policy option/proposal have an impact on…?	**Impact**	**Page ref within IA**
Statutory equality duties[1] Statutory Equality Duties Impact Test guidance	No	
Economic impacts		
Competition Competition Assessment Impact Test guidance	Yes	9
Small firms Small Firms Impact Test guidance	No	
Environmental impacts		
Greenhouse gas assessment Greenhouse Gas Assessment Impact Test guidance	No	
Wider environmental issues Wider Environmental Issues Impact Test guidance	No	
Social impacts		
Health and well-being Health and Well-being Impact Test guidance	No	
Human rights Human Rights Impact Test guidance	No	
Justice system Justice Impact Test guidance	No	
Rural proofing Rural Proofing Impact Test guidance	No	
Sustainable development Sustainable Development Impact Test guidance	No	

[1] Public bodies including Whitehall departments are required to consider the impact of their policies and measures on race, disability and gender. It is intended to extend this consideration requirement under the Equality Act 2010 to cover age, sexual orientation, religion or belief and gender reassignment from April 2011 (to Great Britain only). The Toolkit provides advice on statutory equality duties for public authorities with a remit in Northern Ireland.

Evidence Base (for summary sheets) – Notes

Use this space to set out the relevant references, evidence, analysis and detailed narrative from which you have generated your policy options or proposal. Please fill in **References** section.

References

Include the links to relevant legislation and publications, such as public impact assessments of earlier stages (e.g. Consultation, Final, Enactment) and those of the matching IN or OUTs measures.

No.	Legislation or publication
1	Government consultation http://www.bis.gov.uk/Consultations/revised-eu-electronic-communications-framework
2	EC Legislative proposals and impact assessment http://ec.europa.eu/information_society/policy/ecomm/library/proposals/index_en.htm
3	Full European Legislation http://ec.europa.eu/information_society/policy/ecomm/doc/library/regframeforec_dec2009.pdf
4	Wireless Telegraphy Act 2006 http://www.legislation.gov.uk/ukpga/2006/36/contents

Evidence Base

Ensure that the information in this section provides clear evidence of the information provided in the summary pages of this form (recommended maximum of 30 pages). Complete the **Annual profile of monetised costs and benefits** (transition and recurring) below over the life of the preferred policy (use the spreadsheet attached if the period is longer than 10 years).

The spreadsheet also contains an emission changes table that you will need to fill in if your measure has an impact on greenhouse gas emissions.

Annual profile of monetised costs and benefits* - (£m) constant prices

	Y_0	Y_1	Y_2	Y_3	Y_4	Y_5	Y_6	Y_7	Y_8	Y_9
Transition costs	0	0	0	0	0	0	0	0	0	0
Annual recurring cost	0	0	0	0	0	0	0	0	0	0
Total annual costs	0	0	0	0	0	0	0	0	0	0
Transition benefits	0.33	0	0	0	0	0	0	0	0	0
Annual recurring benefits	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Total annual benefits	0.33	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

* For non-monetised benefits please see summary pages and main evidence base section

Evidence Base (for summary sheets)

Background

1. The Framework and Authorisation Directives of the Electronic Communications Framework both include provisions pertaining to the management of spectrum used for the provision of electronic communications networks and services, accompanied by a large number of new articles or changes to existing articles.

2. The UK already complies with most of these new provision and while there are many cases where changes to legislation (the Wireless Telegraphy Act and the Communications Act) have been mooted these changes will be merely technical or for clarification purposes (where no additional impacts will materialise in terms of Ofcom activity). For example, Ofcom already have powers to deal with anti-competitive spectrum hoarding that Article 9 deals with and are already able to authorise spectrum leasing (required by Article 9b), albeit in a more cumbersome way than the simplified process proposed herein. Therefore, these changes are not covered by this Impact Assessment. This Impact Assessment therefore focuses on those changes which have been highlighted in the BIS paper on the implementation of the Framework, published in September 2010 or were raised by stakeholder responses to the paper.

3. The UK already complies with most of these new provision and while there are many cases where changes to legislation (the Wireless Telegraphy Act and the Communications Act) have been mooted these changes will be merely technical or for clarification purposes (where no additional impacts will materialise in terms of Ofcom activity). For example, Ofcom already have powers to deal with anti-competitive spectrum hoarding that Article 9 deals with and are already able to authorise spectrum leasing (required by Article 9b), albeit in a more cumbersome way than the simplified process proposed herein. Therefore, these changes are not covered by this Impact Assessment. This Impact Assessment therefore focuses on those changes which have been highlighted in the BIS paper on the implementation of the Framework, published in September 2010 or were raised by stakeholder responses to the paper.

4. This Impact Assessment focuses on the following changes:

   - Article 9b of the Framework Directive
   - Article 5 of the Authorisation Directive
   - Article 7 of the Authorisation Directive

5. Article 5 of the Authorisation Directive deals with rights of use for radio frequencies and telephone numbers. The amendments to Article 5(1) require Member States to facilitate the use of general authorisations for radio frequencies. They also list out explicit grounds which enable a Member State to require a licence rather than a general authorisation. We consider that the approach to wireless telegraphy licences and exemptions is already compliant with this new approach.

6. Amendments to Article 5(2) will require Ofcom to review non-transferable spectrum licences granted for 10 years of more to establish whether the grounds for granting licences in Article 5(1) still apply. Where they do not, Ofcom will be required to change the licence into an exemption. Article 17 of the Authorisation Directive sets out the timing for this review – any changes that need to be made to licences must be made by December 2011, although transitional arrangements are possible suspending the effect of the change until September 2012. Again, although the review will be a new obligation, the impact will be minimal.

7. Article 7 of the Authorisation Directive has been amended to extend aspects of the procedure that a National Regulatory Authority must follow in considering whether to limit the number of licences to be granted, to a decision to amend the duration of an existing licence outside the terms of the licence. The amendments to Article 7 will require Ofcom to publish any decision they make to extend a licence in accordance with their licence variation power under Schedule 1 to the WT Act, together with the reasons for that extension., As this is merely a requirement to publish details of their decision, we consider that the additional impact on Ofcom will be minimal.

8. Ofcom are already able to fulfil the requirements of the spectrum leasing article, Article 9b of the Framework Directive, but small changes to the Wireless Telegraphy Act are needed to simplify the process by which spectrum is leased.

9. The main focus of this Impact Assessment is on spectrum leasing, which is a form of spectrum trading where a contract is drawn up between the spectrum license holder and the party gaining access to the spectrum without the grant of a new license.

10. The current interpretation of the Wireless Telegraphy Act ("WT Act") spectrum trading provisions is that a lease arrangement would still require surrender of the licence concerned and issue of a new licence. This would require parties involved in a lease agreement to follow the current process for applying to transfer spectrum licenses in which there are 6 stages:

    (i) The parties involved notify Ofcom of the request to transfer spectrum
    (ii) Ofcom publish the request to transfer the spectrum
    (iii) Ofcom make a decision whether or not to consent to the transfer
    (iv) Ofcom notify the parties involved of their decision.
    (v) Ofcom put the transfer into effect, which involves the surrender of existing licenses and the granting of new ones to reflect the effect of the transfer
    (vi) Ofcom publish information about the transfer after it has been effected.

11. Figure 1, below shows the difference between the process for trading spectrum and the proposed process for leasing it following changes to the WT Act, as seen by Ofcom.

Figure 1: The Difference between Spectrum Trading and Leasing[1]

[1] Simplifying Spectrum Trading, Ofcom, 15th April 2010

12. With spectrum leasing under the proposed changes the parties involved do not need to notify Ofcom, and there does not need to be any publication by Ofcom of the request for the lease or of information of the lease after it has happened.

Rationale for government intervention

13. Government intervention is required as regulatory changes are needed to facilitate spectrum leasing in order to comply with EU law and hence help to ensure the efficient use of spectrum. This will also reduce the administrative burden faced by Ofcom and firms where spectrum trading is concerned, given that spectrum leasing will now be possible.

Options

Option 1: Do nothing

14. Under this option the UK will fulfil the requirements for the Framework because the WT Act currently provides for leasing of spectrum. However, under the WT Act as it is, the process by which companies would apply to lease spectrum follows the same process used to apply to transfer licenses.

Benefits

15. The benefits of this Option are that no change is required to the WT Act and that the UK will still be able to meet the requirements of the Framework.

Costs

16. The current process for applying to transfer spectrum licenses imposes an admin burden on both companies and Ofcom, and the same applies to leases of spectrum. Companies applying face this burden when filling out the application forms and following the application process. Ofcom face the burden when they process all of the applications they receive. Under this option both Ofcom and companies will continue to face these admin burdens.

17. The transaction costs, admin burden and processing time of the current process can be enough to deter beneficial transactions, especially short term ones where transaction costs and execution times are more significant. This can have a negative effect on the spectrum market, as spectrum may not be put to the most efficient use.

Option 2: Amend the Wireless Telegraphy Act to allow spectrum leasing to happen following a simpler process.

18. Under the spectrum trading provisions of the WT Act, spectrum leasing is carried out in the same way as a full transfer. Under Option 2 the WT Act will be amended to allow companies to lease spectrum without needing to go via this lengthy application process. The lease could be achieved through contractual arrangements between the parties. Under this option the vast majority of transactions would not need to be notified to Ofcom, and Ofcom would not be required to publish details of the transactions once they had occurred. The reduction in transaction costs and processing time is expected to be particularly advantageous for short term, low value and high volume transactions where these costs and time delay would otherwise be disproportionately high.

Benefits

19. This option will simplify the application process for leasing spectrum which will reduce the admin burden faced by companies and Ofcom.

20. The introduction of leasing means that Ofcom would not have to become involved in processing transactions that would otherwise have been executed as licence transfers. Hence, the introduction of leasing would reduce transaction costs per trade and processing time for both stakeholders and Ofcom[2].

[2] Ofcom Simplifying spectrum trading, September 2009

21. The flexibility of the proposed new processing method is expected to strengthen the spectrum market because it would open up new opportunities for trading as well as reducing transaction costs and processing time. It could make it operationally and commercially feasible for stakeholders to operate through spectrum leasing, especially for short-term spectrum assignments. This may increase the number of companies applying to lease spectrum as they are not put off by a lengthy process, which may mean that spectrum is put to a more efficient use.

22. Ofcom report that approximately 90,000 programme making and special events assignments were made in 2008/9, many of which were temporary assignments for no more than 48 hours[3]. These are examples of the assignments that are likely to benefit most from this option.

23. Ofcom analysis published in the Simplifying Spectrum Trading consultation suggests that the reduction in regulatory costs from spectrum leasing for Ofcom, compared to a counterfactual of no amendments to the Wireless Telegraphy Act and reliance on the current transfer process that involves the issue of new licences, would comprise a one-off saving ranging between around £210,000 and £450,000 (depending on the complexity of the system) and ongoing annual running cost savings of up to around £100,000 compared to the alternative of automated trading. Ofcom have been unable to estimate savings for stakeholders (industry) due to a lack of data.

Costs

24. Ofcom may face some implementation costs in introducing leasing, which cannot be quantified with certainty at this stage, but are considered to be negligible.

[3] Simplifying Spectrum Trading. Ofcom, Consultation Document, 2009

Specific impact tests

Competition assessment

Reducing the admin burden involved in applying to lease spectrum may increase the level of competition within the market. This is because the simplified process may encourage more companies to apply to lease spectrum. This is on the basis that Ofcom will ensure sufficient competition safeguards to prevent adverse competition impacts, from spectrum hoarding for example.

Small Firms

After initial screening, there is not expected to be a disproportionate effect of the provisions on small firms.

Other specific impact tests

Other environment/ rural proofing

After an initial screening it has been deemed that no significant impact is anticipated on the environment and rural proofing.

Statutory Equality Duties

After an initial screening it has been deemed that no significant impact is anticipated on the statutory equality duties.

Other tests

Other specific impact tests have been considered including the Small Firms Impact Test, Legal Aid, Sustainable Development and Carbon Assessment. Again, after initial screening, it has been deemed that no significant impact is anticipated.

Annexes

Annex 1 should be used to set out the Post Implementation Review Plan as detailed below. Further annexes may be added where the Specific Impact Tests yield information relevant to an overall understanding of policy options.

Annex 1: Post Implementation Review (PIR) Plan

A PIR should be undertaken, usually three to five years after implementation of the policy, but exceptionally a longer period may be more appropriate. If the policy is subject to a sunset clause, the review should be carried out sufficiently early that any renewal or amendment to legislation can be enacted before the expiry date. A PIR should examine the extent to which the implemented regulations have achieved their objectives, assess their costs and benefits and identify whether they are having any unintended consequences. Please set out the PIR Plan as detailed below. If there is no plan to do a PIR please provide reasons below.

Basis of the review: [The basis of the review could be statutory (forming part of the legislation), i.e. a sunset clause or a duty to review , or there could be a political commitment to review (PIR)]; See PIR plan in overarching impact assessment
Review objective: [Is it intended as a proportionate check that regulation is operating as expected to tackle the problem of concern?; or as a wider exploration of the policy approach taken?; or as a link from policy objective to outcome?]
Review approach and rationale: [e.g. describe here the review approach (in-depth evaluation, scope review of monitoring data, scan of stakeholder views, etc.) and the rationale that made choosing such an approach]
Baseline: [The current (baseline) position against which the change introduced by the legislation can be measured]
Success criteria: [Criteria showing achievement of the policy objectives as set out in the final impact assessment; criteria for modifying or replacing the policy if it does not achieve its objectives]
Monitoring information arrangements: [Provide further details of the planned/existing arrangements in place that will allow a systematic collection systematic collection of monitoring information for future policy review]
Reasons for not planning a review: [If there is no plan to do a PIR please provide reasons here]

Title:	Impact Assessment (IA)
EU Framework Directive Annex 2: Infrastructure Sharing	**IA No:** DCMS018
Lead department or agency: Department for Culture, Media and Sport	**Date:** 04/03/2011
Other departments or agencies: Ofcom	**Stage:** Final
	Source of intervention: EU
	Type of measure: Secondary legislation
	Contact for enquiries: Stephen Fernando (020 7215 6320)

Summary: Intervention and Options

What is the problem under consideration? Why is government intervention necessary?

The cost of rolling out a network in the electronic communications sector can act as significant barrier to entry, distorting efficiency and restricting competition in the market. Particularly for fixed networks, incumbent firms control access to infrastructure that is essential for competitors to provide services in the market place. One of the market failures that has been identified to partly explain why the current level of infrastructure sharing is sub-optimal is that they are coordination failures between firms that prevent agreements to share infrastructure. Specifically, information asymmetries make it difficult for both existing firms and potential entrants to identify suitable commercial opportunities if they do not know the location and capacity of existing infrastructure.

What are the policy objectives and the intended effects?

Within the overall objective of the EU Framework, the amendments that are relevant to infrastructure sharing in the Framework Directive (Article 12) has a particular focus on competition and investment. Specifically, it aims to ensure effective competition and to promote investment and innovation in high speed communications infrastructures and new services, by promoting the sharing of infrastructure between network operators. Infrastructure sharing also has the potential to help the Coalition Government meet its objective of ensuring the rapid roll-out of superfast broadband across the country.

What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)

The UK is required to implement the changes to Article 12(4) of the Framework Directive in order to comply with EU law. This requires Member States to ensure that national authorities (Ofcom in the UK) are allowed to require information on the location of key communications infrastructure, in order to establish a detailed inventory of its nature, availability and location. The UK has two options it can pursue in implementation:

1. Give Ofcom information gathering powers for use on an ad-hoc basis
2. Impose a duty on Ofcom to compile a detailed inventory of communications infrastructure in the UK

These options are assessed against a counterfactual scenario of 'no change'. The Government's preferred approach for implementation is option 1, as it is significantly less costly and offers benefits similar to option 2, without the associated risks.

Will the policy be reviewed? It will be reviewed. **If applicable, set review date:** 5/2016	
What is the basis for this review? Duty to review. **If applicable, set sunset clause date:** Month/Year	
Are there arrangements in place that will allow a systematic collection of monitoring information for future policy review?	Yes

SELECT SIGNATORY Sign-off For final proposal stage Impact Assessments:

I have read the Impact Assessment and I am satisfied that (a) it represents a fair and reasonable view of the expected costs, benefits and impact of the policy, and (b) the benefits justify the costs.

Signed by the responsible Minister: _____ Date: 24/03/2011

Summary: Analysis and Evidence

Policy Option 1

Description:

Give Ofcom information gathering powers for use on an ad-hoc basis

Price Base Year 2011	PV Base Year 2011	Time Period Years 10	Net Benefit (Present Value (PV)) (£m)		
			Low: -2.78	**High:** -2.92	**Best Estimate: -2.85**

COSTS (£m)	**Total Transition** (Constant Price)	Years	**Average Annual** (excl. Transition) (Constant Price)	**Total Cost** (Present Value)
Low	0.19	1		**2.78**
High	0.33			**2.92**
Best Estimate	0.26		0.34	**2.85**

Description and scale of key monetised costs by 'main affected groups'

In order to request and collect specific information on the location and capacity of certain infrastructure, Ofcom is likely to face will incur a set-up cost of £190k-£333k to establish processes (depending on its approach to implementation) and an ongoing cost of £37.5k. There will be a cost to network owners in providing information on request to Ofcom (e.g. survey costs, engineering work, reporting etc.). This will heavily depend on the number of requests, and the current best estimate is £300k per year.

Other key non-monetised costs by 'main affected groups'

BENEFITS (£m)	**Total Transition** (Constant Price)	Years	**Average Annual** (excl. Transition) (Constant Price)	**Total Benefit** (Present Value)
Low		N/A		
High				
Best Estimate	0		Unquantifiable	**Unquantifiable**

Description and scale of key monetised benefits by 'main affected groups'

It has not been possible to quantify the likely benefit as there is no existing evidence to draw upon. The current level of infrastructure sharing remains uncertain until Ofcom produces its first infrastructure report, whilst the likely number of information requests from communication providers under this option is impossible to forecast. Therefore, the extent to which this option will lead to more infrastructure sharing cannot be quantified or robustly assessed.

Other key non-monetised benefits by 'main affected groups'

Communication providers will be able to access information on the location and capacity of infrastructure, allowing them to make better informed decisions with regards to network roll-out and service provision. In the event that this option leads to a faster roll-out of superfast broadband, there will also be significant benefits to consumers and wider businesses. Even if this option contributes 0.1% to superfast broadband access, the benefits could be worth around £18 million.

Key assumptions/sensitivities/risks **Discount rate (%)** 3.5

The costs to industry – and to a lesser extent Ofcom – will heavily depend on the number of information requests made by Ofcom. At this time, neither DCMS nor Ofcom has any experience of the likely size and type of such requests. Therefore, the cost of this option is based on the experience of two recent surveys. However, the actual costs could deviate significantly from this. The impact of this option will also depend how Ofcom implements the power, for example whether it establishes guidance from the outset or not. Ofcom will publish their infrastructure sharing guidance later this spring, which should provide greater clarity at the granular level.

Direct impact on business (Equivalent Annual) £m):			**In scope of OIOO?**	**Measure qualifies as**
Costs: 0.3	**Benefits:** 0	**Net:** -0.3	No	NA

Enforcement, Implementation and Wider Impacts

What is the geographic coverage of the policy/option?			United Kingdom		
From what date will the policy be implemented?			25/05/2011		
Which organisation(s) will enforce the policy?			Ofcom		
What is the annual change in enforcement cost (£m)?			0.04		
Does enforcement comply with Hampton principles?			Yes		
Does implementation go beyond minimum EU requirements?			No		
What is the CO_2 equivalent change in greenhouse gas emissions? (Million tonnes CO_2 equivalent)			**Traded:** N/A	**Non-traded:** N/A	
Does the proposal have an impact on competition?			Yes		
What proportion (%) of Total PV costs/benefits is directly attributable to primary legislation, if applicable?			**Costs:**	**Benefits:**	
Distribution of annual cost (%) by organisation size (excl. Transition) (Constant Price)	**Micro**	**< 20**	**Small**	**Medium**	**Large**
Are any of these organisations exempt?	No	No	No	No	No

Specific Impact Tests: Checklist

Set out in the table below where information on any SITs undertaken as part of the analysis of the policy options can be found in the evidence base. For guidance on how to complete each test, double-click on the link for the guidance provided by the relevant department.

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Does your policy option/proposal have an impact on…?	**Impact**	**Page ref within IA**
Statutory equality duties[1] Statutory Equality Duties Impact Test guidance	No	
Economic impacts		
Competition Competition Assessment Impact Test guidance	Yes	17
Small firms Small Firms Impact Test guidance	Yes	17
Environmental impacts		
Greenhouse gas assessment Greenhouse Gas Assessment Impact Test guidance	No	
Wider environmental issues Wider Environmental Issues Impact Test guidance	No	
Social impacts		
Health and well-being Health and Well-being Impact Test guidance	No	
Human rights Human Rights Impact Test guidance	No	
Justice system Justice Impact Test guidance	No	
Rural proofing Rural Proofing Impact Test guidance	Yes	17
Sustainable development Sustainable Development Impact Test guidance	No	

[1] Public bodies including Whitehall departments are required to consider the impact of their policies and measures on race, disability and gender. It is intended to extend this consideration requirement under the Equality Act 2010 to cover age, sexual orientation, religion or belief and gender reassignment from April 2011 (to Great Britain only). The Toolkit provides advice on statutory equality duties for public authorities with a remit in Northern Ireland.

Summary: Analysis and Evidence — Policy Option 2

Description:

Impose a duty on Ofcom to compile a detailed inventory of infrastructure in the UK

Price Base Year 2011	PV Base Year 2011	Time Period Years 10	Net Benefit (Present Value (PV)) (£m)		
			Low: -982	**High:** -991	**Best Estimate: -987**

COSTS (£m)	**Total Transition** (Constant Price)	Years	**Average Annual** (excl. Transition) (Constant Price)	**Total Cost** (Present Value)
Low	1,010	2-3		**982**
High	1,019			**991**
Best Estimate	1,015		1	**987**

Description and scale of key monetised costs by 'main affected groups'

Ofcom will need to create a database to hold the inventory of network information. Based on an information system being developed in Portugal, this could result in a one-off cost of £10m-£19m. It will also cost at least £1m per year to maintain and update the database. There will be a cost to network owners in surveying the location and capacity of infrastructure (e.g. survey costs, engineering work, development of IT and GIS systems). This could cost about £1 billion initially, excluding running costs.

Other key non-monetised costs by 'main affected groups'

Maintaining a complex IT or GIS system to update the inventory and ensuring that a firm has the necessary monitoring and reporting requirements will impose a significant cost. It is not possible to produce a quantitative estimate based on existing evidence or consultation responses, but it is not unreasonable to assume that the cost to industry could be in the order of tens of millions of pounds per year.

BENEFITS (£m)	**Total Transition** (Constant Price)	Years	**Average Annual** (excl. Transition) (Constant Price)	**Total Benefit** (Present Value)
Low		N/A		
High				
Best Estimate	0		Unquantifiable	**Unquantifable**

Description and scale of key monetised benefits by 'main affected groups'

Communication providers will be able to access information on the location and capacity of infrastructure, allowing them to make better informed decisions with regards to network roll-out and service provision. In the event that this option leads to a faster roll-out of superfast broadband, there will also be significant benefits to consumers and wider businesses. Even if this option contributes 0.1% to superfast broadband access, the benefits could be worth around £18 million.

Other key non-monetised benefits by 'main affected groups'

Similar benefits to those under option 1, though there is no evidence to indicate that this option will lead to significantly more infrastructure sharing than option 1 because much of the information is likely to be unutilised (for example information on infrastructure in densely populated areas).

Key assumptions/sensitivities/risks — **Discount rate (%)** 3.5

Costs of creating a detailed national inventory of infrastructure could divert resource away from the deployment of superfast broadband, as it would mostly fall on large networks such as BT and Virgin Media, who have thus far invested most in Next Generation Access networks. Total net investment in the telecommunications sector was around £6 billion in 2009, thus a cost of £1 billion is a large amount. This option would also distort firm incentives, as some providers could 'free-ride' on the information without incurring any cost in terms of scoping out the potential to share infrastructure. Lastly, commercial confidentiality is a risk under this option as the location of certain infrastructure can be company-sensitive. There would also be security concerns at having a detailed map of UK infrastructure stored in one inventory.

Direct impact on business (Equivalent Annual) £m):			**In scope of OIOO?**	**Measure qualifies as**
Costs: 116	**Benefits:** 0	**Net:** -116	Yes	IN

Enforcement, Implementation and Wider Impacts

What is the geographic coverage of the policy/option?			United Kingdom		
From what date will the policy be implemented?			25/05/2011		
Which organisation(s) will enforce the policy?			Ofcom		
What is the annual change in enforcement cost (£m)?			1		
Does enforcement comply with Hampton principles?			Yes		
Does implementation go beyond minimum EU requirements?			Yes		
What is the CO_2 equivalent change in greenhouse gas emissions? (Million tonnes CO_2 equivalent)			**Traded:** N/A	**Non-traded:** N/A	
Does the proposal have an impact on competition?			Yes		
What proportion (%) of Total PV costs/benefits is directly attributable to primary legislation, if applicable?			**Costs:**	**Benefits:**	
Distribution of annual cost (%) by organisation size (excl. Transition) (Constant Price)	**Micro**	**< 20**	**Small**	**Medium**	**Large**
Are any of these organisations exempt?	No	No	No	No	No

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Small firms Small Firms Impact Test guidance	Yes	17
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Wider environmental issues Wider Environmental Issues Impact Test guidance	No	
Social impacts		
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Human rights Human Rights Impact Test guidance	No	
Justice system Justice Impact Test guidance	No	
Rural proofing Rural Proofing Impact Test guidance	Yes	17
Sustainable development Sustainable Development Impact Test guidance	No	

[1] Public bodies including Whitehall departments are required to consider the impact of their policies and measures on race, disability and gender. It is intended to extend this consideration requirement under the Equality Act 2010 to cover age, sexual orientation, religion or belief and gender reassignment from April 2011 (to Great Britain only). The Toolkit provides advice on statutory equality duties for public authorities with a remit in Northern Ireland.

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References

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No.	Legislation or publication
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2	EC Legislative proposals and impact assessment http://ec.europa.eu/information_society/policy/ecomm/library/proposals/index_en.htm
3	Full European Legislation http://ec.europa.eu/information_society/policy/ecomm/doc/library/regframeforec_dec2009.pdf
4	

Evidence Base

Ensure that the information in this section provides clear evidence of the information provided in the summary pages of this form (recommended maximum of 30 pages). Complete the **Annual profile of monetised costs and benefits** (transition and recurring) below over the life of the preferred policy (use the spreadsheet attached if the period is longer than 10 years).

The spreadsheet also contains an emission changes table that you will need to fill in if your measure has an impact on greenhouse gas emissions.

Annual profile of monetised costs and benefits* - (£m) constant prices

	Y_0	Y_1	Y_2	Y_3	Y_4	Y_5	Y_6	Y_7	Y_8	Y_9
Transition costs	0.26	0	0	0	0	0	0	0	0	0
Annual recurring cost	0	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34
Total annual costs	0.26	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34
Transition benefits	0	0	0	0	0	0	0	0	0	0
Annual recurring benefits	0	0	0	0	0	0	0	0	0	0
Total annual benefits	0	0	0	0	0	0	0	0	0	0

* For non-monetised benefits please see summary pages and main evidence base section

Evidence Base (for summary sheets)

Background

1. Electronic communications networks consist of a variety of core infrastructure and associated facilities, for example buildings, building wiring, masts, antennae, towers and other supporting constructions, ducts, conduits, manholes and cabinets. In the vast majority of cases, these infrastructures are "non replicable assets" because the costs of duplicating them cannot be justified by any reasonable business case and also because having multiple physical networks serving the same purpose could be hugely inefficient.

2. Network and infrastructure sharing can allow lower operational costs and potentially enable greater network coverage in areas of low population density. It also has the potential to make some areas profitable to serve that were previously unprofitable for either operator, by sharing the costs associated with rolling out and maintaining a base station. Therefore, infrastructure re-use can be an important contributor to greater competition and choice in the electronic communications market, as it permits a greater number of service providers to operate. It may also lead to higher levels of coverage, for both for fixed and mobile networks.

3. In the case of the mobile networks, the UK has four national mobile network operators (MNOs), enabling a competitive and active market (as discussed in the overarching IA). Although each MNO currently owns its own core network, there have been industry-led developments in infrastructure sharing in the mobile network market, specifically site-sharing (or mast-sharing) but also other elements of the network. Some of these sharing agreements have been the result of a merger, for example between Orange and T-Mobile into Everything Everywhere, whilst others are developed through formal deals such as *Cornerstone* – the one-site sharing agreement between Vodafone and O2. This allows Vodafone to roll out its network using O2's existing sites and vice versa, which will reduce the number of areas where only one of these operators has coverage[1].

4. However, the competition between national mobile radio access networks constitutes a marked difference between the mobile sector and the fixed-line sector, in which for the majority of UK residents, there is only one physical fixed telecommunications access network (and for all residents there is only one ubiquitous fixed access network)[2]. The telecommunications network consists of two main sections: the core network (nationwide infrastructure connecting all regions together) and the access network (regional/local infrastructure serving end-customers)[3]. Figure 1 below provides a simple illustration of how the end-user is connected to the core network.

Figure 1: A Diagrammatic Representation of UK incumbent network

Source: Analysys Mason

[1] Ofcom, 'Mobile not-spots: An update on our research' (November 2010) and 'Mobile Evolution: Ofcom's mobile sector assessment' (December 2009)

[2] All UK residents can access BT's fixed infrastructure, whilst around a half can access Virgin Media's fixed cable network

[3] The access network itself is sub-divided into three sections: the backhaul network (infrastructure connecting the local exchange to the metro node), the exchange-side network (infrastructure connecting the local exchange to the street cabinet) and the distribution side network (infrastructure connecting the street cabinet to the end user).

5. Infrastructure sharing has been a long established feature of communications network deployment in Australia, Canada and the USA. It has also been introduced more recently in Portugal, France and Spain. In the UK, there has been little demand historically for infrastructure sharing, but this has recently changed in the context of the deployment of Next Generation Access networks. Ofcom recently reported increased interest in infrastructure sharing during its review of wholesale local access[4]. Following that review, Ofcom used its power to require BT to offer its underground ducts and overhead poles to other companies, in order for the latter to install their own fibre to deliver superfast broadband.

6. However, the extent of infrastructure sharing for fixed networks remains limited compared to mobile networks. A detailed analysis on the level of sharing does not yet currently exist, although a better understanding will be gained when Ofcom finalises its first report on the UK's communications infrastructure (which it is required to do every three years following the Digital Economy Act 2010) later this year.

The Internet and Super-fast Broadband

7. As discussed in the overarching impact assessment, the UK market for electronic communications is relatively competitive compared to other countries in terms of indicators such as market concentration, price, consumer satisfaction and regulatory frameworks. However, two notable areas where it lags behind certain countries is broadband take-up and internet speeds. Figure 2 shows that the UK is behind certain competitors such as the Netherlands, Denmark and Korea in terms of broadband subscriptions. Furthermore, very few connections are fibre-based, particularly compared to countries such as Korea and Japan, which means that average connection speeds are also slower (see Figure 3).

Figure 2: Fixed broadband subscriptions per 100 habitants, by country, October 2009

Source: OECD Broadband Portal

[4] http://stakeholders.ofcom.org.uk/consultations/wla/statement

Figure 3: Average advertised broadband download speed, by country, October 2009

Source: OECD Broadband Portal. Note that advertised speeds may not be the same as actual connection speeds.

8. Higher bandwidths are important in facilitating new popular services, such as iPlayer and Spotify, and also offer benefits to businesses as a result of faster connections (which can facilitate, for example, online video conferencing). However, as noted in Ofcom's most recent Communications Market Report, the difference between actual speeds and headline speeds is growing due to the limitations in ADSL technology, by which maximum attainable speeds decline rapidly over the length of the copper wire from the telephone exchange to the end user's premises.

9. 'Super-fast' fibre-enabled broadband offers a step-change in the speeds available, with headline speeds of up to 50Mbit/s. Whilst almost half of UK homes are now able to get super-fast broadband via cable, current household take-up is low at less than one per cent, most likely to due price differentials and the fact that current speeds are sufficient for most internet applications. However, the development of new services and products such as video streaming and internet-ready televisions could see demand sharply increase in the coming years[5]. It also has the potential to deliver benefits stemming from new advanced education and healthcare services.

10. More broadly, research conducted by NESTA suggests that if the UK mirrored the South Korean model of rolling out superfast broadband, it could directly create 600,000 new jobs and £18 billion added to GDP[6], as well as the potential for avoiding disruption to society such as congestion and noise associated with civil works. It is also possible that the current benefits of using the internet will be enhanced. In 2009, the internet facilitated around £50 billion of consumption on goods and services, with the average household saving almost £1,000 per year from shopping online. It is also estimated that consumer surplus from free internet content is worth around £5 billion annually[7].

11. Infrastructure sharing can play an important role in both the roll-out and take-up of superfast broadband. Firstly, by lowering operational costs it can potentially enable greater coverage of fibre

[5] Ofcom, 'Communications Market Report 2010'
[6] NESTA, 'Getting up to speed: making super-fast broadband a reality' (January 2009)
[7] The Boston Consulting Group, 'The Connected Kingdom: How the Internet is Transforming the UK Economy' (October 2010)

networks. Currently, around half of UK households are not able to access superfast broadband[8], thus ensuring greater coverage will be a key goal during the coming years, particularly in areas where business cases are weak (for example rural areas with low population densities), to prevent any potential widening of the 'digital divide'. Secondly, infrastructure sharing can enable a greater number of service providers to enter the high-speed market. For example at the end of 2009, there was little availability of super-fast services other than those offered by Virgin Media. Whilst BT has since accelerated its roll-out of a superfast service as well[9], enabling the entry of more providers could result in greater competition and possibly lower prices, which as discussed above is a likely to be one of the current drivers of low take-up.

Rationale for Government Intervention

12. As discussed above, the cost of rolling out a network in the electronic communications sector can act as a significant barrier to entry, distorting competition in the market. For example, the cost of civil works – such as digging and trenching – represents a major sunk cost for operators that wish to deploy network infrastructure. Previous studies have shown that the civil work can account for up to 80% of the total cost of the infrastructure being deployed[10]. Particularly for fixed networks, incumbent firms control access to infrastructures that are essential for competitors to provide services in the market place. In the UK, this is especially relevant for the roll-out of Next Generation Access networks and super-fast broadband, which stand to deliver substantial benefits to both businesses and consumers.

13. One of the market failures that has been identified to help explain why the current level of infrastructure sharing is sub-optimal is that there are coordination failures between firms that prevent agreements to share infrastructure. Specifically, information asymmetries make it difficult for existing firms and potential entrants to identify suitable commercial opportunities if they do not know the location and capacity of existing infrastructure. It is possible that with a greater understanding of the latter - particularly the location and capacity of ducts - fixed-line operators would be in a better position to identify opportunities to share infrastructure. This could contribute to the roll-out of superfast broadband, particularly in areas with relatively low population densities, as discussed above.

Options Analysis

14. Under the 2002 Framework Directive, Article 12 requires national regulatory authorities to encourage the sharing of infrastructure facilities or property. In cases where potential operators were deprived of viable alternatives, regulators could impose infrastructure sharing or take measures to facilitate the coordination of public works after a period of public consultation.

15. As part of the revised directive, Article 12(1) will give Ofcom the power to <u>impose</u> the sharing of infrastructure on any network operator (regardless of whether it has significant market power or SMP) - having taken into full account the principle of proportionality - in order to increase infrastructure competition and lower the cost of the deployment of a new network. In the event that Ofcom does so, it will be after a period of public consultation, during which all interested parties shall be given an opportunity to express their views. Such sharing may also include rules for apportioning the costs of sharing. Article 12(5) specifically states that measures taken by a NRA in accordance with this article must be objective, transparent, non-discriminatory and proportionate.

16. As this represents enabling legislation, in that it gives Ofcom a power to impose the sharing of infrastructure, it is not possible to conduct a cost-benefit analysis because such an assessment depends on the manner in which Ofcom uses and implements its power (for example there will be no cost or benefit if Ofcom does not impose sharing at all). However, as per its statutory duty, in the event that Ofcom considers the imposition of infrastructure sharing it will be required to carry out an impact assessment alongside a consultation.

17. The focus of this impact assessment instead relates to changes to Article 12(4), which provides that

[8] Ofcom, 'Communications Market Report 2010'
[9] Ibid
[10] Analysys Mason (2010) Operational models for shared duct access

"Member States shall ensure that competent national authorities may require undertakings to provide the necessary information, if requested by the competent authorities, in order for these authorities, in conjunction with national regulatory authorities, to be able to establish a detailed inventory of the nature, availability, and geographical location of the facilities referred to in paragraph 1 and make it available to interested parties." Article 12(4) (Paragraph 1, as referenced here, can be found in the footnotes[11])

18. This allows for national authorities to request information from undertakings in order to provide a detailed picture of infrastructure of a Member State. Access to this information will also help authorities make decisions on whether to enforce infrastructure sharing. During the consultation, the Government invited respondents to comment on two approaches to implementing Article 12(4). The first option is to give Ofcom a power that permits it to require undertakings to provide further information about the existence, location and capacity of existing infrastructure, where requiring this information would be proportionate to its likely use (this is the minimum requirement in implementing the changes to Article 12(4)). The second option would be to enable Ofcom to compile a detailed inventory of the nature, location and capacity of all UK infrastructure. These options are assessed below against a baseline 'no change' scenario.

<u>Option 0 – No change</u>

19. Although this option is not practical, as it would mean non-compliance with EU law and result in infraction proceedings, it is set out in order to provide a baseline from which the other options can be measured. Current or forthcoming measures are set out where they are relevant to infrastructure sharing, the collection of information on sharing and the roll-out of superfast broadband.

Information on Infrastructure Sharing

20. As a result of the Digital Economy Act 2010, Ofcom already has a duty to report every three years on the UK's communications infrastructure. The aim is to provide an accurate picture of the state of the country's communications infrastructure. The scope and detail of this report is currently being developed, though a number of ideas were set out in an Ofcom consultation that was launched in July 2010[12]. The coverage of networks and services that were proposed included fixed voice and broadband, basic business connectivity, mobile voice and broadband and television and radio broadcast. The scope of information is likely to include the use of spectrum, coverage of networks and services, capacity, geographic and population coverage, extent of infrastructure sharing, wholesale service provision, availability and resilience.

21. With regards to infrastructure sharing, it was proposed that Ofcom would focus on three areas where infrastructure sharing is most common: mobile transmitter masts, TV and radio transmitter masts and the ducts, poles and associated facilities used for fixed networks. In order to report usefully, it was suggested that information would be collected on: the number of network sites where sharing takes place (including mobile masts, ducts, poles and other wayleaves); the proportion of the network that uses shared infrastructure (e.g. the number of masts and miles of duct that are shared, compared with the total), and; whether (and where) other forms of sharing take place, such as co-location of equipment (e.g. in BT exchanges). Data would be reported on a geographic basis where this may help to assess the impact of sharing on rural coverage or regional variations in network resilience.

22. Whilst the primary purpose of this report is to provide the Secretaries of State with an assessment of the UK's communications infrastructure, including any matters of high concern, it may also be of use to existing firms in the electronic communications market and potential entrants. Some of the content could inform their own ideas and proposals to share another operator's infrastructure.

Infrastructure sharing

23. As outlined above, Ofcom has recently imposed a remedy for BT's SMP in the wholesale access market that allows other communication providers to deploy fibre in the access network using BT's

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[11] *'Where an undertaking providing electronic communications networks has the right under national legislation to install facilities on, over or under public or private property, or may take advantage of a procedure for the expropriation or use of property, national regulatory authorities shall, taking full account of the principle of proportionality, be able to impose the sharing of such facilities or property, including buildings, entries to buildings, building wiring, masts, antennae, towers and other supporting constructions, ducts, conduits, manholes, cabinets.'* Article 12(1)

[12] http://stakeholders.ofcom.org.uk/binaries/consultations/uk-comms-infrastructure/summary/uk-comms-infrastructure.pdf

ducts and poles. A draft reference offer was made to industry in January 2011. Whilst BT's NGA deployment plans currently cover around 40 per cent of UK premises, as this remedy becomes further established it is possible that other providers will identify opportunities to use BT's infrastructure and invest in further NGA network roll-out[13].

Roll-out of superfast broadband

24. In terms of the roll-out of NGA networks and super-fast broadband, large-scale investments (particularly by Virgin Media and BT) has resulted in around half of UK households having the option to switch to super-fast broadband. At present, the latter is set to be available to about two thirds of the UK population by 2015, with BT planning to deploy to 66% of its network by 2015 and Virgin Media reaching 50% by 2010[14]. In addition, the Coalition Government has committed to introducing measures 'to ensure the rapid roll-out of superfast broadband across the country…and we will seek to introduce superfast broadband in remote areas at the same time as in more populated areas" [15]. Part of this commitment includes ensuring that BT and other infrastructure providers allow the use of their assets to deliver such broadband, whilst the Government is also examining the potential for operators to use the infrastructure of other utility companies (e.g. electricity networks)[16]. Government has also committed £530 million of investment to support roll-out, especially in more difficult-to-reach areas[17].

<u>Option 1 – Give Ofcom information gathering powers for use on an ad-hoc basis</u>

25. Undertakings are already under a number of obligations to maintain certain records of apparatus installed and allow inspection by interested parties on request[18]. Therefore, under this option the Government would implement Article 12(4) by extending Ofcom's powers under section 135 of the Communications Act 2003 to give Ofcom the power to require undertakings to provide additional information (on top of which is already required) about the existence, location and capacity of existing infrastructure on an ad hoc basis, where requiring such information would be proportionate to its likely use, bearing in mind the burden this would impose on undertakings. The likely use will be informed by the nature of any request and Ofcom's own intentions. Given that Ofcom currently produces a report under Article 134 of the Communications Act 2003, under this option, the Government would require Ofcom to incorporate any information gathered using these extended powers into this report, so that over time an inventory of infrastructure in the UK could potentially be built up.

26. The implementation of Article 12(4) under this option is closely linked with Ofcom's implementation of Article 12(1) described above because anyone considering sharing facilities and property under Article 12(1) will first need to know about the location and availability of such infrastructure. Indeed, such information may be necessary to demonstrate that the request for sharing passes the principle of proportionality. Therefore, if a potential seeker of facilities and property sharing cannot establish the location and availability of such infrastructure then it will need to contact Ofcom and request that it exercises its powers under Article 12(4).

Costs

27. The cost of this option depends on the approach that Ofcom takes in implementing it. It could take one of two broad approaches:

    (i) establish guidance and any necessary processes
    (ii) deal with any information requests on an ad-hoc basis.

28. The first approach would incur set-up costs of establishing guidance, whilst both the first and second approaches would result in ongoing costs in dealing with information requests. Ofcom have estimated the costs of these based on the number and time of staff that would be required for

[13] http://stakeholders.ofcom.org.uk/consultations/wla/summary
[14] Ofcom, 'International Communications Market Report 2010'
[15] HM Government, 'The Coalition: our programme for government' (2010)
[16] http://www.bis.gov.uk/Consultations/broadband-deployment-and-sharing-other-utilities-infrastructure?cat=open23
[17] BIS and DCMS, 'Britain's Superfast Broadband Future (December 2010)
[18] Regulations 11 and 12 of the electronic Communications Code (Conditions and Restrictions) Regulations 2003 (SI 2003/2553) as amended, Street Works (Records) (England) Regulations 2002, Street Works (Records) Wales 2005 and Street Works (Northern Ireland) Order 1995 as amended.

implementation. The first approach would result in a one-off cost of about £333,000 whilst the second approach would cost about £190,000 in initial implementation (the set up cost is lower because guidance would not be required, though there would still be a cost of 'bedding' the system in). Both options would also incur ongoing costs of about £37,500 per year[19].

29. It will be Ofcom's decision on which approach to follow – the first provides immediate transparency and clear procedures and could deter requests that are unreasonable or have not be appropriately pursued. On the other hand, it will require more resources to implement and would not be based on any practical experience, meaning that significant changes may be needed in the future. By contrast, approach 2 requires fewer resources and is more flexible, allowing Ofcom to gain experience of the issues involved and get a sense on the scale of the likely demand (which could influence processes) before committing resources. But it would also leave potential seekers of sharing without guidance and could lead to inconsistent implementation. Ofcom will publish their infrastructure sharing guidance shortly after the Government response has been published.

30. There will also be a cost to network owners in providing information on request to Ofcom, though it is important to note that efforts will be made when determining the conditions under which the request can be made to minimise this cost. Ofcom will also only be able to request information when the burden to undertakings to provide it is considered proportionate to the benefits it is expected to bring. Furthermore, operators should already have much of the information requested, although not in a standardised format.

31. It is impossible to estimate the exact cost to network owners without knowing how many information requests are likely to be made. However, an approximation is made by drawing on two detailed surveys conducted by Analysis Mason[20]. These surveys only covered a very small proportion of BT Openreach's infrastructure (between 0.008% and 0.02% of total infrastructure elements). One survey covered 11 different UK cities/towns - which included 817 chambers, 18,206 duct-ends, 22 exchanges and over 143km of route – whilst the other covered five cities and included 320 poles, 552 chambers and 3,293 dropwires, in addition to 135 buildings.

32. Providing information on the location and capacity of infrastructure requires a number of activities for which network owners incur a cost. For example, the condition and capacity of ducts requires a company to open up and exploration of each individual duct, which would need to be conducted manually. Other activities include:
    - Checking for any traffic sensitive areas or other local restrictions and applying for necessary work permits
    - Allocating a survey support team
    - Opening up of the chambers (e.g. removing manhole/box covers, testing for gas, pumping out of water, if necessary, and generally providing safe access)
    - Carrying out the survey (which involves labour costs, training, technical equipment etc)
    - Closing the chambers after the survey is completed

33. Based on the assumption that the cost of responding to Ofcom requests would be of a similar order to the cost of the two surveys undertaken by Analysys Mason, the cost for network owners will be **£300,000 per year**. However, it is important to note that this figure is <u>extremely dependent</u> on the number and nature of such requests made each year. For example, one of the surveys by Analysys Mason looked at 14 routes but in practice this could represent either 14 individual information requests for specific routes or it could be a single request for an entire exchange area. If information is requested for all routes in one city, then the costs would significantly escalate as it would represent a much larger survey than either of those that Analysys Mason performed. Therefore the figure above should be treated with extreme caution.

Benefits

34. There will be a benefit to communication providers that seek to share infrastructure as the legislation provides a useful tool to access information that will better-inform firms' investment decisions. This

[19] Source: All estimates produced by Ofcom
[20] Analysys Mason, 'Telecoms infrastructure access – sample survey of duct access' (March 2009) and 'Sample survey of ducts and poles in the UK access network' (January 2010)

should make it easier for them to find out where they can benefit most from infrastructure sharing and therefore where they can competitively extend the provision of their service.

35. In the event that this option leads to a faster and more extensive roll-out of superfast broadband, there will also be significant benefits to both consumers and business. Given the current measures that are already being taken with regards to NGA networks (described above), it is not possible to estimate the extent to which option 1 will lead to faster broadband relative to the baseline 'no change' scenario. However, if one assumes that the roll-out of NGA networks has the potential to generate £18 billion in GDP[21], even if this option only contributes one tenth of a per cent to superfast broadband access, the benefit would be worth around £18 million.

36. It is not unreasonable that Article 12(4) could have this impact, either through firms providing direct access (e.g. roll-out through infrastructure sharing) or indirectly by pushing market prices down via threat of entry. However, it is not possible to forecast with any degree of confidence what the likely impact will be, or to separate the impact of Article 12(4) from Ofcom's wholesale local access remedy (allowing communication providers to use BT's ducts and poles) and the £530 million Government investment to support the roll-out of superfast broadband.

Risks and Assumptions

37. As discussed above, the costs of option 1 to industry will heavily depend on the number of information requests made by Ofcom. At this time, neither DCMS nor Ofcom has any experience of the likely size and type of such requests, particularly given that network operators and service providers have only recently had an opportunity to share parts of BT's infrastructure. Therefore, it has costed the option based on the experience of two recent surveys, but the actual costs could deviate significantly from this.

38. The costs and benefits of this option will also depend on how Ofcom implements the power, for example whether it establishes guidance from the outset or not. Ofcom will soon publish their infrastructure sharing guidance later this spring, which should provide greater clarity on the issue.

<u>Option 2 – Impose a duty on Ofcom to compile an inventory of the information it obtains in order to provide a detailed picture of the infrastructure in the UK</u>

39. Under this option the Government would give Ofcom the power to require undertakings to provide further information to what that they are already required to maintain about the existence, location and capacity of existing infrastructure. However, instead of this being on an ad hoc basis, the Government would extend the obligation in section 134A of the Communications Act 2003 to require Ofcom to prepare a detailed inventory of infrastructure in the UK.

40. A detailed national inventory would require operators to report on the location of all key infrastructure, including: manhole covers, cabinets, ducts, masts, poles, antennae, towers and exchanges. Information regarding capacity would also be required, so for example information on ducts would include both duct space and the amount of fibre capacity. In order to be useful, the inventory would also need to be a fully-functioning updateable database, given how regularly changes to infrastructure are made. It is possible that Ofcom would have sole access to the data, or operators could independently update their information on the database (though this would require a quality assurance check by Ofcom). The inventory (or 'national journal') would be owned by Ofcom, which would provide access to information where necessary and appropriate, for example if a request was made by a communications provider that was scoping commercial opportunities in a specific area.

Costs

41. A detailed national inventory would require significant amounts of resource on the part of network owners. The costs set out under option 1 (for example survey support teams, opening up chambers, carrying out a survey etc.) will apply on a much wider basis, whilst firms will also need to develop a complex IT or GIS system to record and update the inventory.

[21] NESTA, 'Getting up to speed: making super-fast broadband a reality' (January 2009)

42. In order to produce an estimate of the likely costs of this option, the two Analysys Mason surveys were used again[22]. These surveys only covered a very small proportion of BT Openreach's infrastructure (between 0.008% and 0.02% of total infrastructure elements) and if one extrapolates the cost to cover the country's entire infrastructure, the costs would exceed **£1 billion**. In the event that a comprehensive survey was conducted, it would be done in a systematic manner and therefore would most likely be more efficient and cheaper. On the other hand, the legislation would apply to all network operators and not just BT, which would bring the cost back up. In the absence of other evidence, it is not possible to provide a more robust estimate of the costs of this option and the above figure should be treated with extreme caution due to the assumptions and extrapolations made. Nevertheless, it gives an order of magnitude of the likely costs to communication providers should this option be pursued.

43. There would also be a cost incurred to Ofcom of creating a database to hold network inventory information. In order to estimate the cost of creating such a database, a Centralised Information System that is being developed in Portugal is used as a reference. This takes an inventory of telecoms infrastructure in the country. The Government's tender document puts the base cost at €4 million and by taking into account the different levels of population, geographic size and number of exchanges in Portugal and the UK (as well as the number and coverage of communication providers in the UK), the estimated cost of a similar exercise in the UK would be around **£10 million - £19 million**.

44. The above costs cover a one-off inventory and do not include the costs of maintaining such a system. Based on the cost estimates outlined above and the amount of staff resource required to maintain the database, on the basis that it would contain hundreds of millions of records, the ongoing costs to Ofcom could amount to at least 10 per cent of the upfront costs, or **£1 million per year**. Industry would also need to provide annual updates on the location and capacity of infrastructure, which would entail significant operational expenditure. It is not expected this would equate to 10 per cent of the upfront cost (i.e. about £100 million) because updates could be provided as infrastructure upgrades or developments took place. Nevertheless, maintaining a complex IT or GIS system to update the inventory and ensuring that a firm has the necessary monitoring and reporting requirements will not be an insignificant cost. It is not possible to produce any quantitative estimate based on existing evidence or consultation responses, but it is not unreasonable to assume that the cost to industry could be in the order of tens of millions of pounds per year.

Benefits

45. The benefit of this option is that all firms in the electronic communications industry will have potential access to a comprehensive journal of UK infrastructure (depending on whether Ofcom saw fit to share the information), which could be a vital input in identifying opportunities for investment and market expansion (or market entry for new firms), providing competitive pressures on incumbent operators and large service providers. This could have a benefit of increasing consumer choice and reducing prices, though it is not possible to quantify this (or that it would even occur) given the huge uncertainties as to how firms would use the journal. Similar to option 1, a detailed inventory could also facilitate a quicker roll-out of NGA networks.

Risks

46. The costs of creating a detailed national inventory of infrastructure could potentially divert resource away from the deployment of superfast broadband, as it would mostly fall on the incumbent and larger networks such as BT and Virgin Media. These two companies have thus far invested the most in NGA networks, and this option could actually hinder progress on the Government's objective of rolling out superfast broadband across the country. If one considers that total net investment in the telecommunications sector was around £6 billion in 2009[23], spending £1 billion on establishing a detailed infrastructure inventory clearly represents a burden that could reduce investment and innovation in the sector.

[22] Analysys Mason, 'Telecoms infrastructure access – sample survey of duct access' (March 2009) and 'Sample survey of ducts and poles in the UK access network' (January 2010)
[23] Source: ONS Annual Business Survey

47. The cost to Ofcom of creating an infrastructure database could also represent up to 15 per cent of Ofcom's total spending[24]. Given that Ofcom's non-spectrum related activities are funded by industry (through various charges), this cost would either be passed onto industry or Ofcom would have to divert a significant amount of resource away from its policy and enforcement work. The latter would have a knock-on effect on how effectively Ofcom could regulate the market and further the interests of consumers.

48. There is also a risk that the majority of information collected under this option would not be used in areas where NGA access is currently or likely to be established (for example population-dense urban areas), meaning that there would be no use or benefit to it. It could also distort firm incentives, as providers would effectively 'free-ride' on the information, without incurring any cost in terms of scoping out the potential to share infrastructure and developing a significant part of its business case.

49. Lastly, commercial confidentiality is a potential risk this option, as the location of certain infrastructure can be company-sensitive. There would also be security issues if a detailed map of all UK communications infrastructure was stored in one inventory, as the information could be used to disrupt networks and services carried over the infrastructure. This would need to be mitigated by investing in comprehensive and costly security systems and processes.

Preferred Option

50. Table 1 below summarises the costs of the two options to both Ofcom and industry. It has not been possible to identify the likely benefits of these options as there is no existing evidence to draw upon. The current level of infrastructure sharing remains uncertain until Ofcom produces its first infrastructure report, whilst the likely number of information requests from communication providers under either option is impossible to forecast. Therefore, the extent to which option 1 or 2 will lead to more sharing of infrastructure – particularly in fixed line networks – cannot be assessed. However, as discussed above, even if the options contribute to the roll-out of superfast broadband at a minor scale, the benefits could be in the order of tens of millions of pounds.

51. The Government is required to implement the changes to Article 12(4) and so a 'do nothing' option is not viable. However, by copying out the legislation the Government can either give Ofcom a power to collect information on an ad hoc basis or to compile a detailed inventory (or a 'national journal') of infrastructure in the UK. Given the costs that have been set out above, it is clear that option 1 is the most appropriate as it is significantly less costly and does not come with the associated risks. Furthermore, although the scale of the benefits of each option is unknown, there is no evidence to indicate that option 2 will lead to significantly more infrastructure sharing than under option 1. The latter still allows firms to access necessary information; if they can demonstrate its likely use and that their proposals would benefit competition and/or consumers, then Ofcom will still be able to request information on the location of local infrastructure from the incumbent or network owner. In this way, requests for information will be targeted to areas where they are likely to be of most use – for example less populous areas – rather than gathering information for the whole country, much of which is unlikely to be utilised.

Table 1: Summary table of costs

Regulatory Option	Ofcom		Industry	
	One-off	Ongoing	One-off	Ongoing
Option 1 – Ofcom uses information gathering powers on an ad-hoc basis	**£190k-£333k** to establish process	**£37.5k per year** to manage information requests	Negligible	Estimated at **£300k** but heavily dependent on number and nature of requests.
Option 2 – Ofcom required to compile a detailed inventory of UK infrastructure	**£10m-£19m** to create a database to hold network inventory information	At least **£1m per year** to maintain database and information system	**£1 billion** to compile initial inventory	Operational expenditure to maintain IT/GIS systems and update inventory. Unable to quantify but likely to cost tens of millions of pounds per year.

[24] See Ofcom's Annual Report 2009/10

Specific impact tests

Competition

If the provision of information on the location of network infrastructure promotes greater sharing, then there may be a positive impact on competition. For example, if communication providers are able to identify commercial opportunities to roll-out and/or use NGA networks, consumers will have a greater choice of provider than is currently the case (where Virgin Media and BT are the dominant providers). However, without knowing the extent to which changes to Article 12(4) will lead to more infrastructure sharing (if at all), the effects on competition cannot be known with any confidence.

Small Firms

The provisions may make it easier for small firms that wish to enter broadband markets to find out where they will be able to commercially enter a market and provide competition to the incumbent supplier.

Other Specific Impact Tests

Other environment/ rural proofing

There may be some benefit is the provisions increase the use of infrastructure sharing and reduce the amount of civil works that can cause disruption and noise pollution, in addition to the aesthetic value of rural areas. There may also be a benefit to rural communities if the potential increased use of infrastructure sharing means that superfast broadband is supplied to them when it would not otherwise have been commercially viable to do so.

Statutory Equality Duties

After an initial screening it has been deemed that no significant impact is anticipated on grounds defined by the Equality Act 2010 as having a protected characteristic.

Other tests

Other specific impact tests have been considered including Legal Aid, Sustainable Development and Carbon Assessment. Again, after initial screening, it has been deemed that no significant impact is anticipated

Annexes

Annex 1 should be used to set out the Post Implementation Review Plan as detailed below. Further annexes may be added where the Specific Impact Tests yield information relevant to an overall understanding of policy options.

Annex 1: Post Implementation Review (PIR) Plan

A PIR should be undertaken, usually three to five years after implementation of the policy, but exceptionally a longer period may be more appropriate. If the policy is subject to a sunset clause, the review should be carried out sufficiently early that any renewal or amendment to legislation can be enacted before the expiry date. A PIR should examine the extent to which the implemented regulations have achieved their objectives, assess their costs and benefits and identify whether they are having any unintended consequences. Please set out the PIR Plan as detailed below. If there is no plan to do a PIR please provide reasons below.

Basis of the review: [The basis of the review could be statutory (forming part of the legislation), i.e. a sunset clause or a duty to review , or there could be a political commitment to review (PIR)]; See PIR plan in the overarching impact assessment
Review objective: [Is it intended as a proportionate check that regulation is operating as expected to tackle the problem of concern?; or as a wider exploration of the policy approach taken?; or as a link from policy objective to outcome?]
Review approach and rationale: [e.g. describe here the review approach (in-depth evaluation, scope review of monitoring data, scan of stakeholder views, etc.) and the rationale that made choosing such an approach]
Baseline: [The current (baseline) position against which the change introduced by the legislation can be measured]
Success criteria: [Criteria showing achievement of the policy objectives as set out in the final impact assessment; criteria for modifying or replacing the policy if it does not achieve its objectives]
Monitoring information arrangements: [Provide further details of the planned/existing arrangements in place that will allow a systematic collection systematic collection of monitoring information for future policy review]
Reasons for not planning a review: [If there is no plan to do a PIR please provide reasons here]

Title:	Impact Assessment (IA)
EU Framework Directive Annex 3: Security and Resilience	**IA No:** DCMS019
Lead department or agency: Department for Culture, Media and Sport	**Date:** 04/03/2011
Other departments or agencies: Ofcom	**Stage:** Final
	Source of intervention: EU
	Type of measure: Secondary legislation
	Contact for enquiries: Stephen Fernando (020 7215 6320)

Summary: Intervention and Options

What is the problem under consideration? Why is government intervention necessary?

In the electronic communications sector there are two prevailing features that may prevent economically efficient decisions being made with regards to security and resilience: the security of communications infrastructure has the characteristics of a public good (like emergency services) and there are also externalities, as a threat to one network has a direct impact on others. Furthermore, any threats to network security and resilience has an impact on the vast majority of UK households and businesses that are reliant on communications (be it fixed/mobile telephony or broadband). However, firms are unlikely to factor in the potential cost of a network breakdown on the UK economy as a whole.

What are the policy objectives and the intended effects?

One of the primary objectives of the EU regulatory framework is to improve network security. By adding security and resilience provisions to the EU Framework Directive (Articles 13a and 13b), the intent is to drive improvement in the availability of communications networks and encourage pan-European harmonisation of measures taken to safeguard such availability through a common regulatory framework. It is also hoped that the transparency of security and reliability of publicly available electronic communications services to the customer will be improved, potentially enabling a greater understanding of the availability levels of a service at the point of purchase.

What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)

As implementation is yet to be defined in detail, DCMS has developed scenarios for three levels of implementation:

1. Light touch regulation - communication providers follow the specific wording of Articles 13a and 13b
2. Enhanced regulation - strengthen the requirements of the Directive by adding further detail and incorporating certain security and risk management standards
3. Gold-plated regulation - comprehensive use of recognised standards to define compliance requirements

The Government's preferred approach is option 1 - light touch regulation - due to the high costs incurred under options 2 and 3 (particularly for small and medium enterprises) and because the benefits of the latter options are uncertain.

Will the policy be reviewed? It will be reviewed. **If applicable, set review date:** 5/2016	
What is the basis for this review? Duty to review. **If applicable, set sunset clause date:** Month/Year	
Are there arrangements in place that will allow a systematic collection of monitoring information for future policy review?	Yes

SELECT SIGNATORY Sign-off For final proposal stage Impact Assessments:

I have read the Impact Assessment and I am satisfied that (a) it represents a fair and reasonable view of the expected costs, benefits and impact of the policy, and (b) the benefits justify the costs.

Signed by the responsible Minister: ..... Date: 24/03/2011

Summary: Analysis and Evidence — Policy Option 1

Description:

Light touch regulation - communication providers follow the specific wording of Articles 13a and 13b

Price Base Year 2011	PV Base Year 2011	Time Period Years 10	Net Benefit (Present Value (PV)) (£m)		
			Low:	High:	Best Estimate: -1.7

COSTS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low		N/A		
High				
Best Estimate	0		0.2	**1.7**

Description and scale of key monetised costs by 'main affected groups'

Ofcom will have to enforce and implement the legislation by conducting at least one investigation per year. This is expected to cost industry about £55,000 per year. Ofcom will also incur reporting and background resourcing costs, as well as an additional enforcement cost of managing and responding to the notification of security breaches. This is expected to cost the regulator about £141,000 per year in total.

Other key non-monetised costs by 'main affected groups'

BENEFITS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low				
High				
Best Estimate	0		0	**0**

Description and scale of key monetised benefits by 'main affected groups'

Given that communication providers are mostly compliant with the 'light-touch' requirements, there are not expected to be significant benefits over and above a baseline 'no change' scenario. It is possible that risk management within the sector will be improved and better harmonised, though it is not possible to quantify the potential benefit of this.

Other key non-monetised benefits by 'main affected groups'

Key assumptions/sensitivities/risks — **Discount rate (%)** 3.5

The enforcement cost to Ofcom would increase significantly if a large number of security breaches are reported and if they required rigorous and in-depth investigations. However, as the threshold for notification will be set reasonably high, this is not expected to occur. In addition, the revised legislation allows the European Commission to adopt 'appropriate technical implementing measures' in order to harmonise the security and resilience measures outlined in Article 13a. Whilst there is no explicit impact arising from this, if the Commission imposes greater standards in the future then the costs to business will be much greater. Government and Ofcom will remain engaged with the Commission on this issue.

Direct impact on business (Equivalent Annual) £m):			In scope of OIOO?	Measure qualifies as
Costs: 0.06	**Benefits:** 0	**Net:** -0.06	No	NA

Enforcement, Implementation and Wider Impacts

What is the geographic coverage of the policy/option?			United Kingdom		
From what date will the policy be implemented?			25/05/2011		
Which organisation(s) will enforce the policy?			Ofcom		
What is the annual change in enforcement cost (£m)?			0.14		
Does enforcement comply with Hampton principles?			Yes		
Does implementation go beyond minimum EU requirements?			No		
What is the CO_2 equivalent change in greenhouse gas emissions? (Million tonnes CO_2 equivalent)			**Traded:** N/A	**Non-traded:** N/A	
Does the proposal have an impact on competition?			No		
What proportion (%) of Total PV costs/benefits is directly attributable to primary legislation, if applicable?			**Costs:**	**Benefits:**	
Distribution of annual cost (%) by organisation size (excl. Transition) (Constant Price)	**Micro**	**< 20**	**Small**	**Medium**	**Large**
Are any of these organisations exempt?	No	No	No	No	No

Specific Impact Tests: Checklist

Set out in the table below where information on any SITs undertaken as part of the analysis of the policy options can be found in the evidence base. For guidance on how to complete each test, double-click on the link for the guidance provided by the relevant department.

Please note this checklist is not intended to list each and every statutory consideration that departments should take into account when deciding which policy option to follow. It is the responsibility of departments to make sure that their duties are complied with.

Does your policy option/proposal have an impact on…?	**Impact**	**Page ref within IA**
Statutory equality duties[1] Statutory Equality Duties Impact Test guidance	No	
Economic impacts		
Competition Competition Assessment Impact Test guidance	No	
Small firms Small Firms Impact Test guidance	No	
Environmental impacts		
Greenhouse gas assessment Greenhouse Gas Assessment Impact Test guidance	No	
Wider environmental issues Wider Environmental Issues Impact Test guidance	No	
Social impacts		
Health and well-being Health and Well-being Impact Test guidance	No	
Human rights Human Rights Impact Test guidance	No	
Justice system Justice Impact Test guidance	No	
Rural proofing Rural Proofing Impact Test guidance	No	
Sustainable development Sustainable Development Impact Test guidance	No	

[1] Public bodies including Whitehall departments are required to consider the impact of their policies and measures on race, disability and gender. It is intended to extend this consideration requirement under the Equality Act 2010 to cover age, sexual orientation, religion or belief and gender reassignment from April 2011 (to Great Britain only). The Toolkit provides advice on statutory equality duties for public authorities with a remit in Northern Ireland.

Summary: Analysis and Evidence — Policy Option 2

Description:

Enhanced regulation - strengthen the requirements of the Directive by adding further detail and incorporating certain security and risk management standards

Price Base Year 2011	PV Base Year 2011	Time Period Years 10	Net Benefit (Present Value (PV)) (£m)		
			Low:	High:	Best Estimate: -68.5

COSTS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low		1		
High				
Best Estimate	12.5		6.5	**68.5**

Description and scale of key monetised costs by 'main affected groups'

This option would require a large number of communication providers - especially small and medium enterprises - to improve their risk management systems and meet a minimum security standard that they are not currently compliant with. This is estimated to have a one-off cost of £12.5m and an annual cost of £6.2m (which also includes the cost of responding to Ofcom investigations into security breaches). Ofcom's enforcement cost would be £250,000, due to a greater number of investigations.

Other key non-monetised costs by 'main affected groups'

BENEFITS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low				
High				
Best Estimate	Unknown		Unknown	**Unknown**

Description and scale of key monetised benefits by 'main affected groups'

It is likely that there will be a reduction in significant network outages, resulting in a more reliable service for customers. Unfortunately, the extent of reduction is not known and the economic cost of network outages (and therefore the benefits of reducing them) is yet to be estimated. DCMS did not receive any evidence in response to the consultation regarding this matter and it was not possible to research the issue due to resource constraints. Further evidence is needed.

Other key non-monetised benefits by 'main affected groups'

Mandating more robust risk management procedures and security standards should improve the security of interconnecting networks, offering greater assurance between communication providers. Current evidence suggests that there are around 200-300 significant security incidents per month and up to ten major incidents per year. It is possible that the costs of security breaches and network failures could be in the order of billions of pounds, so even a slight reduction could have large benefits.

Key assumptions/sensitivities/risks — **Discount rate (%)** 3.5

The vast majority of costs under this option fall to small and medium communication providers, many of whom rely on flexible business models to provide a competitive service. It is possible that this option would push them out of the market, thus having an adverse effect on competition and consumer choice. Industry are also concerned that mandating a particular standard would undermine the achievement of such standards, as it reduce the number of distinct and differentiated products available to consumers. Lastly, by reducing the threshold to notify a data breach, it will be important to ensure that commercial confidentiality is not breached.

Direct impact on business (Equivalent Annual) £m):			In scope of OIOO?	Measure qualifies as
Costs: 8	**Benefits:** 0	**Net:** -8	Yes	IN

Enforcement, Implementation and Wider Impacts

What is the geographic coverage of the policy/option?			United Kingdom		
From what date will the policy be implemented?			25/05/2011		
Which organisation(s) will enforce the policy?			Ofcom		
What is the annual change in enforcement cost (£m)?			0.25		
Does enforcement comply with Hampton principles?			Yes		
Does implementation go beyond minimum EU requirements?			Yes		
What is the CO_2 equivalent change in greenhouse gas emissions? (Million tonnes CO_2 equivalent)			**Traded:** N/A	**Non-traded:** N/A	
Does the proposal have an impact on competition?			Yes		
What proportion (%) of Total PV costs/benefits is directly attributable to primary legislation, if applicable?			**Costs:**	**Benefits:**	
Distribution of annual cost (%) by organisation size (excl. Transition) (Constant Price)	**Micro**	**< 20**	**Small**	**Medium**	**Large**
Are any of these organisations exempt?	No	No	No	No	No

Specific Impact Tests: Checklist

Set out in the table below where information on any SITs undertaken as part of the analysis of the policy options can be found in the evidence base. For guidance on how to complete each test, double-click on the link for the guidance provided by the relevant department.

Please note this checklist is not intended to list each and every statutory consideration that departments should take into account when deciding which policy option to follow. It is the responsibility of departments to make sure that their duties are complied with.

Does your policy option/proposal have an impact on…?	**Impact**	**Page ref within IA**
Statutory equality duties[1] Statutory Equality Duties Impact Test guidance	No	
Economic impacts		
Competition Competition Assessment Impact Test guidance	Yes	19
Small firms Small Firms Impact Test guidance	Yes	19
Environmental impacts		
Greenhouse gas assessment Greenhouse Gas Assessment Impact Test guidance	No	
Wider environmental issues Wider Environmental Issues Impact Test guidance	No	
Social impacts		
Health and well-being Health and Well-being Impact Test guidance	No	
Human rights Human Rights Impact Test guidance	No	
Justice system Justice Impact Test guidance	No	
Rural proofing Rural Proofing Impact Test guidance	No	
Sustainable development Sustainable Development Impact Test guidance	No	

[1] Public bodies including Whitehall departments are required to consider the impact of their policies and measures on race, disability and gender. It is intended to extend this consideration requirement under the Equality Act 2010 to cover age, sexual orientation, religion or belief and gender reassignment from April 2011 (to Great Britain only). The Toolkit provides advice on statutory equality duties for public authorities with a remit in Northern Ireland.

Summary: Analysis and Evidence — Policy Option 3

Description:

Gold-plated regulation - comprehensive use of recognisedd standards to define compliance requirements

Price Base Year 2011	PV Base Year 2011	Time Period Years 10	Net Benefit (Present Value (PV)) (£m)		
			Low:	High:	Best Estimate: -210

COSTS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low		1		
High				
Best Estimate	45		19.2	**210**

Description and scale of key monetised costs by 'main affected groups'

The mandating of high security and risk management standards would be a significant step above the current baseline for all communication providers (both small and large). It has been estimated that the total cost to industry would be in the order of £45 million (one-off) and £18.7 million (annual). Ofcom would incur an enforcement cost of at least £465,000 per year, with a greater number of investigations than under option 2.

Other key non-monetised costs by 'main affected groups'

The number of network outage reports that Ofcom receives would be numerous and it would need to develop a more sophisticated management system. It has not been possible to quantify this cost - as the specification of such a system would need to be developed in detail - but it would most likely be an order of magnitude greater than the quantifiable costs to Ofcom above.

BENEFITS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low				
High				
Best Estimate	Unknown		Unknown	**Unknown**

Description and scale of key monetised benefits by 'main affected groups'

It is likely that there will be a reduction in major network outages, resulting in a more reliable service for customers. Unfortunately, the extent of reduction is not known and the economic cost of network outages (and therefore the benefits of reducing them) is yet to be estimated. DCMS did not receive any evidence in response to the consultation regarding this matter and it was not possible to research the issue due to resource constraints. Further evidence is needed.

Other key non-monetised benefits by 'main affected groups'

The benefits of option 2 would also apply to option 3, argubly to a greater extent.

Key assumptions/sensitivities/risks — **Discount rate (%)** 3.5

The risks outlined for option 2 would also apply to option 3, most likely to a greater extent. Furthermore, the level of cost incurred for all types of communication provider - not just small firms - could be passed onto consumers in the form of higher prices.

Direct impact on business (Equivalent Annual) £m):			In scope of OIOO?	Measure qualifies as
Costs: 25	**Benefits:** 0	**Net:** -25	Yes	IN

Enforcement, Implementation and Wider Impacts

What is the geographic coverage of the policy/option?			United Kingdom		
From what date will the policy be implemented?			25/05/2011		
Which organisation(s) will enforce the policy?			Ofcom		
What is the annual change in enforcement cost (£m)?			0.47+		
Does enforcement comply with Hampton principles?			Yes		
Does implementation go beyond minimum EU requirements?			Yes		
What is the CO_2 equivalent change in greenhouse gas emissions? (Million tonnes CO_2 equivalent)			**Traded:** N/A	**Non-traded:** N/A	
Does the proposal have an impact on competition?			Yes		
What proportion (%) of Total PV costs/benefits is directly attributable to primary legislation, if applicable?			**Costs:**	**Benefits:**	
Distribution of annual cost (%) by organisation size (excl. Transition) (Constant Price)	**Micro**	**< 20**	**Small**	**Medium**	**Large**
Are any of these organisations exempt?	No	No	No	No	No

Specific Impact Tests: Checklist

Set out in the table below where information on any SITs undertaken as part of the analysis of the policy options can be found in the evidence base. For guidance on how to complete each test, double-click on the link for the guidance provided by the relevant department.

Please note this checklist is not intended to list each and every statutory consideration that departments should take into account when deciding which policy option to follow. It is the responsibility of departments to make sure that their duties are complied with.

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Economic impacts		
Competition Competition Assessment Impact Test guidance	Yes	19
Small firms Small Firms Impact Test guidance	Yes	19
Environmental impacts		
Greenhouse gas assessment Greenhouse Gas Assessment Impact Test guidance	No	
Wider environmental issues Wider Environmental Issues Impact Test guidance	No	
Social impacts		
Health and well-being Health and Well-being Impact Test guidance	No	
Human rights Human Rights Impact Test guidance	No	
Justice system Justice Impact Test guidance	No	
Rural proofing Rural Proofing Impact Test guidance	No	
Sustainable development Sustainable Development Impact Test guidance	No	

[1] Public bodies including Whitehall departments are required to consider the impact of their policies and measures on race, disability and gender. It is intended to extend this consideration requirement under the Equality Act 2010 to cover age, sexual orientation, religion or belief and gender reassignment from April 2011 (to Great Britain only). The Toolkit provides advice on statutory equality duties for public authorities with a remit in Northern Ireland.

Evidence Base (for summary sheets) – Notes

Use this space to set out the relevant references, evidence, analysis and detailed narrative from which you have generated your policy options or proposal. Please fill in **References** section.

References

Include the links to relevant legislation and publications, such as public impact assessments of earlier stages (e.g. Consultation, Final, Enactment) and those of the matching IN or OUTs measures.

No.	Legislation or publication
1	Government consultation http://www.bis.gov.uk/Consultations/revised-eu-electronic-communications-framework
2	EC Legislative proposals and impact assessment http://ec.europa.eu/information_society/policy/ecomm/library/proposals/index_en.htm
3	Full European Legislation http://ec.europa.eu/information_society/policy/ecomm/doc/library/regframeforec_dec2009.pdf
4	

+ Add another row

Evidence Base

Ensure that the information in this section provides clear evidence of the information provided in the summary pages of this form (recommended maximum of 30 pages). Complete the **Annual profile of monetised costs and benefits** (transition and recurring) below over the life of the preferred policy (use the spreadsheet attached if the period is longer than 10 years).

The spreadsheet also contains an emission changes table that you will need to fill in if your measure has an impact on greenhouse gas emissions.

Annual profile of monetised costs and benefits* - (£m) constant prices

	Y_0	Y_1	Y_2	Y_3	Y_4	Y_5	Y_6	Y_7	Y_8	Y_9
Transition costs	0	0	0	0	0	0	0	0	0	0
Annual recurring cost	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Total annual costs	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Transition benefits	0	0	0	0	0	0	0	0	0	0
Annual recurring benefits	0	0	0	0	0	0	0	0	0	0
Total annual benefits	0	0	0	0	0	0	0	0	0	0

* For non-monetised benefits please see summary pages and main evidence base section

Evidence Base (for summary sheets)

Background

1. The revised Framework Directive introduces new provisions on security and resilience – Articles 13a and 13b. These place obligations on public electronic communications network and service providers to take appropriate steps to ensure the security and availability of public networks and services. The provisions increase the requirements on communication providers in terms of security and define a new role for the National Regulatory Authority (Ofcom in the UK) in terms of monitoring and enforcement.

2. A number of the actions set out in the legislation may already take place to a greater or lesser extent in the network or service providers, such as implementing security measures or notification to but this legislation formalises these processes and allows for a coherent reporting and enforcement structure to be built on them. Key requirements include:

   - Implementation of "appropriate technical and organisational measures" along with risk management procedures to determine these
   - Notification of a breach to Ofcom, who may subsequently need to inform the European Network and Information Security Agency (ENISA)
   - Powers vested in Ofcom to investigate compliance, including the power to request information, commission audits and issue binding instructions

Government Rationale

3. In the electronic communications sector there are two prevailing features that may prevent economically efficient decisions being made from a societal point of view, with regards to security and resilience. In order to remedy this outcome, well designed government interventions may be required.

4. Public good - security and resilience of communications infrastructure could be considered to have the characteristics of a public good, like emergency services. It is non rival – consumption of the good does not reduce availability for others and non excludable - no one can be excluded from consuming the good.

5. Externalities – during the past two decades the number of communication providers and their coverage has increased significantly, as well as the services provided across them and customer usage of these. In order to function, these networks need to interconnect. Therefore, a security threat to one network has a direct impact on others, making it crucial that all networks maintain a certain level of resilience.

6. Furthermore, any threats to network security and resilience may have an impact on the vast majority of UK households and businesses that are reliant on communications, be it fixed/ mobile telephony or broadband. Individual firms equate private costs with private benefits, and they will not factor in the potential cost of a network breakdown on the UK economy as a whole.

7. The UK communications networks and services face a number of threats, and incidents do occur on a regular basis. Research commissioned by DCMS[1] shows that incidents broadly fall into three tiers:

   - Faults – these are high frequency, low impact incidents. They occur relatively regularly (in the order of thousands per month) but the effect is either negligible or only impacts a small group of customers. Faults may be resolved before customers notice a problem, but in some cases they may last several hours
   - Significant incidents – these are incidents likely to impact an order of tens of thousands of customers (or more) and are likely to affect multiple communication providers. Information gathered suggests that these occur on the order of around 20 per month

[1] Detica, 'Impact of Security and Integrity provisions of the EU Electronic Communications Framework' (March 2011)

- Major incidents – these are extended outages or network failures (lasting 24 to 48 hours or more) requiring major redirections and typically affecting entire regions. It is anticipated that they number up to ten a year

8. The causes of such incidents vary, for example they could be caused by cable theft or damage[2], environmental threats (e.g. local flooding), accidental damage or denial of service attacks. The latter causes disruption by flooding specific services with excessive traffic, in an attempt to overwhelm them.

9. The economic cost of these security incidences has yet to be quantified, but their impact is significant given the wide use of electronic communications. In terms of household take up, only one per cent of UK households do *not* have access to at least one telephone (fixed and/or mobile)[3], whilst around three quarters have an internet connection. Among businesses in the UK as a whole, the majority use landline, internet and mobile phone services (91%, 90% and 71% respectively), with firms placing a high degree of importance on all of these[4]. Furthermore threats to security and resilience also have a major impact on public service delivery, such as medical and police emergencies, and they continue to grow as a terrorist enabler and a military weapon. This is reflected in the Government's recent National Security Strategy[5], which lists attacks on UK cyber space as one of four Tier One priority risks.

10. Therefore, certain security incidents in the electronic communications network can have significant impacts. In order to provide a magnitude of the cost, it is worth noting that a recent report[6] estimated the total cost of cyber crime to be £27 billion per year, the majority (£21 billion) was to businesses due to IP theft and industrial espionage. The remaining costs fell to consumers (e.g. due to online scams) and Government (e.g. due to fraud). A separate report indicates the global cost of a critical information infrastructure breakdown to be more than USD$250 billion, and the cost of breaches in online data and information security to be around USD$150 billion[7]. It should be noted that a significant portion of these costs are unrelated to the security and resilience of electronic communications networks, as many occur due to separate criminal activity. Some, however, will be relevant to Distributed Denial of Service attacks on targets such as government and police websites, private sector banking and on-line retail and media. Therefore, the costs of extended outages, network failures or a compromise in the security of a network could well be in the order of billions of pounds in the UK, given how reliant consumers, businesses and Government are on electronic communications.

Policy Objectives

11. One of the primary objectives of the amendments to the EU regulatory framework is to promote the interests of citizens and consumer protection, which is related to one of the specific objectives – outlined in the European Commission's impact assessment – to improve network security[8]. The primary intent is to drive improvement in the availability of communications networks and encourage pan-European harmonisation of measures taken to safeguard such availability through a common regulatory framework. It is also hoped that the transparency of security and reliability of publicly available electronic communications services to the customer will be improved, potentially enabling a greater understanding of the availability levels of a service at the point of purchase.

Options Analysis

12. The Government's preferred option for implementing Articles 13a and 13b is to copy out the text of the legislation into new standalone provisions in the Communications Act 2003. Ofcom will then work

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[2] Detica, 'Impact of Security and Integrity provisions of the EU Electronic Communications Framework' (March 2011). Unless referenced otherwise, all evidence in this impact assessment is drawn from this report.
[3] Eurobarometer, 'E-Communications Household Survey Report' (October 2010)
[4] Ofcom, 'The Business Consumer Experience' (December 2010)
[5] HM Government, 'A Strong Britain in an Age of Uncertainty: The National Security Strategy' (October 2010)
[6] Detica in partnership with the Office of Cyber Security and Information Assurance in the Cabinet Office, 'The Cost of Cyber Crime' (February 2011)
[7] World Economic Forum, 'Global Risks 2011 Sixth Edition' (January 2011)
[8] European Commission, Impact Assessment – Accompanying document to Legislative Proposals, http://ec.europa.eu/information_society/policy/ecomm/doc/library/proposals/1472/comm_pdf_sec_2007_1472_1_en_documentdetravail.pdf.pdf

in conjunction with industry to develop the processes necessary for implementation to work in practice.

13. However, due to the potential significance of the new legislation – which is open to wide interpretation – and the burdens it would place on industry, DCMS commissioned research to analyse activities that communication providers currently take to maintain the security and resilience of networks, as well as to assess the potential impacts of implementing Articles 13a and 13b. In order to do so, the consultant performed one-on-one interviews with 23 communication service providers, selected to provide a representative sample across the different service offerings (fixed/mobile, voice/data, consumer/corporate). This research[9] is published along with the Government response to Framework implementation, where further details can be found. Unless otherwise referenced, any evidence that informs the options analysis below is derived from the commissioned research.

14. As the specifics of the implementation are yet to be defined, the consultant (Detica) – in discussion with DCMS and Ofcom - defined scenarios for three levels of implementation.

    - **Light-touch regulation** – communication providers will be required to follow the specific wording of Articles 13a and 13b
    - **Enhanced regulation** – strengthen the requirements of the Directive by adding further detail and incorporating certain standards
    - **Gold-plated regulation** – comprehensive use of recognised standards to define compliance requirements

15. The definition of these scenarios was necessarily simplistic in order to facilitate analysis and it should therefore be recognised that there is a continuum of possible implementations. However, for the purposes of this impact assessment, the options available for implementation have been informed by the above scenarios. An assessment of the options is provided below, in addition to a hypothetical 'no change' scenario.

16. It was also necessary for the consultant to group communication providers into three broad categories to further facilitate analysis (see Figure 1). The categories were defined by what security measures the providers currently take (and how much is spent on them); whilst there is some variation within each category at a detailed level, the grouping represents a proportionate degree of granularity.

Figure 1: Categorisation of communication service providers (CSPs)

Category A: Providers of fixed voice, broadband and mobile networks and services with a market share in one of these areas of at least five per cent. Nine CSPs with a total revenue of approximately £37bn	**Category B:** Providers of fixed voice, broadband and mobile networks and services with a market share of less than five per cent in all areas. Of the order of 500 CSPs with a total revenue of approximately £3bn	**Category C:** Broadcasters and Broadcast network providers. Six organisations with a total revenue of approximately £12bn.

Source: Detica

17. Whilst interviewing 23 communication providers is a small sample of the industry as a whole, the methodology was the most appropriate given time and resource constraints. However, due to the concentration of the market, the coverage was reasonably robust - the respondents represented providers with more than 60 per cent of all fixed broadband subscribers and 40 per cent of all mobile phone subscribers.

[9] Detica, 'Impact of Security and Integrity provisions of the EU Electronic Communications Framework' (March 2011). Unless referenced otherwise, all evidence in this impact assessment is drawn from this report.

Option 0 – No change

18. Although this option is not practical, as it would mean non-compliance with EU law and result in infraction proceedings, it is set out in order to provide a baseline from which the other options can be assessed. It is also important to set out the security measures that communication providers currently undertake.

19. Government acknowledges that there is a high level of inherent resilience in electronic communications networks and the services that run over them, especially those which form part of the critical national infrastructure. Furthermore, the resilience of electronic communications networks and services has thus far been entirely driven by industry and their commercial requirements. These typically take the form of contractual Service Level Agreements (SLAs) with suppliers (or with wholesale or business customers). In the retail sector they take the form of customer satisfaction measures (for example customer surveys and feedback) and retention targets.

20. As such, industry is currently free to implement whichever measures it deems appropriate to meet its commercial requirements (particularly smaller communication providers, which may need to be more responsive in order to be competitive). Currently, there are a number of national and international standards that concern information security and resilience, some of which apply to all sectors and some are specific to the telecommunications sector. Further detail can be found in the Detica research but they are summarised as follows:

    - ISO/IEC 27001 - an international standard that defines an information security management system (ISMS) providing a framework for security risk management within an organisation. It can be applied to any organisation.
    - ISO/IEC 27002 - complements the former standard by listing a control set comprising 133 technical, procedural, personnel and physical controls that can be selected to manage risk. Implementation guidance is included for each control.
    - BS25999 - a British (but increasingly international) standard that defines a business continuity management system. It can be applied to any organisation.
    - ISO/IEC 27011 – an international standard that builds upon and extends the ISO/IEC 27002 control set aimed at the telecommunication industry. It tailors guidance to the telecommunications providers and adds 12 new controls specific to the sector, including guidance on security in co-location situations.
    - ND1643 - a 23-control subset of ISO/IEC 27002 tailored to telecommunication interconnects. It aims to represent a minimum standard required to protect the UK national telecommunications infrastructure. The key areas of control are: general security and incident management, physical security, logging and auditing, control of data flows across interconnects, and vulnerability management.
    - The CESG Security Procedures – Telecommunications Systems and Services - this mandates ISO27001 compliance and stipulates specific details of the compliance such as a minimum scope and minimum threat assessment. It also presents a control set drawn from ISO/IEC 27002 and 27011, but actually mandates the implementation of most (107) of them. 32 remain optional (intended to be driven by risk assessment), and six controls from ISO27011 are omitted.

21. Despite a lack of regulation, there are mechanisms for information exchange between providers (particularly larger firms) that have arisen from collaborative working. It is important to note that participation in each of these is voluntary for most providers. They include:

    - The Centre for Protection of National Infrastructure (CPNI) UK Network Security Information Exchange (UK-NSIE)[10]. This enables discussions that include threats to communications networks and mitigation measures implemented; participating companies represent around 80 per cent of the telecommunications market in the UK.
    - The Electronic Communications Resilience and Response Group (EC-RRG) [11]. This develops and shares best practice in improving resilience and coordinates responses to emergencies that occur.

[10] http://www.cpni.gov.uk/Products/information.aspx
[11] http://interim.cabinetoffice.gov.uk/ukresilience/preparedness/ccact/cat2_info/telecoms.aspx

- The National Emergency Alert for Telecommunications (NEAT)[12]. This is a protocol for sharing information among members of the EC-RRG and is triggered in the event of circumstances that may effect the operation of telecommunications networks

22. In maintaining the above standards, communication providers already invest significant resources in the security and integrity of their networks. The research by Detica estimated that around £200 million is spent per year by communication providers on maintaining current standards and levels of security, with more than 90 per cent of this accounted for by Category A communication providers. This is important because whilst Articles 13a and 13b of the Framework Directive place certain requirements on providers, a number already meet them due to the measures and activities taken as a consequence of membership of the above organisations. This is addressed under each option.

23. In addition, it is important to note that the Digital Economy Act (2010) gives Ofcom a duty to report on the UK's communications infrastructure on a triennial basis (the first due in 2011). Whilst the report as a whole is designed to 'provide Government, industry and consumers with a clear indication of the state of the health of the communication infrastructure'[13], there are two components – availability and resilience - that will cover similar requirements as Articles 13a and 13b. For availability, Ofcom must report on the amount of time for which networks and services are available, and on steps taken by providers to maintain or improve availability. It has proposed to do so by collecting detailed information on major outages (including impact, cause and actions taken) and statistical data on minor outages. With regards to resilience, it is proposed that communication providers report to Ofcom summaries of risk assessments and emergency planning, as well as mitigation measures, implementation plans, accepted risks and standards compliance.

Option 1 – Light touch regulation

24. As discussed above, DCMS, Ofcom and Detica defined three levels of implementation in order to assess the potential impacts of Articles 13a and 13b in the Framework Directive. Each article contains sub-clauses that place specific requirements on communication providers and/or national regulatory authorities. These are as follows:

    - Risk management - Article 13a(1) : communication providers must take appropriate measures to manage the risks posed to the security of networks and services. Government understands this to mean that different networks and services will require differing measures according to risk-based identification and appropriateness.
    - Guarantee of integrity - Article 13a(2): network providers must take all appropriate steps to guarantee the integrity of their networks, ensuring the continuity of supply of services provided over those networks. Government has interpreted 'integrity to represent the industry's concept of 'availability'.
    - Notification of breach – Article 13a(3): communication providers must notify Ofcom of a breach in security or loss of integrity that has a significant impact on the operation of networks or services.
    - Harmonising measures – Article 13a(4): this allows for further supplementation to the other provisions by the European Commission.
    - Implementation and enforcement – Article 13b: Ofcom will have the power to investigate, audit and enforce compliance with the provisions of Article 13a.

25. In terms of the 'light touch' regulatory option, implementation would follow the details set out in table 1 below.

[12] http://interim.cabinetoffice.gov.uk/ukresilience/preparedness/ccact/cat2_info/telecoms.aspx
[13] http://stakeholders.ofcom.org.uk/binaries/consultations/uk-comms-infrastructure/summary/uk-comms-infrastructure.pdf

Table 1: Requirements of light-touch regulation

Area of focus	Description
Risk management (Article 13a(1))	Providers are requested to evidence that risk management procedures are in place in compliance with the wording of Article 13a(1). Ofcom would request such evidence on an individual basis wherever there is believed to be an issue of non-compliance.
Guarantee of Integrity (Article 13a(2))	Providers are requested to evidence that appropriate measures have been implemented to meet relevant commercial requirements (for instance contractual SLAs). Ofcom would request such evidence on an individual basis wherever there is believed to be an issue of non-compliance.
Notification of breach (Article 13a(3))	A light implementation would see the threshold for significance set quite high, with only Major Incidents reported. It would also require manual notification to Ofcom, which would operate an informal management system to handle the notifications.
Implementation and enforcement (Article 13b)	Ofcom would have a high threshold at which an investigation would be triggered, and as such would not assign any extra resource. In this case it is anticipated that only one investigation would occur per year.

Costs

26. The research commissioned by DCMS indicates that the vast majority of communication providers – including smaller firms - are already compliant with the above requirements and already have internal systems that will ensure they adhere to the regulation. Existing processes such as NEAT and EC-RRG also provide a structural framework to respond to significant and major incidents. Furthermore, as highlighted above many of the reporting requirements of Article 13a and 13b will be part of Ofcom's information gathering exercise for its infrastructure report - these costs would have been incurred in the absence of the revised Framework Directive.

27. However, there is a potential cost to communication providers if Ofcom conducts an investigation into a firm's compliance with Article 13a, for example gathering information or completing an audit. Under this option, it is expected that given the high threshold for an investigation only one investigation would take place across the sector per year. Detica has estimated that a security audit would cost the provider around £30,000 and that the cost – in terms of staff time – of an investigation would be about £25,000. Therefore, the cost to industry of this option is estimated to be around **£55,000 per year**.

28. There is also a resource cost to Ofcom in managing and responding to breaches that are notified to them. The regulator has estimated this to be equivalent to £43,000 per year (in staff-time), though this will depend on the number of incidents reported and the depth of investigation into each. There would be a further cost in order to report breaches to the public, other National Regulatory Authorities and ENISA, which will require an annual report. The latter is estimated to cost around £7,000 per year. Furthermore, Ofcom would need to expend resource into conducting an investigation as part of its implementation and enforcement duties. This has been estimated to cost about £36,000[14]. Lastly, Ofcom estimate that a certain amount of 'background resourcing' will be required in relation to its implementation and enforcement approach. Specifically, if the regulator is to be proactive then it will need to keep in touch with recent developments by attending ENISA, European Commission, UK Government and UK stakeholder meetings. In order to conduct these activities (and any others that may be required), Ofcom expects them to cost approximately £55,000 per year. Therefore, the total cost to Ofcom of this option is around **£141,000 per year**.

Benefits

29. Given that communication providers are mostly compliant with the 'light-touch' requirements, there are not expected to be significant benefits over and above the baseline 'no change' scenario. It is possible that risk management within the sector will be improved and better harmonised, though it is not possible to quantify the potential benefit of this. With regards to increasing the transparency of security and resilience to communication users and customers, it is unlikely that this option will make a material difference over and above Ofcom's new infrastructure report.

Risks and Assumptions

[14] Source: Ofcom

30. The enforcement cost to Ofcom would increase significantly if a large number of incidents were reported and they required rigorous and in-depth investigations. As the threshold for notification has been set reasonably high under this option, it is not expected to occur but there is nevertheless a possibility that Ofcom may need to expend greater resource if more incidents are reported than expected.

31. In addition, Article13a(4) allows the Commission – taking into account the opinion of ENISA – to adopt 'appropriate technical implementing measures' in order to harmonise the measures in the rest of Article 13a. Whilst there is no explicit impact arising from this article at the moment, it is possible that the Commission will define a lower threshold for 'significant incidents' that requires notification. They may also define an EU-wide standard of appropriate measures to guarantee the integrity of networks under Article 13(2) (for example by requiring compliance with ND1643 or ISO27011) or set a standard for specific risk management procedures (e.g. by making reference to ISO27001). This could have a larger impact on UK communication providers, some of which are outlined in options 1 and 2. This will need to be mitigated by ensuring that Government and Ofcom are engaged with both the Commission and ENISA, to ensure that any adoption of specific standards or measures are based on a complete understanding of the costs, benefits and risks involved.

Option 2 – Enhanced regulation

32. Under this option, implementation would follow the details set out in table 2 below.

Table 2: Requirements of enhanced regulation

Area of focus	Description
Risk management (Article 13a(1))	Providers are requested to evidence that robust risk management procedures are in place, that are integrated with enterprise risk management frameworks, and/or are assessed be formed of the elements described in Sections 4-10 of ISO27001. Providers should ensure appropriate input is provided by relevant bodies such as CPNI and EC-RRG. Ofcom would request such evidence on an individual basis wherever there is believed to be an issue of non-compliance.
Guarantee of Integrity (Article 13a(2))	Providers are mandated to be compliant with the Minimum Security Standard for Interconnecting Providers (NICC ND1643). Ofcom would require proactive confirmation of compliance/certification.
Notification of breach (Article 13a(3))	At the middle of the scale a medium threshold would be set, requiring the reporting of Significant Incidents in addition to Major Incidents. Notification would still be manual but regular, and the NRA would operate a formal process for keeping records.
Implementation and enforcement (Article 13b)	Ofcom would be anticipating two to four investigations per year, and would require an extra resource to manage these investigations through the process.

Costs

33. It is not expected that any of the above requirements would place significant additional burdens on Category A or Category C communication providers. In terms of Category B, the larger providers will also be mostly compliant; however, many smaller communication providers will not have the necessary risk management systems in place. Detica has estimated that larger communication providers currently spend around 0.5% of their revenue on security and risk management, with smaller Category B providers spending closer to 0.1% of revenue. If this proportion was increased to 0.5% as a result of this option, then the cost to smaller providers to comply with higher risk management standards would be in the order of **£6 million per year**, a significant increase given that it represents two thirds of Category B's total current spending on security (at £9 million per year). Furthermore, meeting the mandated minimum security standard would mean smaller providers incurring a **one-off capital cost** of about **£12.5 million**.

34. Setting a medium threshold on security breaches would have no significant affect above the baseline scenario as the existing NEAT and EC-RRG processes provide a framework to respond to significant and major incidents. Whilst Ofcom could need to be made aware of them, it is not expected to have a significant impact. However, increasing the number of investigations per year to 2-4 would have an additional impact on communication providers of about **£220,000 per year** relative to the baseline.

35. Lastly, Ofcom would incur the same costs as under option 1 but with a greater number of investigations to undertake per year. It is estimated that the total cost of option 2 to Ofcom would be about **£250,000 per year** if one assumes it would conduct four investigations.

Benefits

36. Mandating more robust risk management procedures and security standards should improve the security of interconnecting networks, allowing for greater assurance between communication providers. This could be important because a risk that is acceptable to one provider will not always be acceptable to an interconnect partner, making it beneficial to introduce powers that enable this risk to be managed in a coordinated manner.

37. It is likely that there will be a reduction in significant outages, resulting in a more reliable service for customers. Unfortunately, the extent of reduction is not known and the economic cost of network outages (and therefore the benefits of reducing them) is yet to be estimated. DCMS did not receive any evidence in response to the consultation regarding this matter and it was not possible for Detica to provide an assessment due to resource constraints (analysing the costs of security outages and the benefits of reducing them would have required a comprehensive and in-depth survey of communication users – both businesses and consumers – which was not possible). Given that current evidence suggests there are around 200-300 significant incidents per month and up to ten major incidents per year (see above), in addition to thousands of minor faults, and that the costs of security breaches and network failures could be in the order of billions of pounds, even a slight reduction could result in significant benefits to both businesses and consumers. However, in the absence of more robust and detailed evidence, it is not possible to quantify these.

38. In addition, if more providers give input into bodies such as CPNI and EC-RRG, there are likely to be benefits from having greater transparency both within and outside the sector in relation to network service levels and availability. Lessons learned by one communications provider would more readily be shared across the sector to enable all parties to make relevant improvements. Furthermore, greater transparency for the customer could improve quality of service.

Risks and Assumptions

39. As highlighted above, the vast majority of costs under this option fall to small and medium enterprises that operate in the electronic communications sector – the number of such firms is estimated to be in the order of 500. Such organisations are likely to have a specific business model to be both flexible and agile in order to provide a competitive service. As such there is a distinct aversion to aligning with any particular technical standard unless there is a clear commercial benefit in doing do. If Government and Ofcom were to mandate a higher standard, given the costs above, it is possible that some of these firms would not be able to continue operating, thus removing them from the market and resulting in an adverse effect on competition and consumer choice.

40. This is further linked to another concern within the industry than mandating a particular standard is counter-productive in that the commercial value of achieving a particular standard would be undermined. That is, by having flexibility in the approach to managing risk and security, communication providers are able to offer distinct and differentiated products to consumers (not just in terms of the security and availability offered but in terms the flexibility this allows for vis-à-vis price and other service characteristics).

41. Lastly, by reducing the threshold to notify a data breach, it will be important that commercial confidentiality is not breached, as Ofcom is subject to Freedom of Information requests. The potential impact of such information being made public on reputation and goodwill cannot be quantified but it is of considerable value for providers.

<u>Option 3 – Gold-plated regulation</u>

42. Under this option, implementation would follow the details set out in table 3 below.

Table 3: Requirements of gold-plated regulation

Area of focus	Description
Risk management (Article 13a(1))	Providers are requested to evidence strict compliance with or Certification to ISO27001 on a regular (annual) basis.
Guarantee of Integrity (Article 13a(2))	Providers are mandated to be compliant with CESG Security Procedures – Telecommunications Systems and Services. Ofcom would require proactive confirmation of compliance/certification.
Notification of breach (Article 13a(3))	At the highest end of the scale the threshold for significance would be low, with the reporting of any faults that cause a failure to meet SLA availability targets or impact on availability for even a small group of customers. Notification would be automatic, most likely integrated with provider's real-time monitoring systems. Ofcom would operate a sophisticated management and analysis system.
Implementation and enforcement (Article 13b)	Ofcom would be anticipating in excess of five investigations per year, and would require a significant extra resource to manage these investigations at each stage of the process.

Costs

43. The mandating of ISO27001 would be a significant step above the current baseline for all categories of communication providers. Whilst the largest firms (e.g. in Category A) will be mostly compliant, there would be a considerable administrative burden to collate and maintain evidence of compliance and to fulfil regular independent audits. It is expected that this would have both one-off and recurring costs. Category A and C firms would have a cost of about £50,000 per year to collate and maintain the necessary evidence, whilst certification would cost a similar amount for most of Category C and about half of Category A. Aggregating these costs across the sector amounts to about £0.6 million per year for Categories A and C. For Category B, the impact would be far greater to due the large number of small organisations; the costs would be in the order of £15 million per year.

44. Furthermore, mandating a more stringent security standard (such as CESG security procedures) would place a considerable burden on providers that do not have the necessary technical and procedural controls in place. The exact cost of meeting such a standard is likely to vary considerably, though Detica's interviews with some providers indicated that they would need to double their spending on security in the year of implementation (in addition to ongoing costs). Allowing for a potential range of costs – particularly with regards to Category A companies, some of which are not compliant with CESG procedures – Detica estimated that the cost across Category A would be £20 million in the initial year, whilst Category B providers could incur a one-off cost of £15 million.

45. In terms of notifying a greater number of security breaches, setting a low threshold would mean firms need to have more automated processes and ensuring that full quality of service data is provided to Ofcom. Along with the research, development and investment that would be needed to meet the requirement in full, this investment could cost Category A providers about £10 million as a one-off cost. For Category B providers, such complex technology should not be necessary as their networks are more straight-forward. However, the administrative cost of managing the provision of data to Ofcom is estimated to cost about £2.5 million per year. Category C firms, however, already maintain a high baseline of monitoring and reporting and so there would be no costs arising from more stringent notification.

46. If one aggregates the above costs to get a picture for the industry as a whole, option 3 would result in a **one-off cost** to communication providers of **£45 million** and an ongoing cost of around **£18.7 million per year** (including the cost of more investigations).

47. Ofcom would incur the costs of option 2 plus a greater number of investigations, which would cost at least **£465,000 per year**. However, by setting the threshold for breach notification at a low level, the number of outage reports that Ofcom would receive would be numerous and they would most likely need to develop a more sophisticated management system. It has not been possible to quantify this cost – as the specification of such as system would need to be developed in detail – but it would most likely be an order of magnitude greater than the aforementioned costs to Ofcom that have been quantified.

Benefits

48. Whilst the cost of obtaining ISO27001 certification is significant, there could be commercial benefits from having a more secure and improve service, though it has not been possible to quantify this. In terms of wider benefits, it is likely that the reduction in outages would be over and above that of option 2 and it is even possible that there would be fewer 'major outages'. Given the potential costs of prolonged network outages and security breaches, ensuring that all firms taken greater preventative measures could produce significant benefits. However, it is not certain whether these would be comparable to the costs outlined above.

Risks and Assumptions

49. The risks that were identified under option 2 apply to an even greater extent under option 3, particularly in terms of the impact on smaller communication providers, many of whom may be forced out of the market. Furthermore, given that significant security and risk management costs would be incurred on larger providers as well, it is possible that these could be passed onto consumers in the form of higher prices.

Summary Analysis

50. Table 4 summarises the quantified costs of each option for both Ofcom and each Category of communication provider. The wider benefits should increase with each option, as the level of security increases, but as discussed above it has not been possible to robustly assess these.

Table 4: Summary of cost impacts

Regulatory Option	Ofcom		Category A providers		Category B providers		Category C providers	
	One-off	Ongoing	One-off	Ongoing	One-off	Ongoing	One-off	Ongoing
Light-touch	Negligible	£141,000	Negligible	£55,000*	Negligible	Negligible	Negligible	Negligible
Enhanced	Negligible	£250,000	Negligible	£220,000*	£12.5m	£6m	Negligible**	Negligible**
Gold-plated	Negligible	>£465,000	£30m	£790,000	£15m	£17.5m	Negligible**	£360,000**

Source: Detica
* The cost of responding to an Ofcom investigation is listed under Category A but it could apply to any of the three categories
** Certain aspects of the regulation not applicable to Category C communication providers

Preferred Option

51. The Government's preferred approach to implementing Articles 13a and 13b of the revised Framework Directive is to follow the specific wording of the legislation and pursue option 1 ('light touch regulation'). This is in line with the Coalition Agreement, which includes a commitment to end 'gold-plating' of EU rules so that British businesses are not disadvantaged relative to their European competitors, which would be the case if Government enforced strict standards on UK communication providers relative to their European counterparts.

52. Furthermore, there remains a significant evidence gap as to the current economic cost of current security incidents, as highlighted above. It has not been possible to address this gap as it requires a comprehensive and large-scale survey of both consumers and businesses that use electronic communications, in addition to further in-depth interviews with more communication providers. Once such evidence is collected and if it shows that increasing security and risk management standards would significantly outweigh the costs outlined above under options 2 or 3, then it will be worth considering such an approach, taking into account the risks highlighted above. Any further regulation would be accompanied by the necessary consultation and impact assessment. However, given the self-regulatory developments that have already taken place – and continue to proceed – and the fact that there is already a high level of inherent resilience in UK electronic communications, for the purposes of implementing the EU Framework, the Government will pursue a light-touch approach.

Specific impact tests

Competition

As indicated in the main evidence base, options 2 and 3 have the potential to have a significant effect on competition by reducing the number of communication providers in the electronic communications market. Whilst the exact number of firms active in the sector is unknown – as Ofcom do not operate a licensing regime –it is estimated that there are around 600 providers in the market (see overarching impact assessment). Small firms are particularly active as internet service providers and if a significant proportion is forced to exit the market due to stricter security and risk management standards, the amount of choice in this sub-sector will be adversely affected. However, under the Government's preferred approach (light-touch), the impact should be minimal as all communication providers are generally compliant with these requirements.

Small Firms

As above, pursuing options 2 or 3 would have a significant cost impact on small firms, which could affect their ability to operate in the market. However, under the Government's preferred option, the impact on small firms will be negligible.

Other Specific Impact Tests

Other environment/ rural proofing

After an initial screening it has been deemed that no significant impact is anticipated on the environment and rural proofing.

Statutory Equality Duties

After an initial screening it has been deemed that no significant impact is anticipated on groups as defined by the Equality Act 2010 as having a protected characteristic.

Other tests

Other specific impact tests have been considered including Legal Aid, Sustainable Development and Carbon Assessment. Again, after initial screening, it has been deemed that no significant impact is anticipated.

Annexes

Annex 1 should be used to set out the Post Implementation Review Plan as detailed below. Further annexes may be added where the Specific Impact Tests yield information relevant to an overall understanding of policy options.

Annex 1: Post Implementation Review (PIR) Plan

A PIR should be undertaken, usually three to five years after implementation of the policy, but exceptionally a longer period may be more appropriate. If the policy is subject to a sunset clause, the review should be carried out sufficiently early that any renewal or amendment to legislation can be enacted before the expiry date. A PIR should examine the extent to which the implemented regulations have achieved their objectives, assess their costs and benefits and identify whether they are having any unintended consequences. Please set out the PIR Plan as detailed below. If there is no plan to do a PIR please provide reasons below.

Basis of the review: [The basis of the review could be statutory (forming part of the legislation), i.e. a sunset clause or a duty to review , or there could be a political commitment to review (PIR)]; See PIR plan in overarching impact assessment
Review objective: [Is it intended as a proportionate check that regulation is operating as expected to tackle the problem of concern?; or as a wider exploration of the policy approach taken?; or as a link from policy objective to outcome?]
Review approach and rationale: [e.g. describe here the review approach (in-depth evaluation, scope review of monitoring data, scan of stakeholder views, etc.) and the rationale that made choosing such an approach]
Baseline: [The current (baseline) position against which the change introduced by the legislation can be measured]
Success criteria: [Criteria showing achievement of the policy objectives as set out in the final impact assessment; criteria for modifying or replacing the policy if it does not achieve its objectives]
Monitoring information arrangements: [Provide further details of the planned/existing arrangements in place that will allow a systematic collection systematic collection of monitoring information for future policy review]
Reasons for not planning a review: [If there is no plan to do a PIR please provide reasons here]

Title: **Implementing the Revised EU Electronic Communications Framework - E-Privacy Directive**	Impact Assessment (IA)
Lead department or agency: Department for Culture, Media and Sport	**IA No:** DCMS024
Other departments or agencies: Information Commissioners Office	**Date:** 04/03/2011
	Stage: Final
	Source of intervention: EU
	Type of measure: Secondary legislation
	Contact for enquiries: Stephen Fernando (020 7215 6320)

Summary: Intervention and Options

What is the problem under consideration? Why is government intervention necessary?

The E-Privacy Directive sets out the fundamental rights and freedoms of EU citizens when using electronic communications. There are potential negative externalities associated with personal data breaches where a company holding personal data spends less on data protection than would be socially optimal because they balance the private cost of security against the private cost of a data breach. This means that there are consumer protection arguments for increasing the level of security against personal data breaches because breaches can result in harm and disruption to individuals, which companies do not take into consideration.

What are the policy objectives and the intended effects?

One of the central goals of the EU regulatory framework is to promote the interests of citizens through, *inter alia*, ensuring that electronic communications are trustworthy and provide a high level of protection for individuals' privacy and personal data. More specifically, the objectives of amending the Directive are two-fold:

- Strengthen and improve consumer protection and user rights by giving consumers more information
- Enhance the protection of privacy and personal data through improved enforcement mechanisms

What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)

Government is required to implement a number of changes within the Directive that allow for no flexibility in implementation. These include a requirement for communication providers to notify ICO of any data breach and the strengthening of ICO's powers to enforce firms' obligations as they relate to the protection of private data. This includes a power to audit the security measures taken by communication providers and a power to request more information. The amendments are assessed against a counterfactual 'no change' scenario, without looking at other discrete options. For legislative changes where the UK has some flexibility in implementation, a number of options are analysed. These include: whether to give ICO civil sanctioning powers, and; options to implement the consumer's right to consent to any attempt to store (or access) internet cookies on a user's equipment. In accordance with Better Regulation principles, the Government's preferred option is to largely utilise a "copy out" approach for transposing the Directive into UK law.

Will the policy be reviewed? It will be reviewed. **If applicable, set review date:** 5/2016	
What is the basis for this review? Duty to review. **If applicable, set sunset clause date:** Month/Year	
Are there arrangements in place that will allow a systematic collection of monitoring information for future policy review?	Yes

SELECT SIGNATORY Sign-off For final proposal stage Impact Assessments:

I have read the Impact Assessment and I am satisfied that (a) it represents a fair and reasonable view of the expected costs, benefits and impact of the policy, and (b) the benefits justify the costs.

Signed by the responsible Minister: _____ Date: 24/03/2011

Summary: Analysis and Evidence — Policy Option 1

Description:

Implementation of the Framework Directive - articles for which there are no options in implementation

Price Base Year 2011	PV Base Year 2011	Time Period Years 10	Net Benefit (Present Value (PV)) (£m)		
			Low: -1.7	**High:** -18.9	**Best Estimate: -10.3**

COSTS (£m)	**Total Transition** (Constant Price)	Years	**Average Annual** (excl. Transition) (Constant Price)	**Total Cost** (Present Value)
Low		N/A	0.2	**1.7**
High			2.2	**18.9**
Best Estimate	0		1.2	**10.3**

Description and scale of key monetised costs by 'main affected groups'

Communication providers will need to notify data breaches to ICO and comply with audits, which is estimated to cost £240k - £2m per year. They will also need to implement internal procedures to respond to information requests for data from police and security services, which could cost up to £150k per year. Enforcement costs to ICO expected to be negligible.

Other key non-monetised costs by 'main affected groups'

BENEFITS (£m)	**Total Transition** (Constant Price)	Years	**Average Annual** (excl. Transition) (Constant Price)	**Total Benefit** (Present Value)
Low		N/A		
High				
Best Estimate	0		Unquantifiable	**Unquantifiable**

Description and scale of key monetised benefits by 'main affected groups'

Without knowing the likely fall in data breaches – or what impact this is likely to have – it is not possible to quantify the potential benefits of the legislative changes. Information provided by communication providers could be used by security services and the police to enhance the protection of UK citizens but, again, it has not been possible to estimate the extent to which this will occur.

Other key non-monetised benefits by 'main affected groups'

Whilst it is not possible to quantify the benefits, communication providers will have a greater incentive to ensure their data security measures are robust. If it leads to even a 0.1% fall in the annual cost of identify theft or online scams, consumers would benefit by around £1.4m - £1.7m per year.

Key assumptions/sensitivities/risks — **Discount rate (%)** 3.5

Cost estimates for data breach notification should be treated with caution as they are based on a study of 33 organisations. Based on this study and other evidence, the projected number of data breach notifications (1-8 per year) should not result in a significant increase in ICO's enforcement costs. The latter will significantly escalate if it is notified of many breaches it does not need to know about. This should be mitigated by the publication of ICO guidance on data breach notification.

Direct impact on business (Equivalent Annual) £m):			**In scope of OIOO?**	**Measure qualifies as**
Costs: 1.2	**Benefits:** 0	**Net:** -1.2	No	NA

Enforcement, Implementation and Wider Impacts

What is the geographic coverage of the policy/option?			United Kingdom		
From what date will the policy be implemented?			25/05/2011		
Which organisation(s) will enforce the policy?			ICO		
What is the annual change in enforcement cost (£m)?			Negligible		
Does enforcement comply with Hampton principles?			Yes		
Does implementation go beyond minimum EU requirements?			No		
What is the CO_2 equivalent change in greenhouse gas emissions? (Million tonnes CO_2 equivalent)			**Traded:** N/A	**Non-traded:** N/A	
Does the proposal have an impact on competition?			No		
What proportion (%) of Total PV costs/benefits is directly attributable to primary legislation, if applicable?			**Costs:**	**Benefits:**	
Distribution of annual cost (%) by organisation size (excl. Transition) (Constant Price)	**Micro**	**< 20**	**Small**	**Medium**	**Large**
Are any of these organisations exempt?	No	No	No	No	No

Specific Impact Tests: Checklist

Set out in the table below where information on any SITs undertaken as part of the analysis of the policy options can be found in the evidence base. For guidance on how to complete each test, double-click on the link for the guidance provided by the relevant department.

Please note this checklist is not intended to list each and every statutory consideration that departments should take into account when deciding which policy option to follow. It is the responsibility of departments to make sure that their duties are complied with.

Does your policy option/proposal have an impact on…?	**Impact**	**Page ref within IA**
Statutory equality duties[1] Statutory Equality Duties Impact Test guidance	Yes	23
Economic impacts		
Competition Competition Assessment Impact Test guidance	No	
Small firms Small Firms Impact Test guidance	Yes	23
Environmental impacts		
Greenhouse gas assessment Greenhouse Gas Assessment Impact Test guidance	No	
Wider environmental issues Wider Environmental Issues Impact Test guidance	No	
Social impacts		
Health and well-being Health and Well-being Impact Test guidance	No	
Human rights Human Rights Impact Test guidance	No	
Justice system Justice Impact Test guidance	No	
Rural proofing Rural Proofing Impact Test guidance	No	
Sustainable development Sustainable Development Impact Test guidance	No	

[1] Public bodies including Whitehall departments are required to consider the impact of their policies and measures on race, disability and gender. It is intended to extend this consideration requirement under the Equality Act 2010 to cover age, sexual orientation, religion or belief and gender reassignment from April 2011 (to Great Britain only). The Toolkit provides advice on statutory equality duties for public authorities with a remit in Northern Ireland.

Summary: Analysis and Evidence — Policy Option 2

Description:

Preferred implementation of the Framework Directive - articles for which there are options in implementation

Price Base Year 2011	PV Base Year 2011	Time Period Years 10	Net Benefit (Present Value (PV)) (£m)		
			Low: -0.7	**High:** -1.3	**Best Estimate: -1**

COSTS (£m)	**Total Transition** (Constant Price)	Years	**Average Annual** (excl. Transition) (Constant Price)	**Total Cost** (Present Value)
Low		N/A	0.08	**0.7**
High			0.15	**1.3**
Best Estimate	0		0.12	**1**

Description and scale of key monetised costs by 'main affected groups'

Communication providers will need to provide information to ICO as third parties in order to help ICO enforce regulatory breaches. This could cost £80k - £150k per year. Enforcement costs to ICO expected to be negligible. Giving ICO a civil penalty power will only increase costs for firms that are not compliant with their obligations but it is not considered to be a regulatory cost to business because firms should be compliant with their legal obligations

Other key non-monetised costs by 'main affected groups'

Industry self-regulation will ensure that consumers can give consent to the storing and access of internet cookies on their computer. Behavioural advertising and web-analytics companies will incur costs to provide more information (e.g. testing and standardisation). Browser vendors will incur costs to repgroamme browsers and provide enhanced settings. They will also need to communicate settings and technologies to web developers and third parties. Consumers will need time to read information

BENEFITS (£m)	**Total Transition** (Constant Price)	Years	**Average Annual** (excl. Transition) (Constant Price)	**Total Benefit** (Present Value)
Low		1-2		
High				
Best Estimate	Not quantified		Not quantified	**Not quantified**

Description and scale of key monetised benefits by 'main affected groups'

Implementation details for self-regulation on internet cookie consent have not yet been finalised (highlighted in research commissioned by DCMS). Therefore the benefits cannot be quantified. However, the majority of 40 million internet users in the UK will feel more secure and perform more transactions on the web. The consumer benefits of being fully informed about the nature and options regarding internet cookies are in the order of £300m-£380m per year, though it is not yet possible to say what proportion of this will materialise.

Other key non-monetised benefits by 'main affected groups'

More than 40,000 complaints made per year about the telephone preference service (an opt-out of unsolicited marketing calls). Actual number of consumers affected (including those not complaining) likely to be much higher. ICO is currently unable to investigate around 40% of complaints due to insufficient information. Tens of thousands of complaints received about marketing firms that ICO has taken enforcement action against. Third party information and penalty powers should reduce consumer detriment.

Key assumptions/sensitivities/risks — **Discount rate (%)** 3.5

There remains a significant amount of work to be done in relation to implementing the self-regulatory option for internet cookie consent. Government and the European Commission have accepted that compliance with this part of the legislation will need to be achieved in a phased process, allowing firms a 'grace period' to become fully compliant. It will only be at that point that the direct costs and benefits to both industry and consumers will become clear.

Direct impact on business (Equivalent Annual) £m):			**In scope of OIOO?**	**Measure qualifies as**
Costs: 0.12	**Benefits:** 0	**Net:** -0.12	No	NA

Enforcement, Implementation and Wider Impacts

What is the geographic coverage of the policy/option?			United Kingdom		
From what date will the policy be implemented?			25/05/2011		
Which organisation(s) will enforce the policy?			ICO		
What is the annual change in enforcement cost (£m)?			Negligible		
Does enforcement comply with Hampton principles?			Yes		
Does implementation go beyond minimum EU requirements?			No		
What is the CO_2 equivalent change in greenhouse gas emissions? (Million tonnes CO_2 equivalent)			**Traded:** N/A	**Non-traded:** N/A	
Does the proposal have an impact on competition?			No		
What proportion (%) of Total PV costs/benefits is directly attributable to primary legislation, if applicable?			**Costs:**	**Benefits:**	
Distribution of annual cost (%) by organisation size (excl. Transition) (Constant Price)	**Micro**	**< 20**	**Small**	**Medium**	**Large**
Are any of these organisations exempt?	No	No	No	No	No

Specific Impact Tests: Checklist

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Wider environmental issues Wider Environmental Issues Impact Test guidance	No	
Social impacts		
Health and well-being Health and Well-being Impact Test guidance	No	
Human rights Human Rights Impact Test guidance	No	
Justice system Justice Impact Test guidance	No	
Rural proofing Rural Proofing Impact Test guidance	No	
Sustainable development Sustainable Development Impact Test guidance	No	

[1] Public bodies including Whitehall departments are required to consider the impact of their policies and measures on race, disability and gender. It is intended to extend this consideration requirement under the Equality Act 2010 to cover age, sexual orientation, religion or belief and gender reassignment from April 2011 (to Great Britain only). The Toolkit provides advice on statutory equality duties for public authorities with a remit in Northern Ireland.

Evidence Base (for summary sheets) – Notes

Use this space to set out the relevant references, evidence, analysis and detailed narrative from which you have generated your policy options or proposal. Please fill in **References** section.

References

Include the links to relevant legislation and publications, such as public impact assessments of earlier stages (e.g. Consultation, Final, Enactment) and those of the matching IN or OUTs measures.

No.	Legislation or publication
1	Government consultation http://www.bis.gov.uk/Consultations/revised-eu-electronic-communications-framework
2	EC Legislative proposals and impact assessment http://ec.europa.eu/information_society/policy/ecomm/library/proposals/index_en.htm
3	Full European Legislation http://ec.europa.eu/information_society/policy/ecomm/doc/library/regframeforec_dec2009.pdf
4	The Privacy and Electronic Communications (EC Directive) Regulations 2003 http://www.legislation.gov.uk/uksi/2003/2426/contents/made

Evidence Base

Ensure that the information in this section provides clear evidence of the information provided in the summary pages of this form (recommended maximum of 30 pages). Complete the **Annual profile of monetised costs and benefits** (transition and recurring) below over the life of the preferred policy (use the spreadsheet attached if the period is longer than 10 years).

The spreadsheet also contains an emission changes table that you will need to fill in if your measure has an impact on greenhouse gas emissions.

Annual profile of monetised costs and benefits* - (£m) constant prices

	Y_0	Y_1	Y_2	Y_3	Y_4	Y_5	Y_6	Y_7	Y_8	Y_9
Transition costs	0	0	0	0	0	0	0	0	0	0
Annual recurring cost	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Total annual costs	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Transition benefits	0	0	0	0	0	0	0	0	0	0
Annual recurring benefits	Unqnt	Unqnt	Unqnt	Unqnt	Unqnt	Unqnt	Unqnt	Unqnt	Unqnt	Unqnt
Total annual benefits	Unqnt	Unqnt	Unqnt	Unqnt	Unqnt	Unqnt	Unqnt	Unqnt	Unqnt	Unqnt

* For non-monetised benefits please see summary pages and main evidence base section

Evidence Base (for summary sheets)

Background

1. The E-Privacy Directive sets out the fundamental rights and freedoms of EU citizens when using electronic communications networks or services. Specifically, it aims to strengthen the rights to privacy and confidentiality with respect to the holding and processing of personal data by network and service providers. Some of the key principles of the Directive are set out below. The Directive was amended in 2009, and UK Government is implementing the amendments made as part of that process.

Processing security

2. The provider of an electronic communications service must protect the security of its services by: ensuring personal data is accessed by authorised persons only; protecting personal data from being destroyed, lost or accidentally altered; ensuring the implementation of a security policy on the processing of personal data.

Confidentiality of communications

3. The Directive requires that Member States must, through national legislation, ensure the confidentiality of communications made over a public electronic communications network. They must in particular prohibit the listening into, tapping and storage of communications by persons other than users without the consent of the users concerned except where it is legally authorised. Where a person uses an electronic communications system to store or gain access to information on the terminal equipment of an end user, the Directive previously required that the subscriber or end user must be given the opportunity to refuse to consent to the storage (having been given adequate information about the purposes of the processing). The amendments to the Directive now require consent, which is defined in the Data Protection Directive. If a service provider wishes to process traffic data for certain purposes, then the user must be asked for his consent before such processing.

Data processing

4. The Directive states that traffic data and location data must be erased or made anonymous when they are no longer required for the conveyance of a communication or for billing, except if the subscriber has given their consent for another use. The Directive stipulates that Member States may restrict or withdraw the protections in the Directive where the restriction is necessary, appropriate and proportionate to safeguard national security, defence, public security and the prevention, investigation and detection of criminal offences or of unauthorised use of the electronic communications system. The Directive permits Member States to make domestic provision about the retention of data for these purposes. However, data retention is now covered by a different directive (the Data Retention Directive).

Rationale for Government Intervention

5. Information privacy can be defined as an individual's ability to control the *collection* and *use* of his/her personal information[1]. The invention and development of computing technologies has led to widespread attention towards the collection of personal information in various contexts, with advances in the internet and e-commerce amplifying public concern about privacy.

6. Privacy and personal data have a value from a number of perspectives, which gives a rationale for implementing measures to enhance privacy and decrease the number of personal data breaches. 'Value' here refers to what would be lost if the information were unusable or unavailable, and the harm that could be caused to individuals and society in the event of a personal data breach[2].

[1] Hui and Png, 'The Economics of Privacy', *Handbook of Information Systems and Economics* (August 2005)

[2] The Privacy Dividend: The business case for investing in proactive privacy protection, Information Commissioner's Office, March 2010

7. There are four perspectives from which personal data draws its privacy value, these are[3]:

   - Its value to the individual to whom it relates. Personal data has value to the person to whom it relates because they consider it important. Individuals can be caused harm and distress if their personal data is used in ways or for purposes other than those to which the organisation that holds the data was given permission. The extent to which individuals value the privacy of their personal data may not become clear to them until their privacy is breached.

   - Its value as an asset used within an organisation's operations. Personal data has value to organisations that hold it if it is used by them to deliver specific objectives. The information can add value if it is being used for delivery goods, for customising a product or for controlling a service. Personal data can also be used for more strategic purposes by the organisation. From this perspective, personal data is an asset to organisations, and as with other assets it needs protecting to ensure it is used effectively.

   - Its value to other parties who might want to use the information. Personal data can have considerable value to other parties. This may be for legitimate reasons such as for delivering a requested service to an individual, but also for wrongful, improper uses. These wrongful uses may be aimed at harming individuals or the organisation. The value of personal data from this perspective comes from the fact that by using the data, other parties might cause harm or distress to the people or organisations involved.

   - Its social value as interpreted by regulators and other groups. The effects of the misuse or abuse of personal data bear not only on the individual but also on society. The societal value placed on the privacy of personal data manifests itself in most organisations wanting to be trustworthy, transparent and respectful of people's privacy and in the value given to the protection of privacy by regulators.

8. There are therefore potential negative externalities associated with personal data breaches where a company holding personal data spends less on data protection than would be socially optimal because they balance the private cost of security against the private cost of a data breach. This means that there are consumer protection arguments for increasing the level of security against personal data breaches because breaches can result in harm and disruption to individuals, which companies don't take into consideration.

9. Ensuring a high level of protection of personal data and privacy, as well as ensuring the integrity and security of public communications networks, is one of the central goals of the EU regulatory framework. This is important for two reasons: firstly, there is scope for severe detriment if privacy and security concerns are not sufficiently addressed, and secondly; the success of the electronic communications sector is dependent on consumers having trust and confidence in the service. Failure to address privacy and security concerns can have significant impacts, some of which are outlined in Table 1. The fact that privacy issues are of a concern to individuals is also reflected in the Information Commissioner's Office most recent Annual Track[4], which showed that 92 per cent of consumers are fairly or very concerned about the protection of people's personal information (this compares to 70 per cent in 2004). In terms of wider social issues, only crime prevention was of greater concern.

Table 1: Impacts of Security and Privacy Failures

Consumers	Businesses	Government
• Loss of confidential data and risk of misuse • Financial loss • Emotional and physical stress • Embarrassment • Damage to hardware and software	• Loss of confidential data and risk of misuse • Intellectual property theft • Loss of revenue and productivity • Loss of customers (e.g. due to negative publicity) • Damage to assets that are linked to communication networks	• Loss of confidential data and risk of misuse • Loss of service provisioning for critical government functions • Loss of productivity • Loss of confidence of citizens • Damage to hardware and software

[3] The Privacy Dividend: The business case for investing in proactive privacy protection, Information Commissioner's Office, March 2010
[4] SMSR, 'Report on the Findings of the Information Commissioner's Annual Track 2010: Individuals' (November 2010)

10. The issue of privacy is particularly relevant the majority of the population that currently uses the internet. In 2010 30.1 million adults used the internet every day, almost double the estimate in 2006 (see Figure 1 below). This is equivalent to six-in-ten British adults, whilst only 9 million adults have never used the internet (down from almost 17 million in 2006). The internet provides a portal for a range of activities, for example sending/receiving emails, finding information about goods and services and using services related to travel and accommodation. More than half of internet users make use of internet banking services and purchase goods/services online (especially clothes, and films and music)[5]. It has been estimated that in 2009, consumption on goods and services online was worth around £50 billion, with the average household saving almost £1,000 per year from shopping online. It is also estimated that consumer surplus from free internet content is worth around £5 billion annually[6].

Figure 1: Intensity of Internet Access by UK Adults

Source: ONS Statistical Bulletin 'Internet Access 2010'

11. Evidence suggests that the electronic communications market works well for most consumers, the majority of whom (80 per cent) are either fairly or very satisfied with their broadband service (the proportion is even higher for mobile and fixed telephony)[7]. However, there remains a certain level of detriment in the market that requires addressing. Recent evidence shows that more than five per cent of internet users (more than 2 million adults) have suffered financial loss online (see Table 2 below). Around four per cent of consumers have been the victim (or know someone that was a victim) of online identity theft in the past 6 months, whilst seven per cent have been the victim of people making transactions using someone else's bank details[8]. A recent report estimated that the economic cost of online identity theft was around £1.7 billion year, whilst £1.4 billion was lost annually due to online scams[9].

[5] ONS Statistical Bulletin 'Internet Access 2010'
[6] The Boston Consulting Group, 'The Connected Kingdom: How the Internet is Transforming the UK Economy' (October 2010)
[7] Ofcom, 'The Consumer Experience 2010'
[8] Ofcom Consumer Concerns; June 2010 data
[9] Detica in partnership with the Office of Cyber Security and Information Assurance in the Cabinet Office, 'The Cost of Cyber Crime' (February 2011)

Table 2: Internet security experiences, 2010

	All
Per cent	
Catching a virus or other computer infection (worm or trojan horse) resulting in loss of information or time	31
Unsolicited emails sent to me ('spam')	54
Abuse of personal information sent on the Internet and/or other privacy violations (abuse of pictures, personal data uploaded on community websites)	4
Financial loss as a result of receiving fraudulent messages ('phishing') or getting redirected to fake websites asking for personal information ('pharming')	3
Financial loss due to fraudulent payment (credit or debit) card used	5
Children accessing inappropriate websites or connecting with potentially dangerous persons from a computer within the household	2
None of the above	35

Source: ONS Statistical Bulletin 'Internet Access 2010'. Base: UK adults who accessed the internet in the last twelve months

12. In addition to the direct costs outlined above, consumer concerns about privacy and data security can also prevent them from making the optimal use of the internet. Almost one-in-five internet users do not buy goods online or carry out banking activities due to security concerns (see Table 3 below), meaning that they do not benefit from the potential savings that the internet offers. More than one fifth of users are reluctant to engage in social and professional networking due to security concerns. Furthermore, more than one quarter would never enter their home or mobile phone number, whilst one-in-eight would never enter their personal email address[10]. As a result, some consumers may be missing out on product offers or certain information that they would otherwise prefer to receive, or they may not be able to access certain websites that they would use if they had more confidence and trust in the network.

Table 3: Internet activities prevented by security concerns, 2010

	All
Per cent	
Ordering or buying goods or services for private use	17
Carrying out banking activities such as account management	19
Providing personal information to online communities for social and professional networking	21
Communicating with public services or administrations	4
Downloading software, music, video files, games or other data files	14
Using the Internet with mobile device (eg laptop) via a wireless connection from places other than home	7
None of these	59

Source: ONS Statistical Bulletin 'Internet Access 2010'. Base: UK adults who accessed the internet in the last twelve months

Businesses

13. Data protection is also hugely important to businesses, around three quarters of which have a website[11]. A recent report on the internet economy found that in 2008 non-financial businesses made almost a quarter – or £360 billion – of their purchases over the internet and other electronic channels[12]. Together with the increasing consumer use of the internet, highlighted above, the internet is a crucial enabler of economic activity. However, as with consumers, businesses are also at risk of detriment from data protection and security failures. A quarter of UK companies suffer a serious breach of security each year and the costs of such incidents can range from £10,000 for small firms to more than £1 million for larger companies[13].It was recently estimated that UK businesses lose £21 billion per year as a result of cyber crime, including £1.3 billion per year from direct online theft and £1 billion per annum from the loss or theft of customer data (the majority of impact falling on larger companies with more than 500 employees) [14].

[10] Ofcom, Media Literacy Wave 1 tables 2010 adults
[11] ONS, 'E-commerce and ICT activity 2009'. Data excludes microenterprises that have fewer than 10 employees.
[12] The Boston Consulting Group, 'The Connected Kingdom: How the Internet is Transforming the UK Economy' (October 2010)
[13] PWC, '2008 Information Security Breaches Survey'
[14] Detica in partnership with the Office of Cyber Security and Information Assurance in the Cabinet Office, 'The Cost of Cyber Crime' (February 2011)

Policy Objectives

14. One of the central goals of the EU regulatory framework is to promote the interests of citizens through, *inter alia*, ensuring that electronic communications are trustworthy and provide a high level of protection for individuals' privacy and personal data. More specifically, the objectives of amending the Directive are two-fold:

    - Strengthen and improve consumer protection and user rights by giving consumers more information
    - Enhance the protection of privacy and personal data through improved enforcement mechanisms

Options Analysis

15. The revised E-Privacy Directive introduces a number of new articles and amendments to the existing Directive. Some of these articles require significant changes to the UK regulatory regime, whilst others do not. The focus of this impact assessment is on the former. In determining which legislative amendments are 'significant', and therefore warrant assessment, DCMS has been guided by the topics covered in the Government consultation document <u>and</u> regulatory changes that were raised in a number of consultation responses as having a significant consequence.

16. Significant changes to the legislation have also been separated into two categories. The first group of legislative changes are articles that have no provision for leeway in implementation (category 1), whilst the second group can be implemented in more than one manner (category 2). In so far as it is possible, estimates of the costs and benefits of all articles under these categories have been made. However, for category 1, it is not possible to identify discrete 'options' for implementation, therefore they are assessed against a baseline 'no change' scenario without looking at alternatives. For articles that fall under category 2, however, a number of options are appraised. The impact of the two categories are considered and assessed separately.

<u>Category 1 – changes to existing regime; no options available</u>

- Security of processing – Article 4
- Application of certain provisions of Directive 95/46/EC – Article 15(1b)

<u>Category 2 – changes to existing regime; options available</u>

- Confidentiality of the communications – Article 5
- Implementation and enforcement – Article 15a

Category 1 – changes to existing regime, no options available

<u>Article 4 – security of processing</u>

17. Under the current e-Privacy Directive, communication providers are required to take appropriate technical and organisational measures to safeguard the security of their services. However, amendments to Article 4 will require that, in the event of a personal data breach, a provider of publicly available electronic communications notifies the breach to ICO. If the breach is likely to adversely affect the personal data or privacy of an individual, the provider will also have to notify that individual, unless the provider can demonstrate to ICO that it has implemented appropriate technological protection measures. In the event that the provider does not notify the individual, then ICO may require it to do so. In addition, ICO will have a power to audit the security measures taken by providers of electronic communication services and to issue recommendations about best practices concerning the level of security.

18. Currently, ICO's enforcement of data protection breaches (not necessarily just breaches of the UK PECR[15]) is informed by guidance published in 2008[16]. It sets out a number of causes of data breaches (for example loss or theft of data, unauthorised use due to inappropriate access controls, equipment failure, human error, unforeseen circumstances such as a fire, hacking attack and deception) and the four important elements to managing such breaches. The latter are: containment

[15] The Privacy and Electronic Communications Regulations 2003, which implements the e-Privacy Directive
[16] http://www.ico.gov.uk/upload/documents/library/data_protection/practical_application/guidance_on_data_security_breach_management.pdf

and recovery; assessment of ongoing risk; notification of breach; evaluation and response. These guidelines set out scenarios where firms that hold data should notify breaches to ICO, for example if a large number of people are affected or if there are 'very serious' consequences. However, there is no legal obligation to do so.

19. As of May 2010, just over 1,000 data breaches had been reported to ICO since its creation[17], though a significant number of these came after Her Majesty's Revenue and Customs (HMRC) reported the loss of data for 25 million individuals in 2007 and so it is likely that many of these notifications would not have been necessary if the impacts were relatively minor. Furthermore, it is important to note that many of the breaches will not have been related to electronic communication providers; some have been lost health records, the personal details of private companies and so on.

20. The impact of implementing the amendments to article 4 heavily depends on what data breaches will need to be reported to ICO (and similarly, those that need to be reported to the subscriber or individual). The implementing regulations will copy out the amendments to article 4 in a new regulation 5A in PECR. However, the threshold for when notification must be made to ICO and individuals will be set out in guidance from the ICO (which is required by new article 4(4)). Providers will also need to maintain an inventory of personal data breaches comprising the facts surrounding the breach, its effects and the remedial action taken.

21. Given the difficulty in forecasting the number of breaches that will need to be reported to ICO, estimating the impact of the legislative amendments is subject to severe limitations. However, there are some countries in Europe that already require notification of data breaches and they may provide some useful insights. For example, the European Network and Information Security Agency (ENISA) have given Germany and Ireland as useful examples of countries that are already in the process of implementing data breach notification[18]. ENISA found that the number of data breaches reported to regulatory authorities across Europe ranges from country to country, with reports over the past 2-3 years ranging from fewer than ten to more than one hundred. For example Ireland's Data Protection Commissioner reported that in 2009 the Commission received 119 data security breach notifications (up from 81 in 2008). However, it should be noted that this is not necessarily related directly to actual breaches but possibly to greater awareness[19].

22. Evidence from a separate report by the Ponemon Institute[20] also provides an insight into the potential number of serious data breaches in the UK. In 2009, the Institute interviewed 33 companies known to have experienced a breach involving the loss or theft of personal customer or consumer data during the previous year, one of which was a communications firm. This suggests that electronic communication providers probably account for a minor proportion (1-5%) of data breaches per year (more than half of the study participants were made up of financial and public sector organisations). In terms of the cost to business of such data breaches, the Ponemon report indicated that the average organisational cost of a data breach was around £1.7 million in 2008 and 2009. The costs of a data breach per firm in the communications sector was estimated to be around one quarter higher, or around £2.1 million[21]. Figure 2 below shows how the costs of a data breach were apportioned by activity. All of these results should be treated with extreme caution as they were only based on a sample of 33 companies (with only one communications firm). However, in the absence of further evidence they provide the most reliable information that is currently available.

[17] http://www.ico.gov.uk/~/media/documents/pressreleases/2010/1000_DATA_BREACHES280510.ashx
[18] ENISA, 'Data breach notifications in the EU' (2011)
[19] Ibid
[20] Ponemon Institute, '2009 Annual Study: Cost of a Data Breach' (January 2010).
Also see Ponemon Institute, 'Five Countries: Cost of Data Breach' (2010) at
http://www.ponemon.org/local/upload/fckjail/generalcontent/18/file/2010%20Global%20CODB.pdf
[21] £81 per compromised record for communications compared to £64 overall

Figure 2: Costs of data breach by activity

Source: Ponemon Institute

23. The discussion above concerns data breaches that are significant enough to warrant notification. However the actual number of data breaches in the UK is even more difficult to estimate, primarily because the majority are confidential to the relevant company or organisation. Furthermore, the nature and scope of data breaches can vary considerably, from high-profile losses affecting millions of individuals to low-impact breaches that do not have an adverse affect on anyone. It is not possible to approximate the latter with any degree of confidence, though if they are of a similar order to low-impact network security incidences then there may be thousands per year. By contrast, major security incidences the electronic communications network may number up to ten per year[22].

24. As discussed above, by implementing the changes to Article 4 of the e-Privacy Directive it will be mandatory for communication providers to notify ICO of breaches in data security. The competent national authority (ICO) will adopt guidelines and issue instructions concerning the circumstances in which providers are required to notify personal data breaches. If the breach is likely to adversely affect the personal data or privacy of an individual, the provider will also have to notify that individual, unless the provider can demonstrate to ICO that it has implemented appropriate technological protection measures In the event that the provider does not notify the individual, then ICO may require it to do so. In addition, ICO will have a power to audit the security measures taken by providers of electronic communication services and to issue recommendations about best practices concerning the level of security.

Costs

25. The costs of requiring data breach notification will depend on the number of breaches that are reported each year. It is possible that Article 4 may have little impact on communication providers, a number of whom (particularly the larger firms that have a significant number of customers) are compliant with rigorous standards (such as ISO 27001, which is an international standard that provides a framework for security risk management within an organisation, and ISO 27002, which complements the former standard by listing a set of controls that mange risk)[23]. They will therefore

[22] Detica, 'Impact of Security and Integrity provisions of the EU Electronic Communications Framework' (March 2011)
[23] Ibid

already be compliant with the majority of ICO guidance in terms of containment and recovery, assessing the risks and conducting an evaluation and response of any breach (including maintaining an inventory of personal data breaches, as required by Article 4). Customers may also already be notified under existing practices.

26. However, in order to produce an upper bound estimate of the costs it is possible to make use of the evidence discussed above. Data from the Ponemon Institute and experiences from the regulatory regime in Ireland suggest that the number of data breaches that need to be reported to the competent authority could lie between 100 and 150 per year[24]. If one assumes that only 1-5% of these are related to electronic communications, then that suggests 1-8 data breaches in the electronic communications sector per year will need to be reported under the revised legislation[25]. Assuming that the cost of such a data breach was around £2.1 million per organisation (see above) then the notification costs to external parties (including customers) is around ten per cent of this (see figure 2 above) or £210,000. Therefore, the total notification cost could be £210,000 - £1.7 million per year[26], assuming that the affected customers are all notified of the data breach. The costs would be lower if the provider only notifies ICO and of course they will be zero if communication providers are able to avoid any data breaches (or if they already notify them to ICO, in which case there would be no additional cost imposed by the legislation).

27. In addition, communication providers may be subject to an audit by ICO to check measures that are taken to ensure security. The cost of such an audit is estimated to be around £30,000 – based on the cost of a full independent security audit[27], though it is possible an ICO audit would cost the provider less than this. If 1-8 audits are commissioned per year, based on the above number of breaches, then the total cost would be £30,000 - £240,000. Adding this to the costs of data breach notification above, this suggests that the total cost to industry for revising Article 4 could be around **£240,000 - £2 million per year**.

28. There will also be a cost to ICO in receiving notifications but assuming the number of data breaches is of the order of 1-8 per year – which is a small proportion of the number that ICO has already been receiving during the past three years - then the enforcement cost should not be significant. Furthermore, as discussed above, given that the majority of large providers have well-developed risk management processes in place then the number of potential notifications should be small.

29. In terms of auditing communication providers' security measures, ICO's current powers already allow for 'assessment notices'. However, these do not allow for non-consensual audits of organisations except for Government departments (i.e. the organisation has to agree to be audited). Therefore, the revised legislation will require suitable audit powers through the extension of ICO's assessment notices. ICO has indicated to Government that the new assessment notice provisions will not bring significant cost implications, provided the organisation is able to exercise discretion over the conduct of such assessments.

30. ICO will also be required to publish guidelines on data breach notification. However, given that they will be based on existing guidelines[28] and ENISA guidance[29] – and so will not be developed from scratch - it is unlikely that this will impose a significant cost on ICO. In order to finalise the guidance in a transparent manner that ensures compliance with the legislation, ICO will consult on its guidelines later this year.

Benefits

31. One of the potential benefits of implementing the changes to Article 4 is that it they may serve as an extra incentive for communication providers to ensure that their data security measures are as robust as possible. As highlighted above, many providers already take numerous measures to ensure the

[24] Whilst the Ponemon study only surveyed 33 participants that experienced a breach involving the loss or theft of customer data during the previous year, the benchmark survey was actually sent to 109 organisations known to have experienced a breach.
[25] Research commissioned by DCMS on security and resilience suggested that major security incidents in electronic communications networks numbered up to ten a year. Whilst these are not the same as data breaches, the fact that the numbers are of a similar magnitude suggests that the assumptions are reasonable.
[26] This figure is also of a similar magnitude to the administrative burden of Section 10(3) of the Data Protection Act, which requires firms to respond to individual requests from data subjects. The total cost of this obligation is around £3.4 million per year, which includes holders of data that do not operate in the communications sector (Source: Better Regulation Executive, Administrative Burdens Calculator).
[27] Detica, 'Impact of Security and Integrity provisions of the EU Electronic Communications Framework' (March 2011)
[28] http://www.ico.gov.uk/for_organisations/data_protection/lose.aspx
[29] Ibid

security of data, which is ultimately in their interest in order to keep customers. Therefore, it is unlikely that the 'deterrent effect' of amending Article 4 will be significant. However, even if it leads to a 0.1% fall in the economic cost of identify theft or online scams, the benefits would be in the order of £1.4-1.7 million, which would cover the potential costs outlined above. It is possible that such a benefit could arise from ICO issuing best-practice procedures or identifying more effective remedial measures as a result of being informed of the more serious data breaches and being allowed to audit security measures.

32. Another important benefit from amending Article 4 is that consumers are better informed about the data communication providers hold, specifically whether there has been any breach that requires the consumer to take action (and possibly switch provider if he/she so wishes). A Eurobarometer survey shows that the overwhelming majority (87%) of UK citizens would like to be informed if any of their personal data is lost, stolen or altered in any way[30], therefore this new regulation is likely to be a welcome for consumers.

Risks and Assumptions

33. The cost estimates identified above should be treated with extreme caution as they are based on a study of 33 organisations (only one of which was a communications firm), meaning the sample was small and not robust. As discussed above, it is not known how many actual data breaches occur in the UK and thus it is not possible to say with any certainty what the impact of amending Article 4 will be. However, based on existing evidence the above represents the best assessment that is currently possible. There may also be unexpected shocks to the electronic communications network that would significantly increase the number data breaches, though through no fault of the providers.

34. Based on the assumptions above, the projected number of data breach notifications should not result in a significant increase in ICO's enforcement costs. However, if in practice ICO is notified of a large number of breaches (particularly those which it does not need to know about) then the cost could significantly escalate. However, this should be mitigated by the fact that ICO will publish guidance on data breach notification.

35. Some of the responses to the Government consultation also highlighted that the measures on personal data breaches in the e-Privacy Directive are likely to be followed by equivalent data protection measures that will apply to the whole economy (i.e. all holders of data, not just communication providers). ICO will therefore also need to consider this possibility as it develops its guidelines, in order to ensure that two enforcement regimes are not created.

<u>Article 15(1b) – application of certain provisions of Directive 95/46/EC</u>

36. The e-Privacy Directive includes provisions that Member States prohibit listening, tapping, storage or other kinds of interception of communication. However, Article 15 gives an 'opt-out' from this in cases where these methods of information gathering are a necessary, appropriate and proportionate measure within a democratic society in order to safeguard national security, defence, public security, or for the prevention, investigation, detection and prosecution of criminal offences or of unauthorised use of the electronic communications system.

37. 'National Security' is not defined by UK law, but is open to interpretation[31]. The interpretation of national security can include not just preventing military or terrorist attacks on the UK, but also protecting the safety of citizens abroad, the protection of the UK's democratic constitution, the effective operation of national security bodies and co-operation with other countries in fighting international terrorism.

38. The addition of Article 15(1b) to the e-Privacy Directive requires providers of publicly available electronic communications services to have internal procedures in place to respond to requests for access to users' personal data from the police or security services, on the basis that they require the information to protect national security or in an investigation concerning criminal activity. Furthermore, providers will need to be able to provide ICO, on demand, with information about these

[30] Eurobarometer, 'E-Communications Household Survey Report' (October 2010)
[31] Freedom of Information Act
http://www.ico.gov.uk/upload/documents/library/freedom_of_information/detailed_specialist_guides/s24_national_security_v1_fop098.pdf

procedures. The implementing regulations will amend the previous UK regulations to include a requirement on service providers to establish such procedures, and give ICO the power to ask for the information set out in the Directive (including the number of requests received, the legal justification invoked and their response).

Costs

39. There will be costs associated with communication providers needing to implement internal procedures to respond to information requests, as well as the cost of providing information to ICO on demand. The cost of providing information is uncertain as it will depend on the number of requests per year, which is not possible to forecast at this stage. Furthermore, no evidence was submitted regarding this legislative change during the consultation. Therefore, in order to provide a cost estimate for this regulatory change, the administrative burden of section 18(1) and 18(2) of the Data Protection Act has been used, which requires firms to notify ICO of data protection regulation activities (for example describing measures of compliance). This administrative burden was calculated to be around £147,000 per year[32]. It applies not just to electronic communication providers but any firm that holds data; therefore the cost is likely to be an overestimate, particularly as a number of communication providers will have the required systems already in place[33]. However, in the absence of further evidence, it is estimated that the cost of adding article 15(1b) for communication providers could be **up to £150,000 per year**.

Benefits

40. In the event that the information requested from security services or the police proves to be relevant in certain investigations, there will be a clear benefit to UK citizens greater levels of protection and security. However, it is not possible to say with any degree of confidence the extent to which this may occur. Therefore, it is not possible to provide an estimate of the benefits of implementing Article 15(1b) of the e-Privacy Directive.

Category 2 – changes to existing regime, options available

Article 5 – Confidentiality of communications

41. The potential impact of changes to Article 5 is assessed in Annex 1 to this impact assessment. It is summarised along with the impact of the other legislative changes in a table at the end of this document.

Article 15a – implementation and enforcement (penalties)

42. This is a new article in the e-Privacy Directive which requires effective sanctions on providers that do not comply with the requirements in the Directive – the previous Directive did not include any enforcement or penalty provisions. The new article states that the penalties provided for must be 'effective, proportionate and dissuasive' in the event of any infringement of the revised Directive. There is also a requirement to ensure that ICO has the necessary investigative powers and resources, including the power to obtain any relevant information needed to monitor and enforce the Directive.

43. The UK implemented the 2003 E-Privacy Directive by the Privacy and Electronic Communications Regulations 2003 (PECR) which made provision for an enforcement regime, using the existing data protection enforcement regime for ICO in Part V of the Data Protection Act 1998 (DPA) (with modifications to reflect the particular requirements of e-privacy). The modified Part V contains the following provisions:

- Information gathering powers – ICO can serve an information notice under section 43 of the DPA (as extended and modified by Regulation 31 of the PECR) which allows it to request information to determine whether a person or organisation is complying with the Regulations
- Enforcement powers – ICO can serve an Enforcement Notice under section 40 of the DPA (as extended and modified by Regulation 31 of the PECR), which can require an organisation that is

[32] Better Regulation Executive, Administrative Burdens Calculator, https://www.abcalculator.bis.gov.uk/index.php
[33] Detica, 'Impact of Security and Integrity provisions of the EU Electronic Communications Framework' (March 2011)

in breach of its data protection obligations to cease its infringements and take action to comply with the legislation
- Criminal prosecution – it is a criminal offence to fail to comply with an enforcement notice. Punishment in the Magistrate's court is a fine of up to £5,000, or an unlimited fine in the Crown Court

44. Many of the requirements of Article 15a are already met under the existing regulatory regime in the UK. The need to ensure that ICO has the power to order the cessation of infringements of the Regulations is already provided for via Enforcement Notices, whilst the need for ICO to have the 'necessary investigative powers resources to obtain any relevant information they might need to monitor and enforce…provisions' is mostly covered through its existing resources and powers (especially through information notices). However, it will require a significant change in that ICO will need to be given a power to request information from third parties and not just directly from a company which is involved in wrongdoing (for example ICO will be able to request information from telecommunication firms to give information about subscribers or users where there is a breach of the e-Privacy regulations).

45. Although not in the current PECR, the transposition of the amendments to article 4 requires ICO to have the power to audit compliance with PECR (see above). However, it has also been suggested by ICO that the current penalties that are permitted under the Regulations are not sufficiently dissuasive, which is a requirement of the revised Directive, as a number of firms are still in breach of their requirements under the legislation. Therefore as part of its implementation of the revised e-Privacy Directive, Government consulted on the option of enhancing ICO's enforcement powers, specifically whether it should have a civil penalty power. This option is assessed below along with a 'minimum implementation' option.

Option 1 – implement the revised e-Privacy Directive with no expansion in civil sanctioning powers

46. Under this option the UK would arguably implement the Directive's requirements but without giving ICO any civil penalty powers.

Costs

47. The most significant cost of transposing Article 15a without increasing penalty powers arises from ICO being allowed to request information from third parties. It is not possible to robustly estimate the cost of this, particularly as it will depend on the number of requests made by ICO per year. However, in order to provide an approximate order of magnitude, the costs could be similar to those incurred by communication providers' information obligations under section 135 of the Communications Act (£78,000 per year - see impact assessment for Framework Directive) or sections 18(1) and 18(2) of the Data Protection Act (£147,000 per year – see assessment of Article 15(1b) above – though this covers all firms regulated by the DPA and so communication providers will only account for a proportion of this). This suggests that the costs could be in the order of **£80,000 - £150,000 per year**.

48. Maintaining the current maximum penalty may mean that the consumer detriment that arises from firms failing to comply with the regulations will continue. It is not possible to estimate the level of detriment arising from this non-compliance but in an effective regulatory regime, there should be full compliance with the legislation and this is currently not the case under PECR (see the discussion of option 2 below).

Benefits

49. The benefits of allowing ICO to request information from third parties should significantly improve the effectiveness of ICO enforcement. This is particularly relevant for the Telephone Preference Service (TPS), which is an official central opt-out register on which consumers can avoid receiving unsolicited sales or marketing calls. It is a legal requirement that all organisations do not make such calls to numbers registered on the TPS unless the individual has consented to those calls. The rationale for the TPS is that it mitigates against the consumer detriment that can result from individuals receiving unwanted calls (for example due to anxiety and distress). Further details about the TPS and consumer take-up can be found in Annex 2, but as of October 2010 more than 16 million telephone numbers were registered on the TPS (more than double the figure at the start of 2005). Consumer

research indicates that about 28% of adults have registered their landline or mobile phone number with the TPS, with the vast majority of TPS registrations being fixed lines[34].

50. There is evidence to suggest that not all firms are fully compliant with their obligations under the TPS, meaning that not all the consumer detriment is eliminated, as some consumers that have registered with the TPS still receive repeated unwanted marketing telephone calls (see Annex 2 for further details). The number of complaints for the TPS has steadily increased during the past four years and in the first 10 months of 2010, there were more complaints (around 46,000) than each of the previous three years. Whilst not all of these represented legitimate complaints, the majority (about 29,000) were referred to the ICO.

51. Outside of the TPS, ICO has recently received an increased number of complaints regarding privacy and electronic communications regulations. In 2009, around 33,000 individual requests for advice and complaints were made to ICO (the highest it had ever received and a 30 per cent increase over 2008/09), with almost one third of the complaints related to accessing data. Inaccurate data and disclosure of data were other common reasons for complaint[35].

52. In many cases, particularly with regards to breaches of TPS conditions, ICO has faced serious obstacles in enforcing the Regulations. In 2009/10, ICO was unable to pursue nearly 40 per cent of complaints on the basis that it had insufficient information to pursue the perpetrators, mainly because it was unable to identify the organisation responsible[36]. For example in the case of unsolicited telephone calls, organisations can use a variety of techniques to conceal their identity and often withhold their calling line identification or provide false names and information. In these cases, it is not possible to serve an information or enforcement notice because ICO does not know the organisation on which to serve it.

53. However, by allowing ICO to request information from third parties (and not just those failing to comply with the law) – for example a telecommunications provider that enables the unwanted call – the investigation is likely to be greatly assisted. The quality of information that ICO receives is also likely be enhanced as a result of the amendment to Article 4 that allows it to audit providers' compliance with their notification obligations. It is not possible to quantify the consumer detriment that will be addressed as a result of this change, nor is it possible to say with certainty how many more complaints ICO will be able to successfully pursue. However, based on the above evidence and given that ICO has been unable to pursue more than 10,000 complaints due to a lack of information, the potential benefits could apply to thousands of consumers.

54. There are also benefits to consumers that may not have complained to ICO about breaches of PECR but have still suffered from firms' non-compliance; ICO has indicated that the number of consumers taking the time to complain is likely to be only a small proportion of the overall number affected. If ICO successfully enforces the regulations on these firms then this broader group of consumers will also benefit. In addition, legitimate businesses and charities that spend money to comply with the law will not be at a disadvantage relative to organisations that do not screen TPS-registered numbers (which gives them the potential to contact more than 16 million extra numbers to promote their products).

Risks and Assumptions

55. The revised Directive clearly states that Member States must provide for dissuasive penalties. Given that there remain a number of instances where firms do not comply with PECR and also fail to respond to ICO's Enforcement Notices, there is a risk that maintaining the current solely criminal enforcement route will not be seen as dissuasive; meaning that the UK would not be compliant with European legislation.

[34] DMA and MORI, 'Awareness of Telephone Preference Service, (April 2010)'. 58 per cent of those who have heard of the TPS have registered, which is equivalent to 28 per cent of the whole sample. Of those that have heard of the TPS, 5 per cent had registered both their landline and mobile numbers whilst the rest had only registered their landline number.
[35] ICO Annual Report 2009/10
[36] Source: ICO

Option 2: Expand ICO's civil sanctioning powers

56. As discussed above, the current fine for a failure to comply with an enforcement notice is a maximum of £5,000 in a Magistrate's Court or an unlimited fine if the case is committed to the Crown Court (i.e. a criminal monetary penalty). However, as discussed in the Macrory Review[37], a heavy reliance on criminal sanctions in a regulatory system is often ineffective for the following reasons:

    - Criminal sanctions often an insufficient deterrent
    - In some instances the fines handed down do not reflect the financial gain a firm may have made by failing to comply with an obligation
    - They may be a disproportionate response if there has been no intent to non-comply (though a formal sanction may be appropriate)
    - Criminal sanctions are costly and time-consuming for both businesses and regulators, thus some non-compliance is not addressed at all. This can create a 'compliance deficit'.
    - The focus of criminal proceedings is on the offence and the offender and so the wider impact of the offence may not be fully explored (often the rights and needs of victims are not fully taken into account)

57. The Macrory report therefore suggests that whilst the most serious offences merit criminal prosecution, it may not be an appropriate route in achieving a change in behaviour and improving outcomes (particularly where non-compliance is not truly criminal in its intention). Instead the report recommended alternative measures, including schemes of administrative penalties.

58. In order to strengthen its enforcement of PECR and the revised Directive, Option 2 allows ICO to impose more dissuasive penalties on firms that breach their regulatory obligations – specifically it allows ICO to issue a civil monetary penalty, instead of relying on a court-imposed criminal penalty. In order to be dissuasive, such penalties would need to be greater than the cost of establishing a suitable internal procedure. Under the Data Protection Act, ICO has a power to impose a civil monetary penalty of up to £500,000 for serious deliberate breaches of the DPA. The circumstances in which a penalty is imposed and how it is calculated are covered by ICO's statutory guidance[38]. Therefore, it is proposed to modify PECR to allow ICO to levy this civil sanction in cases where PECR has been breached.

Costs

59. As this option still requires third parties to provide ICO with information when requested, this option also comes with a cost of around **£80,000 - £150,000 per year** to business.

60. Any penalty imposed on a non-compliant communication provider is an economic transfer; however, given that it will only be incurred where a provider is not fulfilling its legal obligations, it is not a regulatory cost to business.

Benefits

61. There is evidence to suggest that the current criminal enforcement regime is not an effective deterrent in preventing a small number of organisations (or individuals) from breaching the Regulations. For example, ICO has served Enforcement Notices to companies that have been subsequently wound up (known as 'Phoenix companies) only for the company directors to continue their non-compliant activities under the auspices of a new legal entity – therefore it is no longer covered by the Enforcement Notice. Due to the number of stages a case has to go through before any penalties can be imposed by the Courts, this often means that the offending party is not penalised for non-compliance. When the firm becomes a new legal entity, ICO must issue a new enforcement action which requires it to build up new evidence against the company because it is not possible to justify enforcement action purely on the basis of the link to the actions of the previous entity.

[37] Professor Richard B. Macrory, 'Regulatory Justice: Making Sanctions Effective' (November 2006)
[38] http://www.ico.gov.uk/upload/documents/library/data_protection/detailed_specialist_guides/ico_guidance_monetary_penalties.pdf

62. Since 2003, the ICO has served 19 Enforcement Notices for breaches of the Regulations, two of which have been prosecuted for breaching the Notice[39]. In 11 of these cases, the non-compliant activity has continued following the enforcement notice and in 9 out of those 11 cases, the activity has continued through a new legal entity. Some examples of this are given in Box 1 below, which illustrates the level of inconvenience this can cause to individuals. The fact that complaints are still made after enforcement action is taken (bearing in mind that these may be only a small proportion of the overall number affected) indicates a gap in the current enforcement regime that needs to be remedied,

Box 1: Case studies of compliance failure with ICO Enforcement Notices

Case 1: ICO took enforcement action against a company sending direct marketing faxes in contravention of the Regulations. After the date of the enforcement notice coming into effect the ICO and TPSL[40] received over 4800 further complaints about direct marketing faxes sent by this company. This non-compliant activity continued despite subsequent prosecution of the company

Case 2: ICO took enforcement action against another organisation sending direct marketing faxes in contravention of the Regulations. Despite enforcement action (and then prosecution) against the original company, and enforcement action against new entities that were set up to continue the same activity, the ICO and TPSL continued to receive complaints. There have been over 9000 further complaints about the marketing activities of organisations that ICO had good reason to believe were connected with the company that had been enforced against since the date of the original enforcement activity

Case 3: ICO took enforcement action against a company making repeated direct marketing calls to individuals in contravention of the Regulations. Following enforcement action the ICO and TPSL received over 300 further complaints about these activities

Case 4: ICO took enforcement action against another company making repeated direct marketing calls to individuals in contravention of the Regulations. Following this action the ICO and TPSL received more than 1800 further complaints about these activities

Source: ICO

63. By making the maximum penalty under PECR consistent with ICO's powers under the DPA, the principal benefit is that it should provide for a higher deterrent for non-compliance. It also gives ICO greater scope to punish non-compliance when it does occur.

Risks and Assumptions

64. Any risk that an enhanced penalty power could be disproportionate will be mitigated by ICO guidance that ensures that any sanction is proportionate, bearing in mind that £500,000 is the maximum penalty (in practice it is likely that penalties will be set at a lower level, but the maximum allows for the circumstances of each case to be taken into account).

Preferred option

65. Government intends to pursue option 2, that is to implement the necessary changes arising from Article 15a and allow ICO to levy a civil monetary penalty of up to £500,000. The current criminal regime has not proved to be dissuasive for all firms in the market, which is now a legal requirement under the revised Directive. Furthermore, any indirect fall in consumer harm will result in a net benefit as the option is effectively zero cost for compliant communication providers. The proposed maximum penalty is also consistent with ICO's broader powers under the Data Protection Act.

[39] Source: ICO
[40] Telephone Preference Service Limited (TPSL) manages and implements the TPS and Corporate Telephone Preference Service (CTPS)

One-in, One-Out

66. The preferred option does not fall under the scope of the Coalition Government's 'One-In One-Out' rule because it relates to penalties[41]. Furthermore, as discussed above there is a risk that maintaining the current criminal penalty will not be compliant with the revised e-Privacy Directive, which requires the provision of "dissuasive" financial penalties.

Summary of impacts

67. Table 4 below summarises the impacts of the UK implementing the changes to the e-Privacy Directive. It includes the impacts of the Government's preferred option to implement the changes to Article 5 (confidentiality of communications), which is assessed in detail in the annexed impact assessment.

Table 4: Summary table of impacts

Legislative change	Costs	Benefits
Article 4 – security of processing Communication providers must notify ICO of breaches in data security and possibly the individual affected. ICO will also be given audit powers.	Costs to communication providers of data breach notification and audits - **£240,000 - £ 2 million per year** Costs to ICO of notification, audits and producing guidance **- negligible**	Not quantifiable as it is not possible to forecast the potential fall in data breaches (or what impact this will have). However, communication providers have an extra incentive to ensure security measures are robust. If it leads to a 0.1% fall in the annual cost of identity theft or online scams would benefit consumers £1.4-£1.7 million per year.
Article 15(1b) Communications providers must have internal procedures to respond requests for data from police or security services. ICO will be able to request information on the procedures.	Costs to communication providers of implementing internal procedures to respond to information requests – **up to £150,000 per year** Costs to ICO - **negligible**	Information can be used by security services and the police to enhance the protection of UK citizens. Not possible to estimate the extent to which this will occur.
Article 5 – confidentiality of communications (preferred option) Industry self-regulation to ensure that consumers can give consent to storing and access of internet cookies on their computer	Firms active in behavioural advertising and web-analytics will incur costs to provide more information to consumers (e.g. testing and standardisation). Browser vendors will incur costs to reprogram browsers and provide enhanced settings. They will also incur costs to communicate the settings and technologies to web developers and third parties. Consumers will need time to read information. Self-regulatory so no enforcement cost to ICO	Majority of 40 million internet users will feel more secure and perform more transactions on the web. The consumer benefits of being fully informed about the nature and options regarding internet cookies are in the order of £300 million - £380 million per year, though it is not yet possible to indicate what proportion of this will materialise in practice.
Article 15a (preferred option) ICO can request information from third parties with regards to regulatory breaches. ICO's sanctioning powers under PECR will be enhanced by giving it a civil penalty power of £500,000	Provision of information from third party communication providers will cost - **£80,000 – £150,000 per year** Costs to ICO - **negligible**	More than 40,000 complaints are made per year about the telephone preference service (an opt-out of unsolicited marketing calls). Actual number of consumers affected (but don't complain) likely to be much higher. ICO is currently unable to investigate around 40% of complaints due to insufficient information. Co-operating with third party communication providers should help to reduce

[41] HM Government, 'One-In, One-Out Methodology' (January 2011) states that fine and penalties levied on a regulated entity for non-compliance with a regulation is out of scope of OIOO.

		consumer detriment. Tens of thousands of complaints received about direct marketing firms even though ICO has taken enforcement action against the firm. Civil penalty powers should act as a more effective deterrent and reduce consumer detriment.

Specific impact tests

Competition

After an initial screening it has been deemed that no significant impact is anticipated on competition.

Small Firms

In the event that data breach notification and strengthening ICO's enforcement powers reduces the number of data breaches, the benefits could be significant to the extent that breaches impact on small firms. However, there is currently no evidence regarding the likely cost of breaches to both micro and small enterprises in the UK, thus it is not possible to estimate the potential impact.

Other Specific Impact Tests

Other environment/ rural proofing

After an initial screening it has been deemed that no significant impact is anticipated on the environment and rural proofing.

Statutory Equality Duties

The Equality Impact Assessment provides an assessment on these issues.

Other tests

Other specific impact tests have been considered including Legal Aid, Sustainable Development and Carbon Assessment. Again, after initial screening, it has been deemed that no significant impact is anticipated.

Annexes

Annex 1 should be used to set out the Post Implementation Review Plan as detailed below. Further annexes may be added where the Specific Impact Tests yield information relevant to an overall understanding of policy options.

Annex 1: Post Implementation Review (PIR) Plan

A PIR should be undertaken, usually three to five years after implementation of the policy, but exceptionally a longer period may be more appropriate. If the policy is subject to a sunset clause, the review should be carried out sufficiently early that any renewal or amendment to legislation can be enacted before the expiry date. A PIR should examine the extent to which the implemented regulations have achieved their objectives, assess their costs and benefits and identify whether they are having any unintended consequences. Please set out the PIR Plan as detailed below. If there is no plan to do a PIR please provide reasons below.

Basis of the review: [The basis of the review could be statutory (forming part of the legislation), i.e. a sunset clause or a duty to review , or there could be a political commitment to review (PIR)]; See PIR plan in overarching impact assessment
Review objective: [Is it intended as a proportionate check that regulation is operating as expected to tackle the problem of concern?; or as a wider exploration of the policy approach taken?; or as a link from policy objective to outcome?]
Review approach and rationale: [e.g. describe here the review approach (in-depth evaluation, scope review of monitoring data, scan of stakeholder views, etc.) and the rationale that made choosing such an approach]
Baseline: [The current (baseline) position against which the change introduced by the legislation can be measured]
Success criteria: [Criteria showing achievement of the policy objectives as set out in the final impact assessment; criteria for modifying or replacing the policy if it does not achieve its objectives]
Monitoring information arrangements: [Provide further details of the planned/existing arrangements in place that will allow a systematic collection systematic collection of monitoring information for future policy review]
Reasons for not planning a review: [If there is no plan to do a PIR please provide reasons here]

Annex 2 – Telephone Preference Service

It is estimated that over 3 billion telemarketing phone calls are made each year[1], with around three quarters of households that have landlines receiving at least one unwelcome sales call each month (on average, households receive five per month)[2]. The Telephone Preference Service (TPS) scheme is the first port of call for anyone who is inconvenienced by unwelcome commercial calls. It is the official central opt-out register on which consumers can record their preference not to receive unsolicited sales or marketing calls. It is a legal requirement that all organisations do not make such calls to numbers registered on the TPS unless they have consent to do so.

The rationale for the TPS is that it mitigates against the consumer detriment that can result from individuals receiving unwanted calls. Although certain business models rely on making unsolicited sales and marketing calls (for example telemarketing companies), they do not always consider that such calls can be inconvenient and even cause anxiety and distress. For example a recent consumer survey found that 36% of households found silent calls[3] to be an unacceptable inconvenience and 13% also felt anxious about receiving such calls**.** Recorded messages were also found to be an inconvenience by 55% of respondents, which was a clear majority of households[4]. In addition, the vast majority of the public, more than 80%, did not believe that companies should be allowed to call people who they have never done business with before[5].

This of course does not apply to all consumers, some of whom value the opportunity to receive information on products that they may be interested in. Research indicates that calls from local businesses and charities tend to be more welcome than firms for example selling home improvement or financial products[6].

Therefore, the TPS allows certain consumers to opt-out of unwanted calls and eliminate the detriment and negative externality incurred. Chart 1 below shows that, as of October 2010, more than 16 million telephone numbers were registered on the TPS which represents more than double the figure at the start of 2005. In order to provide some context, more than 420 million geographic numbers have been allocated across the UK[7]. However, it is important to note that Ofcom allocate telephone numbers to communication providers in blocks and so not all of these numbers will be in use. An arguably more useful figure is that in 2009 there were around 32 million fixed lines in the UK and 80 million mobile subscriptions[8]. Consumer research indicates that about 28% of adults have registered their landline or mobile phone number with the TPS, with the vast majority of TPS registrations being fixed lines[9].

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[1] Ofcom source quoted in DMA and Brookmead Consulting, 'TPS Report on unwelcome calls' (2008)
[2] Research study conducted for Direct Marketing Association, 'Awareness of Telephone Preference Service, (April 2010). Statistics are taken from the most recent survey.
[3] Where the phone rings but there is only silence at the other end. This is usually caused by companies using predictive diallers to make large volumes of calls but not having enough available call centre agents at the time when the phone is answered.
[4] Research study conducted for Direct Marketing Association, 'Awareness of Telephone Preference Service, (April 2010). Statistics are taken from the most recent survey in April.
[5] DMA and Brookmead Consulting, 'TPS Report on unwelcome calls' (2008)
[6] DMA and Brookmead Consulting, 'TPS Report on unwelcome calls' (2008)
[7] Ofcom Consultation, 'Geographic telephone numbers: Safeguarding the future of geographic numbers' (November 2010)
[8] Ofcom, 'Communications Market Report 2010'
[9] DMA and MORI, 'Awareness of Telephone Preference Service, (April 2010)'. 58 per cent of those who have heard of the TPS have registered, which is equivalent to 28 per cent of the whole sample. Of those that have heard of the TPS, 5 per cent had registered both their landline and mobile numbers whilst the rest had only registered their landline number.

Chart B1: Registration Numbers for TPS

Source: TPS

Given the high level of take-up for the TPS, it clearly provides a useful service for consumers that enables them to avoid potential detriment from unwanted calls. However, there is evidence to suggest that not all firms are fully compliant, meaning that not all of the consumer detriment is eliminated. Chart 2 shows that the number of complaints for the TPS has steadily increased during the past four years and in the first 10 months of 2010, there were more complaints (45,755) than each of the previous three years. Whilst, not all of these represented legitimate complaints (e.g. debt collection or market research calls), the majority (28,915) were referred to the Information Commissioner's Office. Most complaints (around 80%) are due to individuals still receiving cold calls, silent calls or recorded messages[10], whilst overseas "scam" calls may also be an issue. Consumer research also shows that one-in-five adults that are registered with the TPS are either fairly or very dissatisfied with the service, compared to one-in-ten in 2005

Chart B2: Monthly Complaint Figures for TPS

Source: TPS

[10] DMA and Brookmead Consulting, 'TPS Report on unwelcome calls' (2008)

Title:	Impact Assessment (IA)
EU E-Privacy Directive Annex 1: Internet Cookies	**IA No:** DCMS025
Lead department or agency:	**Date:** 04/03/2011
Department for Culture, Media and Sport	**Stage:** Final
Other departments or agencies:	**Source of intervention:** EU
Information Commissioner's Office	**Type of measure:** Secondary legislation
	Contact for enquiries: Stephen Fernando (020 7215 6320)

Summary: Intervention and Options

What is the problem under consideration? Why is government intervention necessary?

The revised E-Privacy Directive introduces a change in the requirement for storing information on a subscriber's or user's equipment from a user's 'right to refuse' to obtain a user's consent. This refers to any attempt to store information, or gain access to stored information, in a user's equipment and applies to both legitimate and illegitimate practices. Existing legislation already covers illegitimate users in the UK. The main legitimate practice is the use of cookies which have a wide range of practical uses on the Internet. Currently users do not have sufficient information about the use and management of cookies that is easily accessible. Government intervention is needed to ensure consumers have optimal information when acting to ensure their privacy.

What are the policy objectives and the intended effects?

The objective of amending Article 5(3) of the e-Privacy Directive is to ensure that consumers have the opportunity to give specific and informed consent to the placing of cookies and other information on their equipment. This will have the effect of ensuring that they are more aware of the use of such technology by the websites they visit, and so are able to use the internet with more confidence. By implementing the revised legislation, Government maintains the same objective but in so doing also aims to minimise the burden on business

What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)

As the implementing regulations are yet to be defined, two options have been identified, which are assessed relative to a counterfactual 'no change' scenario:

1. Government sponsors industry self-regulation through enhanced browser settings and the provision of better and more accessible information
2. Government legislates an 'opt-in' solution for cookies

The Government's preferred is option 1, as it ensures compliance with the revised e-Privacy Directive and goes a significant way towards meeting its objective. Furthermore, it will not lead to the significant cost and disruption to the internet that option 2 could have.

Will the policy be reviewed? It will be reviewed. **If applicable, set review date:** 5/2016	
What is the basis for this review? Duty to review. **If applicable, set sunset clause date:** Month/Year	
Are there arrangements in place that will allow a systematic collection of monitoring information for future policy review?	Yes

SELECT SIGNATORY Sign-off For final proposal stage Impact Assessments:

I have read the Impact Assessment and I am satisfied that (a) it represents a fair and reasonable view of the expected costs, benefits and impact of the policy, and (b) the benefits justify the costs.

Signed by the responsible Minister: ..... Date: 24/03/2011

Summary: Analysis and Evidence — Policy Option 1

Description:

Government sponsors industry self-regulation through enhanced browser settings and the provision of better and more accessible information

Price Base Year 2011	PV Base Year 2011	Time Period Years 10	Net Benefit (Present Value (PV)) (£m)		
			Low:	High:	Best Estimate: Unknown

COSTS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low				
High				
Best Estimate	Unknown		Unknown	**Unknown**

Description and scale of key monetised costs by 'main affected groups'

As highlighted in the research commissioned by DCMS on this matter, the details of implementation have not yet been worked out. Many companies are not yet fully prepared to respond to the Directive and there is ambiguity associated with the wording of the regulation which has a bearing on the likely costs (because it affects the extent to which firms may need to change their behaviour). Therefore the costs cannot be quantified.

Other key non-monetised costs by 'main affected groups'

Firms that are active in behavioural advertising and web-analytics will incur costs to provide more information to consumers (for example testing and standardisation). Browser vendors will incur costs to reprogramme browsers (to provide enhanced settings) and communicate the settings and technology to web developers and other third parties. Consumers will need time to read information.

BENEFITS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low				
High				
Best Estimate	Unknown		Unknown	**Unknown**

Description and scale of key monetised benefits by 'main affected groups'

As highlighted in the research commissioned by DCMS on this matter, the details of implementation have not yet been worked out. Therefore the benefits cannot be quantified.

Other key non-monetised benefits by 'main affected groups'

The majority of internet users responded positively to this option in a survey in terms of feeling more secure and performing more transactions on the web. The consumer benefits of being fully informed about the nature and options regarding cookies are in the order of £300 million - £380 million per year, though due to the lack of detail on implementation, it is not yet possible to state with certainty the proportion of benefit that will be realised.

Key assumptions/sensitivities/risks — **Discount rate (%)** 3.5

There remains a significant amount of work to be done in relation to implementing this option. Research commissioned by PwC shows that few companies are prepared to respond to the Directive by the required date (May 2011) due to the complex nature of implementation, which requires significant testing and technical development. Government and the European Commission have recognised this and it is accepted that the use of cookies will initially not be fully compliant with the Directive, as the appropriate technical solutions still need to be worked up, evaluated and rolled out. Therefore, the UK Government is proposing that implementation will be phased and tied to the development and availability of the solution. It is only at that point that the direct costs to industry – and the change in consumer behaviour – will become clear.

Direct impact on business (Equivalent Annual) £m):			In scope of OIOO?	Measure qualifies as
Costs: Unknown	**Benefits:** Unknown	**Net:** Unknown	No	NA

Enforcement, Implementation and Wider Impacts

What is the geographic coverage of the policy/option?			United Kingdom		
From what date will the policy be implemented?			25/05/2011		
Which organisation(s) will enforce the policy?			ICO		
What is the annual change in enforcement cost (£m)?			Negligible		
Does enforcement comply with Hampton principles?			Yes		
Does implementation go beyond minimum EU requirements?			No		
What is the CO_2 equivalent change in greenhouse gas emissions? (Million tonnes CO_2 equivalent)			**Traded:** N/A	**Non-traded:** N/A	
Does the proposal have an impact on competition?			No		
What proportion (%) of Total PV costs/benefits is directly attributable to primary legislation, if applicable?			**Costs:**	**Benefits:**	
Distribution of annual cost (%) by organisation size (excl. Transition) (Constant Price)	**Micro**	**< 20**	**Small**	**Medium**	**Large**
Are any of these organisations exempt?	No	No	No	No	No

Specific Impact Tests: Checklist

Set out in the table below where information on any SITs undertaken as part of the analysis of the policy options can be found in the evidence base. For guidance on how to complete each test, double-click on the link for the guidance provided by the relevant department.

Please note this checklist is not intended to list each and every statutory consideration that departments should take into account when deciding which policy option to follow. It is the responsibility of departments to make sure that their duties are complied with.

Does your policy option/proposal have an impact on…?	**Impact**	**Page ref within IA**
Statutory equality duties[1] Statutory Equality Duties Impact Test guidance	No	
Economic impacts		
Competition Competition Assessment Impact Test guidance	No	
Small firms Small Firms Impact Test guidance	No	
Environmental impacts		
Greenhouse gas assessment Greenhouse Gas Assessment Impact Test guidance	No	
Wider environmental issues Wider Environmental Issues Impact Test guidance	No	
Social impacts		
Health and well-being Health and Well-being Impact Test guidance	No	
Human rights Human Rights Impact Test guidance	No	
Justice system Justice Impact Test guidance	No	
Rural proofing Rural Proofing Impact Test guidance	No	
Sustainable development Sustainable Development Impact Test guidance	No	

[1] Public bodies including Whitehall departments are required to consider the impact of their policies and measures on race, disability and gender. It is intended to extend this consideration requirement under the Equality Act 2010 to cover age, sexual orientation, religion or belief and gender reassignment from April 2011 (to Great Britain only). The Toolkit provides advice on statutory equality duties for public authorities with a remit in Northern Ireland.

Summary: Analysis and Evidence — Policy Option 2

Description:

Government legislates an 'opt-in' for cookies

Price Base Year 2011	PV Base Year 2011	Time Period Years 10	Net Benefit (Present Value (PV)) (£m)		
			Low:	High:	Best Estimate: **Unknown**

COSTS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low				
High				
Best Estimate	Unknown		Unknown	**Unknown**

Description and scale of key monetised costs by 'main affected groups'

As highlighted in the research commissioned by DCMS on this matter, the details of implementation have not yet been worked out. Therefore the costs cannot be quantified.

Other key non-monetised costs by 'main affected groups'

All firms that are active online – either browser vendors, online advertisers or firms that have their own websites – would incur significant implementation costs (for example reengineering, coordination, technical development etc.). This would affect at least 180,000 firms (75% of all small, medium and large enterprises in the UK) and possibly many more micro enterprises. The internet experience of 40m users would be severely hindered and internet surfing would take significantly longer, which may lead to displacement.

BENEFITS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low				
High				
Best Estimate	Unknown		Unknown	**Unknown**

Description and scale of key monetised benefits by 'main affected groups'

As highlighted in the research commissioned by DCMS on this matter, the details of implementation have not yet been worked out. Therefore the benefits cannot be quantified

Other key non-monetised benefits by 'main affected groups'

Displacement of online retail and online advertising and web analytics could benefit offline retailers and traditional types of advertising and consumer/market research.

Key assumptions/sensitivities/risks — **Discount rate (%)** 3.5

There is a risk that internet users will switch to non-EU websites (or EU websites that do not gold-plate the legislation) that are not bound by the e-Privacy Directive and which will be more user-friendly. Firms may also move their websites to overseas servers in order avoid the regulation, which could potentially create a risk to people's personal data.

Direct impact on business (Equivalent Annual) £m):			In scope of OIOO?	Measure qualifies as
Costs: Unknown	**Benefits:** Unknown	**Net:** Unknown	Yes	IN

Enforcement, Implementation and Wider Impacts

What is the geographic coverage of the policy/option?			United Kingdom		
From what date will the policy be implemented?			25/05/2011		
Which organisation(s) will enforce the policy?			ICO		
What is the annual change in enforcement cost (£m)?			Negligible		
Does enforcement comply with Hampton principles?			Yes		
Does implementation go beyond minimum EU requirements?			Yes		
What is the CO_2 equivalent change in greenhouse gas emissions? (Million tonnes CO_2 equivalent)			**Traded:** N/A	**Non-traded:** N/A	
Does the proposal have an impact on competition?			Yes		
What proportion (%) of Total PV costs/benefits is directly attributable to primary legislation, if applicable?			**Costs:**	**Benefits:**	
Distribution of annual cost (%) by organisation size (excl. Transition) (Constant Price)	**Micro**	**< 20**	**Small**	**Medium**	**Large**
Are any of these organisations exempt?	No	No	No	No	No

Specific Impact Tests: Checklist

Set out in the table below where information on any SITs undertaken as part of the analysis of the policy options can be found in the evidence base. For guidance on how to complete each test, double-click on the link for the guidance provided by the relevant department.

Please note this checklist is not intended to list each and every statutory consideration that departments should take into account when deciding which policy option to follow. It is the responsibility of departments to make sure that their duties are complied with.

Does your policy option/proposal have an impact on…?	**Impact**	**Page ref within IA**
Statutory equality duties[1] Statutory Equality Duties Impact Test guidance	No	
Economic impacts		
Competition Competition Assessment Impact Test guidance	Yes	20
Small firms Small Firms Impact Test guidance	Yes	20
Environmental impacts		
Greenhouse gas assessment Greenhouse Gas Assessment Impact Test guidance	No	
Wider environmental issues Wider Environmental Issues Impact Test guidance	No	
Social impacts		
Health and well-being Health and Well-being Impact Test guidance	No	
Human rights Human Rights Impact Test guidance	No	
Justice system Justice Impact Test guidance	No	
Rural proofing Rural Proofing Impact Test guidance	No	
Sustainable development Sustainable Development Impact Test guidance	No	

[1] Public bodies including Whitehall departments are required to consider the impact of their policies and measures on race, disability and gender. It is intended to extend this consideration requirement under the Equality Act 2010 to cover age, sexual orientation, religion or belief and gender reassignment from April 2011 (to Great Britain only). The Toolkit provides advice on statutory equality duties for public authorities with a remit in Northern Ireland.

Evidence Base (for summary sheets) – Notes

Use this space to set out the relevant references, evidence, analysis and detailed narrative from which you have generated your policy options or proposal. Please fill in **References** section.

References

Include the links to relevant legislation and publications, such as public impact assessments of earlier stages (e.g. Consultation, Final, Enactment) and those of the matching IN or OUTs measures.

No.	Legislation or publication
1	Government consultation http://www.bis.gov.uk/Consultations/revised-eu-electronic-communications-framework
2	EC Legislative proposals and impact assessment http://ec.europa.eu/information_society/policy/ecomm/library/proposals/index_en.htm
3	Full European Legislation http://ec.europa.eu/information_society/policy/ecomm/doc/library/regframeforec_dec2009.pdf
4	The Privacy and Electronic Communications (EC Directive) Regulations 2003 http://www.legislation.gov.uk/uksi/2003/2426/contents/made

Evidence Base

Ensure that the information in this section provides clear evidence of the information provided in the summary pages of this form (recommended maximum of 30 pages). Complete the **Annual profile of monetised costs and benefits** (transition and recurring) below over the life of the preferred policy (use the spreadsheet attached if the period is longer than 10 years).

The spreadsheet also contains an emission changes table that you will need to fill in if your measure has an impact on greenhouse gas emissions.

Annual profile of monetised costs and benefits* - (£m) constant prices

	Y_0	Y_1	Y_2	Y_3	Y_4	Y_5	Y_6	Y_7	Y_8	Y_9
Transition costs	Unqnt.									
Annual recurring cost	Unqnt.	Unqnt.	Unqnt.	Unqnt.	Unqnt.	Unqnt.	Unqnt.	Unqnt.	Unqnt.	Unqnt.
Total annual costs	Unqnt.	Unqnt.	Unqnt.	Unqnt.	Unqnt.	Unqnt.	Unqnt.	Unqnt.	Unqnt.	Unqnt.
Transition benefits	Unqnt.									
Annual recurring benefits	Unqnt.	Unqnt.	Unqnt.	Unqnt.	Unqnt.	Unqnt.	Unqnt.	Unqnt.	Unqnt.	Unqnt.
Total annual benefits	Unqnt.	Unqnt.	Unqnt.	Unqnt.	Unqnt.	Unqnt.	Unqnt.	Unqnt.	Unqnt.	Unqnt.

* For non-monetised benefits please see summary pages and main evidence base section

Evidence Base (for summary sheets)

Background

1. The revised e-Privacy Directive introduces a change in the requirement for storing information on a subscriber's or user's equipment from a 'right to refuse' to obtaining consent (Article 5 – confidentiality of communications). This refers to any attempt to store information, or gain access to stored information, in a user's terminal equipment. This can refer to both legitimate and illegitimate practices. However, illegitimate practices, including the use of spyware and viruses, are already addressed in other legislation. Therefore, Government does not propose to introduce further measures to deal with these as a result of revisions to Article 5(3).

Cookies

2. The main legitimate practice is the use of 'cookies' which have a wide range of uses on the Internet and without which the Internet as it is today would be unusable or severely restricted. A cookie is a small text file made up of letters and numbers stored on an internet user's computer. These allow a website to recognise an internet user's web browser (e.g. Internet Explorer or Firefox) when the user returns to a site. They effectively act as a memory of the user's previous actions on that website. Cookies therefore can have multiple uses. They are, for instance, essential to the operation of some websites but also have other uses, such as:

    - Content and services customised to the user's preference – such as news, weather and sport web pages, mapping services, public and government services, entertainment sites (eg BBC iPlayer) and travel services
    - Session management – cookies preserve a user's information whilst they are navigating through a website. For example, they can be used to keep track of a customer's shopping basket as they move through an online store, or to keep a record of the items in a shopping basket for a subsequent visit[1]. Another common use of cookies is to allow users to log in to a website.
    - Customised settings offering convenience to the user - such as remembering user names, passwords and language choice (e.g. search engine results in English)
    - Remembering family-safe modes, such as filters or safe search functions
    - Advertisement frequency capping - helping limit the number of times a user sees a particular advertisement on a website
    - Providing more relevant online display advertising on websites
    - Measurement, optimisation and analytical features – such as ascertaining the level of traffic to a website, what content is viewed and how the user reaches the website (e.g. via search engines, direct, from other websites etc)

3. Cookies are sent by web servers (i.e. a computer programme that serves content such as web pages) to web browser on the user's terminal equipment and are then sent back by the browser each time it accesses that server. When a user revisits a website, a cookie allows the server to recognise the user's computer or device and the fact that it has been there before. Each cookie typically contains the name of the server the cookie was sent from, the lifetime of the cookie and a value (usually a randomly generated unique number). Cookies in themselves do not identify an individual user, but the computer that was used to access a website.

4. There are two main types of internet cookie:

    - *Session cookies* – these are temporarily stored in the cookie file of the web browser to 'remember' the user's web browser until the user chooses to exit the website or close the browser window (eg when logging in and out of a web mail account or social networking site).
    - *Persistent cookies* – these are stored on the hard drive of a computer or device (and will usually depend on the lifetime established/preset for the cookie). Persistent cookies can include ones from websites other than the one a user is visiting – known as 'third party

[1] Records of the contents of shopping baskets are usually stored on a database on the server side rather than the cookie itself, but a cookie will be used to identify the user

cookies' – which can be used to remember, in anonymised and unindentifable form, the user and their interests in order to provide more relevant advertising to internet users.

5. As small pieces of text, cookies are not dangerous. They are not computer programmes and so cannot be executed as code. They also cannot be used to disseminate computer viruses. Whilst cookies are saved on a computer's hard drive, they cannot read any other information saved on the hard drive and cannot access a user's email address or other personal information. They can only transfer, and only contain, as much information as the user themselves has disclosed to a certain website.

6. However, the use of third party cookies means that it is possible for the user's information (albeit in an anonymised and unidentifiable form) to be passed to third party websites without the user's knowledge. Third party cookies usually come from companies that sell internet advertising on behalf of other websites, and can be stored on a computer without the user visiting the original website, as the cookie may have been served after the user has visited a second party's website. Information gathered by third party cookies is usually used to analyse internet surfing habits, as they track an internet user's browsing habits (e.g. advertising firms can tailor the advertising that a user receives). This can reduce the privacy of the user online and is the most common reason why users wish to remove cookies, or not allow them in the first place.

7. Modern web browsers (such as Internet Explorer, Firefox, Safari) allow internet users the ability to view cookies, to disable some or all of them, and to decide how long to allow them to remain on the computer. More often than not, this also includes which type of cookie a user can choose to accept. Some web browsers block third-party cookies by default if the third party does not have appropriate privacy notices. The box below provides further detail on how internet users can manage cookies stored on their computers.

Box: Managing Cookies

Currently cookies can be refused by a user by changing their browser settings, or a user can set up a browser to alert them before a cookie is saved on their computer. There is often some information on individual web pages that tells users about the cookies that may be saved on their computer after visiting that site.

There are four ways in which cookies can be removed from a browser:

1. When the browser is closed, all cookies that are not persistent are deleted.
2. Persistent cookies have an expiration date specified within them. They are automatically deleted on that day.
3. If the expiration date of a cookie is changed to a time in the past, they will be deleted.
4. A user can request that cookies are deleted, for example by using options in the browser or other software the computer may have (e.g. anti-virus software)

Government Rationale

8. There is evidence that many users of the internet are not fully aware of the uses of cookies or do not have all the information they need to make an informed decision about whether to consent to the storage of cookies on their terminal equipment. Research commissioned by DCMS[2] and undertaken by PwC, including an online consumer survey, suggests that only 13 per cent of UK internet users believe that they fully understand how cookies work (see Figure 1 below). As part of that research, users were also asked a series of questions to explore their actual knowledge of cookies[3]. Table 1 shows the results of these, showing a significant lack of understanding - there was only one question for which more than half of respondents knew the correct answer. Further evidence from the consumer survey showed that more than one third of internet users do not know how many cookies they have accepted on their computer[4]. The PwC research demonstrates the importance of giving

[2] PricewaterhouseCoopers, 'Research into Internet Cookies' (March 2011). Results are from an online survey of 1,012 consumers

[3] This approach utilised the methodology that was employed in a US study: McDonald and Cranor, 'Beliefs and Behaviours: Internet Users' Understanding of Behavioural Advertising' (August 2010)

[4] PricewaterhouseCoopers, 'Research into Internet Cookies' (March 2011). About 18% accept all cookies, whilst 36% accept only selected cookies. 9% do not accept any cookies. For those that only accept selected cookies, the majority select on the basis of websites that are

consumers "clear and comprehensive information", which is already required by Article 5, to ensure that their consent (or refusal) is valid given the definition of "consent" in the Data Protection Directive (which requires the consent to be informed and freely given).

DCMS-PWC Research

Due to the significant impact that the Article 5(3) amendment could have on the UK economy, DCMS commissioned research into the matter[5]. The consultant (PriceWaterhouseCooper) carried out an online survey of 1,012 internet users in February 2011 in order to understand consumer attitudes to and perceptions of cookies. The survey also asked questions on how internet users currently manage internet cookies and sought opinion on the regulatory options that are being considered. The second part of the research consisted of 20 in-depth interviews and case studies of businesses to analyse the likely impact of the regulatory changes on firms. Firms that were interviewed – both small and large - included hardware manufacturers, browser vendors, intermediaries (such as web analytics and advertising networks) and cookie users (such as advertising agencies, publishers, business-to-consumer and business-to-business e-commerce). Most of the evidence that underpins the analysis below is drawn from this research, which is published in full alongside the Government response and the responses and consultative work carried out by Government after the publication of its preferred approach to the implementation of the European Framework in September 2010. Unless otherwise referenced, all evidence in the remainder of this impact assessment is drawn from the PwC research.

Figure 1: Consumer Awareness of how cookies work

Source: PwC Consumer Survey

frequently visited or where it is necessary for functionality. For those that accept cookies, around one half take no further action, whilst the rest either delete them automatically (by software) or manually.

[5] PricewaterhouseCoopers, 'Research into Internet Cookies' (March 2011).

Table 1: Consumer Awareness of how cookies work (correct answers in bold)

	True	False	Unsure
Cookies are small bits of data stored on my computer	**63%**	6%	31%
Cookies let websites display more quickly	39%	**20%**	41%
Cookies let me stay logged in over time	**41%**	16%	43%
Cookies enable personal advertising	**47%**	8%	45%
Cookies are no different to my internet browsing history	14%	**42%**	43%
Advertisers can use cookies on multiple website to learn which websites I visit	**47%**	7%	46%
Cookies may be combined with other data that identifies me by name	**40%**	9%	51%
If I do not accept cookies, websites cannot tell where I am physically located	18%	**31%**	51%
Cookies enable personalised content	**31%**	16%	53%
Cookies contain information from when I first purchased my computer	13%	**33%**	53%
Cookies let browsers forward and backward arrows work correctly	21%	**31%**	48%
Cookies are a type of spyware	**37%**	26%	38%
A website I visit can read every cookie I have	17%	**24%**	59%
Cookies let people send me spam	32%	**24%**	44%
Cookies change the colour of hyperlinks to websites I have already visited	21%	**21%**	58%
By law, cookies may not contain credit or debt card information	34%	**9%**	57%

Source: PwC Consumer Survey

9. Some cookies, and in particular third party cookies used in behavioural advertising, make it possible for a user's information to be passed to third party websites without the user's knowledge. Such cookies are often served by companies that sell internet advertising and the information gathered can be used to analyse internet surfing habits. Tracking cookies also have the potential to infringe a user's privacy as they can be used to build up an anonymous profile of the user.

10. Article 5(3) of the e-Privacy Directive has been amended such that the storing of or access to internet cookies is only allowed on condition that the user concerned has 'given his or her consent, having been provided with clear and comprehensive information'. This replaces the previous text that required service providers to offer 'the right to refuse', which can currently be done through internet browser settings or the use of security software. However, such consent is not required when the storing of or access to information is "strictly necessary" to the functioning of the service that the user is requesting (for example the enablement of online purchasing and e-commerce). This provision was in the original regulation and has not been amended.

Benefits of providing more information

11. The potential benefits of ensuring that consumers are better able to make informed decisions so that they feel they have more control over are extremely difficult to quantify. As part of the PwC consumer survey, a willingness-to-pay question was asked to respondents – the results are shown in figure 2 below.

Figure 2: Willingness to pay per month if the Internet Service Provider manages the user's cookies

Source: PwC Consumer Survey

12. The question asked was "*if it was possible to provide a service which could manage the internet cookies delivered to your computer on your behalf to reflect your preferences, how much would you be willing to pay per month?"*

13. At this point in the survey consumers were fully informed of the nature and purposes of cookies and responses were not given under any significant misunderstanding. It should be noted that the use of contingent valuation methods (i.e. using direct question to elicit consumers' willingness to pay) can sometimes give misleading results as consumers actual preferences can be very different. However, due to the need to collect other information and constraints on questionnaire length, it was not possible to conduct a robust willingness-to-pay survey through revealed preference or discrete choice experiments[6].

14. Furthermore, asking respondents to value something that they effectively get for free at the moment is a very difficult area to get robust results on; therefore any inferences from this data should be treated with some caution.

15. However, with the above caveats in mind, the data suggests that the average consumer benefit per month is £0.67-£0.80, which translates to an annual benefit of £8.09-£9.30. If this is multiplied by the population of adults that use the internet[7] then the total consumer benefit is in the order of £300 million - £380 million per year[8]. This gives some indication of the benefits of ensuring that consumers are better informed on the nature and purposes of cookies, as well as their options for managing them.

16. It is important to note that some consumers will also place a significant value on internet-based advertising – particularly if it is more relevant to them – and they also place value on the media content they are able to receive for free because of the use of effective and relevant advertising. It is also estimated that consumer surplus from free internet content is worth around £5 billion annually[9] and a significant portion of this is available due to advertising revenue. This should be kept in mind should any policy affecting the management of internet cookies have an indirect impact on the broader functioning of the internet.

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[6] A standard problem of deciding between contingent valuation methods and discrete choice experiments is striking a balance between analytical rigour and the time and budget available. See, for example, the Competition Commission 'Review of Stated Preference and Willingness to Pay Methods' (April 2010)

[7] 36.6 million individuals if one considers regular internet users (accessing the internet every day or at least once a week) or 40.6 million individuals if all internet users are considered. Source: ONS

[8] The range is calculated by assuming a lower bound, whereby conservative willingness-to-pay estimates are applied (£0.25 instead of £0.50, £0.75 instead of £1 etc.) to a population of 36.6 million users, and an upper bound, where the actual values are applied to a population of 40.6 million users. For those that were willing to pay more than £5, a willingness-to-pay of £5.50 was assumed.

[9] The Boston Consulting Group, 'The Connected Kingdom: How the Internet is Transforming the UK Economy' (October 2010)

Policy Objectives

17. The objective of amending Article 5(3) of the e-Privacy Directive is to ensure that consumers have the opportunity to give specific and informed consent to the placing of cookies and other information on their equipment. This will have the effect of ensuring that they are more aware of the use of such technology by the websites they visit, and so are able to use the internet with more confidence. By implementing the revised legislation, Government maintains the same objective but in so doing also aims to minimise the burden on business.

Options Analysis

18. As it is currently drafted, the legislative amendment affects the vast majority of small, medium and large firms in the UK that have a website – around three quarters or 182,000 out of 239,000 firms[10] - as most rely on the functions that cookies provide. It will also affect the 40 million adults that currently use the internet in the UK, who will potentially need to give informed consent to each cookie that is stored on their computer (or other terminal equipment). The UK is legally required to implement the amendment to Article 5(3) in its domestic legislation (specifically regulation 6 of the PECRs[11]). Therefore, if no technical solution is found, the Information Commissioner's Office could be required to take enforcement action against organisations and businesses serving cookies for almost every internet session that consumers undertake.

19. Given that, for the reason set out above, this is not feasible, two options have been identified that will assist in bringing UK firms into compliance with the revised regulatory framework. The first option is to support an industry-led solution, which builds on recent developments in the sector. The second is to legislate an 'opt-in' requirement for cookies (i.e. internet users would be required to confirm every cookie placed on their computer) to ensure that the UK is fully compliant with the wording of the revised Directive. These options are assessed below against a baseline 'no change' scenario.

20. For the assessment of options, it is necessary to group certain businesses together that are likely to be affected as the costs and benefits will fall differently depending on the activity of the firm (in addition to the impact on consumers). Table 2 below provides a summary of the types of business that were interviewed as part of the PwC research and, therefore, covered in the analysis below. It should be stressed that during the business interviews, companies were generally not willing/able to share information on the incurred direct costs of each option. This was due to a number of factors, including:

- Many companies are not yet fully prepared to respond to the Directive
- There is no 'leading response' and a lack of clarity as to where the responsibility lies
- There is ambiguity associated with the wording of the regulation which has a bearing on the likely costs (because it affects the extent to which firms may need to change their behaviour)
- Costs depend significantly on browser vendors' behaviour and whether they act uniformly
- The change in user behaviour associated with some of the options has a significant bearing on some industries and companies

Table 2: Firms Affected by Amendments to Article 5 of the e-Privacy Directive

Firm type	Description	Relevance to Cookies
Browser vendors	Providers of web browsers, which are software applications for retrieving, presenting and traversing information resources in the internet. Consumer survey results from PwC show that the main browsers in use are Microsoft Internet Explorer (60%), Mozilla Firefox (20%), Google Chrome (11%) and Safari (4%). Other statistics show that Opera also belongs to the most common browsers[12].	The web browser is one of the main tools through which consumers choose to accept or reject cookies.
Hardware	ONS data for 2009 suggests that there are around 1,000	Important cookies are

[10] Sources: ONS, 'E-commerce and ICT activity 2009' and Number of VAT and/or PAYE Based Enterprises in 2010. The figures exclude around 1.86 million micro enterprises (firms with fewer than 10 employees).
[11] The Privacy and Electronic Communications Regulations 2003, which implements the e-Privacy Directive
[12] Source: PwC

manufacturers	firms that are active in the manufacture of computers and peripheral equipment[13]. Computer sales revenues amounted to about £3.1 billion during the same year, equivalent to about 63% of the UK hardware market's overall value[14].	preloaded onto computer hardware, for example preloaded 'asset tags' to validate the warranty and make technical service updates. Cookies are also used for activation and registration.
Publishers	Defined widely as all companies with their own online property. ONS figures suggest that the number of VAT and/or PAYE-based enterprises numbered 2.1 million in 2010. 87 per cent of these were micro-enterprises (fewer than 10 employees) whilst the remainder were small (10-49 employees), medium (50-249) or large (250+). It total, around 182,000 companies with more than 10 employees engage in some firm of online publishing. It is likely that the figure will be significantly much higher if one includes micro enterprises as well.	Publishers make use of both first and third party cookies. They are important in product design, fraud prevention (e.g. authentication in transactions), online search, log-in authentication etc. Many publishers generate revenue from a number of cookie dependent streams, such as direct sale of content and sale of advertising space.
Online retail	Website sales amount to roughly £115 billion for the whole UK economy, a significant proportion of which was for wholesale, transport and storage and information and communication[15].	Cookies enable e-commerce and are vital functions in online purchasing. However, third party analytics (analysing user behaviour) and the personalisation of services also use cookies.
Online advertising	The number of firms active in online advertising is difficult to gauge. ONS data[16] for 2009 suggests that there are around 14,000 enterprises that are active in the advertising sector as a whole (the majority of which are advertising agencies). Online advertising spent in 2009 was around £3.5 billion[17], which is estimated to be worth about 23% of total advertising spend in the UK[18] (an increase of 20 percentage points since 2003). Behavioural advertising represents a fraction of this[19] as around 60% is paid-for search advertising. PwC have indicated that the behavioural advertising industry is highly specialised with a limited number of companies (or networks) operating the respective platforms. Youronlinechoices.com lists 12 partner networks from which the consumer is able to 'opt out'[20].	Use of third party cookies to facilitate online behavioural advertising (for example tracking the sites that a user has visited, the sections visited, purchase history etc.).
Web analytics/research	Web analytics is the measurement, collection, analysis and reporting of internet data for the purposes of understanding an optimising web usage[21]. There are no official statistics on the number of firms engaged in this activity as it is a relatively new sector.	Use of third party cookies to facilitate relevant analysis

'Relevance to cookies' is not a comprehensive description but illustrates key areas why cookies are important

[13] ONS Annual Business Survey
[14] Source: PwC
[15] Source: PwC
[16] ONS Annual Business Survey
[17] Ofcom, 'Communications Market Report 2010'
[18] Source: Internet Advertising Bureau
[19] Behavioural advertising is part of display advertising, which accounts for around 20% of total online spend (Source: Ofcom). Ofcom noted in their most recent Communications Market Report (2010) that such forms of advertising are "still nascent, (although) there are signs that they are becoming more significant. A recent report by the OFT ('Online Targeting of Advertising and Price: A market study', May 2010) indicated that annual UK revenue from behavioural advertising is between £64m and £95m, though it acknowledged that 'it looks set to account for a much larger share (of online advertising) in the future'.
[20] Source: PwC
[21] Web Analytics Association (WAA)

21. As set out earlier, consent to the storage of cookies is not required when the storing of or access to information is "strictly necessary" to the functioning of the service that the user is requesting. Therefore these options will not apply to instances where cookies are central to the service provided (for example online purchasing).

Option 1: Allow consent to the use of cookies to be given via enhanced browser settings and better information (industry-led)

22. This option tries to find a balance within the amended e-Privacy Directive between safeguarding consumers' privacy online and delivering more customised and efficient online services. Recital 66 to the amending Directive[22] provides that consent to the storage of cookies "may be expressed by way of using the appropriate settings of a browser or other application" where it is technically feasible and effective and where those settings will comply with the requirements to give valid consent under the Data Protection Directive (i.e. that it be freely given, specific and informed). It is, however, clear from discussions with the Commission that browser settings as they stand, are not sufficient. This means that browser settings need to be made more visible to consumers, and consumers need to be provided with clearer and more comprehensive information about cookies and how to block them, if they wish to do so.

23. In parallel to the enhanced browser setting approach, a number of firms have already started to establish a self-regulatory framework in relation to third-party cookies and behavioural advertising. This aims to address the following key privacy concerns:

- Behavioural advertising provided on websites by third parties
- Third parties that are not visible to the end user
- Users that do not wish receive customised advertising

24. In terms of implementing this approach, a number of deliverables have been committed including a privacy policy notice, a single consumer control page, a compliance and enforcement model (which will be led by the European Advertising Standards Alliance, a self-regulatory body), and the provision of more information through internet icons. The latter will inform the consumer for each specific internet advert: the advertiser (for example eBay); who it is delivered by (for example Yahoo); who it is customised by; an option to opt-out; and a link to further information on privacy and behavioural advertising. For simplicity, this approach is referred to as 'enhanced information' though it important to stress that it also gives internet users more accessible information – in terms of both visibility and ease of understanding – in addition to a greater volume of information.

25. Although the costs and benefits of this self-regulatory solution are assessed alongside the use of enhanced browser settings, not all of them are directly attributable to the amendments to PECR because many of the changes are taking place separately. However, it has since been targeted (in large part) towards the Commission's concerns about cookies and is seen as an important solution to facilitating consumers' consent of certain types of cookies.

Costs

26. Compared to the status quo, or the hypothetical 'no change' baseline, the 'enhanced information' approach (as proposed for behavioural advertising) will not place significant costs on all types of business. Rather, the businesses organising such platforms will incur costs for:

- Testing the approach
- Creation and maintenance of a general platform managing the use of cookies
- Standardisation and industry agreement

27. This is currently relevant for the behavioural advertising and web-analytics industries, which rely to a significant extent on third party and tracking cookies. It is also possible that there could be some small displacement effects in terms of shifting business from behavioural advertising to other forms of online and offline advertising. Business interviews conducted by PwC suggested that the costs for publishers would not be significant if enhanced information was only provided by specific industries

[22] The Citizen's Rights Directive

such as behavioural advertising. Browser vendors and hardware manufacturers are also not significantly affected. If enhanced information was necessary for first party cookies[23] and was to apply more widely to publishers, the costs would be significant, both in terms of testing and development and ensuring a degree of coordination between firms. However, currently the self-regulatory approach only covers 'enhanced information' for specific industries such as online behavioural advertising and web analytics. As highlighted in Table 2, the (relatively) concentrated nature of behavioural advertising and web analytics indicates that the coordination costs for these firms will not be as high as it would be for publishers.

28. However, in order to provide the required consent for all types of cookies – not just those associated with behavioural advertising – further action is also needed. Under this option, enhanced browser settings will provide the necessary compliance with Article 5 of the revised e-Privacy Directive. This means that browser vendors will be required to make 'opt out' settings more visible and potentially more specific. This could mean that browser vendors will incur costs for:

    - Reprogramming browsers to incorporate the provision of enhanced settings
    - Communication of the settings and the underlying technological frameworks to web developers and other third parties

29. The research by PwC suggests that most of the necessary technologies are already implemented and would not lead to significant additional engineering costs for browser vendors, which tend to reengineer and update their browsers on a regular basis in any case. Some browser vendors have also argued that they are already compliance with the legislative requirement. However, the definition of 'enhanced settings' has yet to be defined, meaning that more exacting requirements could lead to much more significant costs in terms of reengineering and updating.

30. Consumers will also need to spend a greater amount of time learning about cookies under this option. In terms of enhanced browser settings, this is likely to be a one-off opportunity cost (though later adjustments may occur) though it will be more recurrent for enhanced information of cookies associated with behavioural advertising and web analytics.

31. There is also an indirect cost of consumers potentially changing their behaviour as a result of having enhanced browser settings and more accessible information. In the PwC consumer survey, respondents were asked about their views and potential responses to each regulatory (and self-regulatory) option. It is difficult to know whether this reflects what is likely to occur, as users cannot know what the option will look like until it has been fully implemented. Thus unsurprisingly, around one third of internet users are unsure as to whether they will accept or reject more cookies if this option is pursued.

32. However, conclusions drawn from the PwC research provide some useful insights into the potential impact of this option on consumers. In terms of providing enhanced information, there is evidence from the US – where the approach for behavioural advertising is being tested – that shows consumer behaviour (i.e. 'opt-out' of the cookie) does not change significantly, thus the online experience is not significantly affected. This suggests that most internet users will be comfortable accepting cookies once they have a full understanding of them, and that changes in consumer behaviour will not lead to large scale further adjustments in the online industry.

33. With regards to the provision of enhanced browser settings, the key factor that will affect consumer behaviour is how the default settings are programmed. Consumer research shows that at least 28% of internet users (a further 20% if one includes those that 'cannot remember') do not review their default cookie settings. This is supported by empirical research, which shows the existence of a behavioural bias known as 'status quo' bias, where consumers tend towards the default option[24]. It is prevalent across other sectors as well, for example financial services, and is likely to apply even as consumers are given more information.

34. Therefore, if the default settings are left as they currently are then the indirect impact may be reasonably modest. However, if they are changed – for example to automatically reject all third party cookies – this could have a significant impact on specific industries such as behavioural advertising

[23] First party cookies are those that originate on or are sent by the website of the service that is currently being used
[24] Samuelson and Zeckhauser, 'Status quo bias in decision making' (1988)

and web analytics. The specific details as to how this will be implemented are still to be decided. In light of this, Government proposes to work with browser manufacturers to see if these can be enhanced to meet the requirements of the revised Directive - users will be provided with more information as to the use of cookies (as well as details as of the server etc) and will be presented with easily understandable choices with regard to the import of cookies on to their machine, including the ability to refuse consent to all cookies. In terms of taking this work forward, Government has formed a working group made up of representatives from the browser manufacturers to look at the issue in more detail.

Benefits

35. The benefits of option 1 will ultimately fall to internet users that should be better informed about the use of cookies. Table 3 below shows consumers' initial response to having enhanced information and browser settings. Whilst these are subject to the above caveats regarding consumers' stated versus actual response, it shows that the majority of internet users would feel more secure and are also more likely to perform personal transactions on the web, thus enhancing their online experience. There is also a significant minority that believe the option will be time consuming and cause navigation difficulty, however, given that there the final implementation detail is yet to be defined there is scope to address these concerns.

Table 3: Consumer Response to Option 1 (% that 'agree somewhat' or 'totally agree')

	Enhanced information	Enhanced browser settings
I would feel more secure	57	46
I would think more about privacy issues	60	50
My online experience would be hindered	23	22
I would be more willing to perform personal transactions on the web	34	30
I would find this approach too time consuming	28	27
I would find it more difficult to navigation websites	19	19
I would spend less time on the internet	12	11
I would spend more time on the internet	16	15
I would find it more difficult to find products I like	14	16

Source: PwC Consumer Survey

36. Evidence outlined above suggests that the consumer benefits of being fully informed about the nature and options regarding cookies are in the order of £300 million - £380 million per year. It is not possible based on the information above to say with any certainty what the benefits of option 1 will be – it will certainly not be £380 million due to the potential costs, concerns and risks to consumers outlined above (and in table 3). However, even if it is around 10-20 per cent of this figure, it could be sufficient to justify the costs to browser vendors and specific industries that will provide more information.

Risks and Assumptions

37. The analysis of option 1 shows that there remains a significant amount of work that needs to be done in relation to implementing the change to Article 5 on the e-Privacy Directive. As the PwC research demonstrates, few companies are prepared to respond to the Directive by May 2011 due to the complex nature of implementation, which requires significant testing and technical development. The Commission and national governments have recognised this and it is accepted that the use of cookies will initially not be fully compliant with the Directive, as the appropriate technical solutions still need to be worked up, evaluated and rolled out. Therefore, the UK Government is proposing that implementation will be phased and tied to the development and availability of the solution. It is only at that point that the direct costs to industry – and possibly the change in consumer behaviour – will become clear. This is not unprecedented, as phased implementation was provided for by the original implementation of the e-Privacy Directive, which set out a transition schedule to enable business and users to respond to the revisions to the regulation.

Option 2: Implement an 'opt-in' system for cookies

38. This option represents an alternative interpretation of the amended e-Privacy Directive. A requirement to 'opt-in' would mean that users would have to confirm every cookie placed on their computer. It would require repeated pop-up windows, or other intrusive virtual labels on every web page visited by a user. In order to make these decisions informed, each pop-up would need to give details about the individual cookies.

Costs

39. Option 2 would affect all of the groups of firms identified in Table 2. Browser vendors would need to establish information transmission standards because the current cookie acceptance message has no information on the cookie provided. Instead, for informed consent the publisher would need to submit the relevant information on purposes, contained information etc. and the browser would need to display this information (for example through a pop-up or link to a different web page). It is likely that the creation of information standards would incur a significant one-off cost as all browser vendors would need to agree on a single standard to ease compliance for publishers. There could also be further significant costs associated with reengineering browser functions, whilst heterogeneous implementation by browser vendors would increase the costs to cookie users.

40. Publishers will also incur significant costs because many session cookies are created by the web browser even before the website's code runs – if browser vendors have to reengineer this mechanism (to comply with the opt-in), publishers would face significant costs in coordinating a solution and reengineering website functionalities and management of session cookies. They will also be required to compile and provide cookie-specific information. Although this information is already available - so the production costs should not be as high – a large number of companies and bodies in the public sector would need to provide and submit information, which would increase total costs. It is generally expected that the costs to publishers will increase with the size of the website (i.e. more information), the number and sophistication of functionalities (e.g. a blog or chat function, search facilities etc.) and universality.

41. It is expected that online retailing would remain functional as the use of a cookie-enabled shopping basket is expected to be in line with the "strictly necessary" exclusion in the e-Privacy Directive. However, a number of retailers' sales are attracted by online advertising and if this is affected, there could be a significant reduction in visitors and possible customers.

42. The impact on hardware manufacturers is uncertain given that their equipment has preloaded software and cookies. If the software is important for updates and warranty issues, the 'opt in' may be required before starting the hardware for the first time as otherwise some services might not be properly provided. However, it is not clear how preloaded cookies would be addressed under this option.

43. With regards to behavioural advertising and web analytics, the impact depends heavily on how consumers respond to the option. If internet users are less likely to opt-in, then both industries will be significantly affected and may lose market share to traditional advertising and more traditional forms of research like consumer surveys and testing campaigns. Evidence from the consumer survey suggests that internet users are much more likely to change their behaviour under an 'opt-in' approach relative to option 1. Almost half of internet users indicated that this option would change their behaviour, with the majority of those individuals rejecting more cookies than they currently do.

44. The potential cost to consumers is also likely to significant under this option. The online experience will be radically altered due to the constant requirement to opt-in. Consumers will also require more time online – evidence from the survey suggests that more than three quarters would spend time to read the information presented before accepting or rejecting a cookie. Of those that said that would take the time, almost one third said they would spend more than 30 seconds reading the information whilst only 10 per cent said that they would spend less than 5 seconds. Given the need to opt-in on almost every web page (and in some cases there would be several opt-in notices just for one web page), this would substantially increase the time taken to use the internet. The time requirements would be recurring whenever a new website is visited (and the purpose of the cookie is changed).

45. The effect on consumer behaviour is therefore also likely to have significant and large indirect effects for business – these are likely to be larger than the direct costs and could result in significant displacement effects (for example less online retailing and reduced web surfing and internet traffic).

Benefits

46. This option would give users complete control over the cookies they allow (or do not allow) to be downloaded onto their computers. Evidence from the consumer survey – see Table 4 – suggests that option 2 would give internet users more security and information than option 1. However, it is also worth noting that a greater proportion of consumers would find the approach too time consuming and more of a hindrance to the online experience.

Table 4: Consumer Response the Option 2 (% that 'agree somewhat' or 'totally agree')

	Opt-in
I would feel more secure	67
I would think more about privacy issues	68
My online experience would be hindered	30
I would be more willing to perform personal transactions on the web	40
I would find this approach too time consuming	33
I would find it more difficult to navigation websites	27
I would spend less time on the internet	14
I would spend more time on the internet	17
I would find it more difficult to find products I like	15

Source: PwC Consumer Survey

47. If consumer behaviour leads to a displacement away from online retail, traditional retailers may benefit if one assumes that the overall level of spending will remain largely unaffected (i.e. only the method of purchase changes rather than the purchase decision itself). Similar displacement impacts on behavioural advertising and web analytics could benefit more traditional types of advertising and consumer and market research.

Risks and Assumptions

48. In their research findings, PwC addressed the possibility that consumers may underestimate the total time requirements that an opt-in would lead to. There is also a risk that internet users will switch to non-EU websites that are not bound by the e-Privacy Directive and which will be more user-friendly. Firms may also move their websites to overseas servers in order avoid the regulation, which could potentially create a risk to people's personal data.

Preferred option

49. There remains a degree of uncertainty as to the detail of compliance with the revised e-Privacy Directive as it relates to giving consumers the right to 'consent' to the storing of (and access to) cookies on their computer. The technical challenges are significant and the Commission has recognised this. Based on the responses received to the consultation and the research that DCMS commissioned, the Government has a clear preference for option 1 – supporting an industry-led and self-regulatory approach to comply with Article 5(3). Table 5 below describes in qualitative terms some of the key costs of each option. Whilst it has not been possible for DCMS or PwC to quantify these – for the reasons outlined above – option 2 will clearly impact on a much wider range of firms, in addition to potentially hindering the online experience of 40 million UK adults. The Commission has accepted that implementation of this option will need to be phased and that a 'grace' period is necessary. Government will work with industry in developing both enhanced information and enhanced browser settings. It is hoped that more robust evidence in terms of the costs and benefits of option 1 will be achievable as the implementation details become clearer.

Table 5: Qualitative assessment of proposed options

Firm type		No. of companies	(1) Sponsor industry proposals	(2) Legislate an opt-in
Browser vendors		Small (<10 firms)	• Unclear – currently small cost but could potentially increase depending in the details of implementation	• Establish information standards for internet cookies– **high costs** • Reengineering browser functions – **possible high cost** • Potential change management of session cookies – **costs unclear**
Publishers		Large (>100,000 firms)	• Small impact	• Compilation and provision of cookie specific information – readily available, **low cost** • Performance optimisation and reengineering website functionalities and management of session cookies – **high costs** • Displacement – **high costs**
Specific industries	Online retail	Medium	• Small impact	• Reduction in user online experience and therefore traffic and sales – **medium/high costs** • Reengineering website functionalities and management of session cookies – **costs unclear** • Displacement – **high costs**
	Online advertising		• Ongoing cost of more accessible and enhanced information – **significant platform costs**	• Reduction in behavioural advertising volume and potentially online advertising volume – **high costs** • Displacement – **high costs**
	Hardware manufacturers		• Small impact	• Reengineering warranty and update processes – **potentially medium/high costs** • Obtaining consent for preloaded cookies might be necessary – **costs unclear**
	Web analytics/research		• Ongoing cost of more accessible and enhanced information – **significant platform costs**	• Reduction in web analytics volume and business – **high costs** • Displacement – **high costs**
Consumers		UK online population (c. 40 million)	• Time requirement – **small/medium cost** • Online experience may be interrupted	• Time requirements – **high cost** • Online experience significantly hindered – **high cost**

Specific Impact Tests

Competition

As indicated in the main evidence base, option 2 could have a significant impact on the competitiveness of UK companies relative to non-EU countries (and some EU countries that may adopt an enhanced browser approach instead of an opt-in). It is not expected that option 1 will have a significant impact on competition, given that industry is largely collaborating on the solution.

Small Firms

ONS data indicates that almost three quarters of small firms have a website, whilst a significant number of micro enterprises may also have one as well. If option 2 hinders consumers' online experience or leads to a displacement in economic activity, firms with an online presence could suffer from displaced revenue (either through direct sales or reduced revenue from advertising space). The Government's preferred approach will have less of an impact on small publishers, though uncertainty around implementation means that a comprehensive small firms impact test is not yet possible.

Other Specific Impact Tests

Other environment/ rural proofing

After an initial screening it has been deemed that no significant impact is anticipated on the environment and rural proofing.

Statutory Equality Duties

After an initial screening it has been deemed that no significant impact is anticipated on groups as defined by the Equality Act 2010 as having a protected characteristic.

Other tests

Other specific impact tests have been considered including Legal Aid, Sustainable Development and Carbon Assessment. Again, after initial screening, it has been deemed that no significant impact is anticipated.

Annexes

Annex 1 should be used to set out the Post Implementation Review Plan as detailed below. Further annexes may be added where the Specific Impact Tests yield information relevant to an overall understanding of policy options.

Annex 1: Post Implementation Review (PIR) Plan

A PIR should be undertaken, usually three to five years after implementation of the policy, but exceptionally a longer period may be more appropriate. If the policy is subject to a sunset clause, the review should be carried out sufficiently early that any renewal or amendment to legislation can be enacted before the expiry date. A PIR should examine the extent to which the implemented regulations have achieved their objectives, assess their costs and benefits and identify whether they are having any unintended consequences. Please set out the PIR Plan as detailed below. If there is no plan to do a PIR please provide reasons below.

Basis of the review: [The basis of the review could be statutory (forming part of the legislation), i.e. a sunset clause or a duty to review , or there could be a political commitment to review (PIR)]; See PIR plan in overarching impact assessment
Review objective: [Is it intended as a proportionate check that regulation is operating as expected to tackle the problem of concern?; or as a wider exploration of the policy approach taken?; or as a link from policy objective to outcome?]
Review approach and rationale: [e.g. describe here the review approach (in-depth evaluation, scope review of monitoring data, scan of stakeholder views, etc.) and the rationale that made choosing such an approach]
Baseline: [The current (baseline) position against which the change introduced by the legislation can be measured]
Success criteria: [Criteria showing achievement of the policy objectives as set out in the final impact assessment; criteria for modifying or replacing the policy if it does not achieve its objectives]
Monitoring information arrangements: [Provide further details of the planned/existing arrangements in place that will allow a systematic collection systematic collection of monitoring information for future policy review]
Reasons for not planning a review: [If there is no plan to do a PIR please provide reasons here]

Title: **Implementing the Revised EU Electronic Communications Framework – Authorisation Directive**	Impact Assessment (IA)
Lead department or agency: Department for Culture, Media and Sport	**IA No:** DCMS022
Other departments or agencies: Ofcom	**Date:** 04/03/2011
	Stage: Final
	Source of intervention: EU
	Type of measure: Secondary legislation
	Contact for enquiries: Stephen Fernando (020 7215 6320)

Summary: Intervention and Options

What is the problem under consideration? Why is government intervention necessary?

In order to address the market failures that exist in the electronic communications market it is important that communication providers comply with a set of obligations that ensures the market functions effectively and works well for consumers. Such obligations will require the provider to take a number of measures (for example maintaining the functioning of a network or ensuring that customers are offered contracts with minimum terms). Amendments to the Authorisation Directive strengthen Ofcom's enforcement powers in order to reduce the level consumer detriment in the market. It also harmonises the European market by limiting regulation to the minimum that is strictly necessary and ensuring a consistent approach to regulation across Europe, thus further developing an internal market.

What are the policy objectives and the intended effects?

The overall objective of the Authorisation Directive is aligned with the general aim of promoting competition, investment and innovation in electronic communications, so that user needs are met and consumer interests are protected. The specific aims within this overall objective are:

- promote more efficient and flexible spectrum management
- increase the consistency of regulatory actions, in line with the wider objective of creating a single e-communications market in Europe
- reinforce user rights and consumer protection

What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)

The Government is required to implement a number of changes within the Directive that allow for no flexibility in implementation. These include a requirement to strengthen Ofcom's enforcement capabilities and a power to enable Ofcom to request information on spectrum-related functions. These are assessed against a counterfactual 'no change' scenario, without looking at other discrete options. In one area where the UK may have some flexability in implementation, two options are analysed. The revised Directive requires that Ofcom be allowed to impose dissuasive financial penalties when firms are not compliant with their obligations. With regards to firms that do not comply with Ofcom information requests, Government consulted on increasing the maximum penalty that Ofcom can impose to £2 million. The alternative is to have it remain at its current level of £50,000. Government's preferred option is to increase the maximum penalty to deter firms from breaching their obligations to provide information, as many are not compliant.

Will the policy be reviewed? It will be reviewed. **If applicable, set review date:** 5/2016	
What is the basis for this review? Duty to review. **If applicable, set sunset clause date:** Month/Year	
Are there arrangements in place that will allow a systematic collection of monitoring information for future policy review?	Yes

SELECT SIGNATORY Sign-off For final proposal stage Impact Assessments:

I have read the Impact Assessment and I am satisfied that (a) it represents a fair and reasonable view of the expected costs, benefits and impact of the policy, and (b) the benefits justify the costs.

Signed by the responsible Minister: _____ Date: 24/03/2011

Summary: Analysis and Evidence — Policy Option 1

Description:

Implementation of the Authorisation Directive - articles for which there are no options in implementation

Price Base Year 2011	PV Base Year 2011	Time Period Years 10	Net Benefit (Present Value (PV)) (£m)		
			Low:	High:	Best Estimate: -0.69

COSTS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low		N/A		
High				
Best Estimate	0		0.08	**0.69**

Description and scale of key monetised costs by 'main affected groups'

Ofcom will have a new information gathering power for its spectrum-related functions. In order to respond to information requests, firms are expected to incur a cost of around £78,000 per year. Additional costs to Ofcom are expected to be negligible.

Other key non-monetised costs by 'main affected groups'

Ofcom's enforcement powers will be strengthed as a result of changes to the legislation. It is not possible to estimate the costs as Ofcom will need to consult on a revised set of enforcement guidelines. For example penalties can be issued retroactively and Ofcom can order the cessation of a network or service where there are serious or repeated breaches of a firm's conditions. However, if firms are fully compliant with their obligations then the economic costs will be negligable.

BENEFITS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low		N/A		
High				
Best Estimate	0		Unquantifiable	**Unquantifiable**

Description and scale of key monetised benefits by 'main affected groups'

In the event that Ofcom's enhanced enforcement powers lead to fewer communication providers breaching their obligations, it is possible that the legislation will reduce the amount of consumer detriment in the market. This annual detriment has been valued at around £4.2 mllion, thus a 10 per cent reduction would benefit consumers by almost half a million pounds per year. However, it is not possible at this stage to robustly estimate the potential impact of strengthened enforcement.

Other key non-monetised benefits by 'main affected groups'

Strengthening Ofcom's information gathering powers for spectrum matters could allow the regulator to investigate potential breaches of regulatory obligations more effectively, reducing the consumer harm such breaches cause. Whilst it is not possible to quantify this, an example of one of the key benefits is that Ofcom will have better information to prevent illegal broadcasting. It is estimated that this currently affects radio quality for 2 million adults on a weekly basis.

Key assumptions/sensitivities/risks — **Discount rate (%)** 3.5

Ofcom will consult a revised set of enforcement guidelines, which will set out the detailed implementation of the EU legislative changes. Following changes to the Annex of the Directive (Part C), Government will give Ofcom new powers to adopt tariff principles or to set tariff caps in relation to certain numbers of number ranges. Before Ofcom exercise this power, they will be required to consult and to produce an impact assessment on their proposal.

Direct impact on business (Equivalent Annual) £m):			In scope of OIOO?	Measure qualifies as
Costs: 0.08	**Benefits:** 0	**Net:** -0.08	No	NA

Enforcement, Implementation and Wider Impacts

What is the geographic coverage of the policy/option?			United Kingdom		
From what date will the policy be implemented?			25/05/2011		
Which organisation(s) will enforce the policy?			Ofcom		
What is the annual change in enforcement cost (£m)?			0		
Does enforcement comply with Hampton principles?			Yes		
Does implementation go beyond minimum EU requirements?			No		
What is the CO_2 equivalent change in greenhouse gas emissions? (Million tonnes CO_2 equivalent)			**Traded:** N/A	**Non-traded:** N/A	
Does the proposal have an impact on competition?			Yes		
What proportion (%) of Total PV costs/benefits is directly attributable to primary legislation, if applicable?			**Costs:**	**Benefits:**	
Distribution of annual cost (%) by organisation size (excl. Transition) (Constant Price)	**Micro**	**< 20**	**Small**	**Medium**	**Large**
Are any of these organisations exempt?	No	No	No	No	No

Specific Impact Tests: Checklist

Set out in the table below where information on any SITs undertaken as part of the analysis of the policy options can be found in the evidence base. For guidance on how to complete each test, double-click on the link for the guidance provided by the relevant department.

Please note this checklist is not intended to list each and every statutory consideration that departments should take into account when deciding which policy option to follow. It is the responsibility of departments to make sure that their duties are complied with.

Does your policy option/proposal have an impact on…?	**Impact**	**Page ref within IA**
Statutory equality duties[1] Statutory Equality Duties Impact Test guidance	Yes	19
Economic impacts		
Competition Competition Assessment Impact Test guidance	Yes	19
Small firms Small Firms Impact Test guidance	No	
Environmental impacts		
Greenhouse gas assessment Greenhouse Gas Assessment Impact Test guidance	No	
Wider environmental issues Wider Environmental Issues Impact Test guidance	No	
Social impacts		
Health and well-being Health and Well-being Impact Test guidance	No	
Human rights Human Rights Impact Test guidance	No	
Justice system Justice Impact Test guidance	No	
Rural proofing Rural Proofing Impact Test guidance	No	
Sustainable development Sustainable Development Impact Test guidance	No	

[1] Public bodies including Whitehall departments are required to consider the impact of their policies and measures on race, disability and gender. It is intended to extend this consideration requirement under the Equality Act 2010 to cover age, sexual orientation, religion or belief and gender reassignment from April 2011 (to Great Britain only). The Toolkit provides advice on statutory equality duties for public authorities with a remit in Northern Ireland.

Summary: Analysis and Evidence — Policy Option 2

Description:

Preferred implementation of the Authorisation Directive - articles for which there are options in implementation

Price Base Year 2011	PV Base Year 2011	Time Period Years 10	Net Benefit (Present Value (PV)) (£m)		
			Low:	High:	Best Estimate: 0

COSTS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low		N/A		
High				
Best Estimate	0			0

Description and scale of key monetised costs by 'main affected groups'

DCMS intends to increase the maximum penalty that Ofcom can impose on firms that do not comply with the regulator's information requests, from £50,000 to £2 million. This will only increase costs for firms that are not compliant with their obligations but it is not considered to be a regulatory cost to business because firms should be compliant with their legal obligations.

Other key non-monetised costs by 'main affected groups'

BENEFITS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low		N/A		
High				
Best Estimate	0		Unquantifiable	**Unquantifiable**

Description and scale of key monetised benefits by 'main affected groups'

Not all communication providers are compliant with their obligations to provide Ofcom with information when requested and many have required enforcement action on more than one occasion. This indicates that the current maximum penalty is not dissuasive, meaning that Ofcom cannot fully enforce firms to comply with their obligations. It is not possible at this stage to robustly estimate the potential impact of strengthened enforcement but any deterrent effect will result in a net benefit as the economic cost is zero.

Other key non-monetised benefits by 'main affected groups'

Ofcom should have access to better and more timely information to monitor the market and (if necessary) enforce firms' obligations. Investigations should also be resolved more quickly and efficiently on the basis of reliable information.

Key assumptions/sensitivities/risks — **Discount rate (%)** 3.5

Some communication providers are concerned that increasing the penalty to £2 million is disproportionate. However, this should be mitigated by Ofcom's legal obligation to ensure that any sanction is proportionate (bearing in mind that £2 million is only a maximum). Furthermore, it is possible that keeping the current at maximum at £50,000 will not be compliant with EU legislation, which requires penalty powers to be 'dissuasive'.

Direct impact on business (Equivalent Annual) £m):			In scope of OIOO?	Measure qualifies as
Costs: 0	**Benefits:** 0	**Net:** 0	No	NA

Enforcement, Implementation and Wider Impacts

What is the geographic coverage of the policy/option?			United Kingdom		
From what date will the policy be implemented?			25/05/2011		
Which organisation(s) will enforce the policy?			Ofcom		
What is the annual change in enforcement cost (£m)?			0		
Does enforcement comply with Hampton principles?			Yes		
Does implementation go beyond minimum EU requirements?			No		
What is the CO_2 equivalent change in greenhouse gas emissions? (Million tonnes CO_2 equivalent)			**Traded:** N/A	**Non-traded:** N/A	
Does the proposal have an impact on competition?			No		
What proportion (%) of Total PV costs/benefits is directly attributable to primary legislation, if applicable?			**Costs:**	**Benefits:**	
Distribution of annual cost (%) by organisation size (excl. Transition) (Constant Price)	**Micro**	**< 20**	**Small**	**Medium**	**Large**
Are any of these organisations exempt?	No	No	No	No	No

Specific Impact Tests: Checklist

Set out in the table below where information on any SITs undertaken as part of the analysis of the policy options can be found in the evidence base. For guidance on how to complete each test, double-click on the link for the guidance provided by the relevant department.

Please note this checklist is not intended to list each and every statutory consideration that departments should take into account when deciding which policy option to follow. It is the responsibility of departments to make sure that their duties are complied with.

Does your policy option/proposal have an impact on…?	**Impact**	**Page ref within IA**
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Economic impacts		
Competition Competition Assessment Impact Test guidance	No	
Small firms Small Firms Impact Test guidance	No	
Environmental impacts		
Greenhouse gas assessment Greenhouse Gas Assessment Impact Test guidance	No	
Wider environmental issues Wider Environmental Issues Impact Test guidance	No	
Social impacts		
Health and well-being Health and Well-being Impact Test guidance	No	
Human rights Human Rights Impact Test guidance	No	
Justice system Justice Impact Test guidance	No	
Rural proofing Rural Proofing Impact Test guidance	No	
Sustainable development Sustainable Development Impact Test guidance	No	

[1] Public bodies including Whitehall departments are required to consider the impact of their policies and measures on race, disability and gender. It is intended to extend this consideration requirement under the Equality Act 2010 to cover age, sexual orientation, religion or belief and gender reassignment from April 2011 (to Great Britain only). The Toolkit provides advice on statutory equality duties for public authorities with a remit in Northern Ireland.

Evidence Base (for summary sheets) – Notes

Use this space to set out the relevant references, evidence, analysis and detailed narrative from which you have generated your policy options or proposal. Please fill in **References** section.

References

Include the links to relevant legislation and publications, such as public impact assessments of earlier stages (e.g. Consultation, Final, Enactment) and those of the matching IN or OUTs measures.

No.	Legislation or publication
1	Government consultation http://www.bis.gov.uk/Consultations/revised-eu-electronic-communications-framework
2	EC Legislative proposals and impact assessment http://ec.europa.eu/information_society/policy/ecomm/library/proposals/index_en.htm
3	Full European Legislation http://ec.europa.eu/information_society/policy/ecomm/doc/library/regframeforec_dec2009.pdf
4	Communications Act 2003 http://www.legislation.gov.uk/ukpga/2003/21/contents
5	Wireless Telegraphy Act 2006 http://www.legislation.gov.uk/ukpga/2006/36/contents

Evidence Base

Ensure that the information in this section provides clear evidence of the information provided in the summary pages of this form (recommended maximum of 30 pages). Complete the **Annual profile of monetised costs and benefits** (transition and recurring) below over the life of the preferred policy (use the spreadsheet attached if the period is longer than 10 years).

The spreadsheet also contains an emission changes table that you will need to fill in if your measure has an impact on greenhouse gas emissions.

Annual profile of monetised costs and benefits* - (£m) constant prices

	Y_0	Y_1	Y_2	Y_3	Y_4	Y_5	Y_6	Y_7	Y_8	Y_9
Transition costs	0	0	0	0	0	0	0	0	0	0
Annual recurring cost	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
Total annual costs	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
Transition benefits	0	0	0	0	0	0	0	0	0	0
Annual recurring benefits	0	0	0	0	0	0	0	0	0	0
Total annual benefits	0	0	0	0	0	0	0	0	0	0

* For non-monetised benefits please see summary pages and main evidence base section

Evidence Base (for summary sheets)

Background

1. The provisions of the Authorisation Directive cover authorisations of all electronic communications networks and services. The aim of the legislation is to establish a harmonised market for electronic communications networks and services, by limiting regulation to the minimum that is strictly necessary. This was done in the original Directive by mandating the replacement of individual licenses with 'general authorisations'. Under a license regime, a firm is required to apply for a licence before being able to operate and supply networks or services to consumers, with each licence setting out the obligations of the company. However, under an authorisation regime, communication providers do not need to apply for a licence in advance. They are free to start providing an electronic communications network or service so long as they comply with the relevant conditions attached to the general authorisation. Ofcom's general authorisation regime includes 'General Conditions of Entitlement' (i.e. conditions which apply to most communications providers) and 'specific conditions' (conditions which apply to particular companies depending on their circumstances – for example universal service conditions only apply to the universal service providers)[1].

2. Under the Authorisation Directive, the general authorisation gives undertakings the right to provide electronic communications networks and services and to negotiate interconnection with other providers in the European Community. When such networks and services are provided to the public, a general authorisation makes them eligible to be designated to provide certain universal service functions.

3. Member States are also required to facilitate the use of radio frequencies through general authorisations but it remains possible to subject the use of some frequencies to the grant of individual rights, if such use: avoids harmful interference; ensures technical quality of service; safeguards the efficient use of spectrum; ensures the fulfilment of other general interest objectives defined by Member States.

4. The national regulatory authority is responsible for monitoring and supervising compliance with the requirements of the general authorisation or the rights of use and specific obligations. Where an undertaking does not comply with one or more of these conditions, the NRA must give it a reasonable opportunity to state its views within a reasonable period. Member States must also empower the NRA to impose orders to cease the provision of services in certain circumstances or financial penalties. In the case of serious or repeated breaches, the NRA can prevent an undertaking from continuing to provide electronic communications networks or services or suspend or withdraw rights of use.

Rationale for Government Intervention

5. In order to address the market failures that exist in the electronic communications market – for example natural monopoly and consumer detriment – it is important for network operators and service providers to comply with a set of obligations that ensures the market functions effectively and works well for consumers. Such obligations require the communications provider to take a number of measures, for example maintaining the functioning of a network, negotiating interconnection with another provider, providing uninterrupted access to emergency organisations, ensuring that customers are offered contracts with minimum terms, ensuring that customers are provided with clear and up-to-date information on prices and terms and conditions and so on.[2] Under the EU Framework and, specifically the Authorisation Directive, such obligations are enforced through the authorisation regime outlined above.

6. However, it is also important that such rules and obligations are made as simple as possible – such that communication networks and services are easier to provide - and also are consistent across Europe, with the latter facilitating the internal market for electronic communications networks and services. Differences between Member States can act as barriers that prevent other operators from

[1] For further details, see http://stakeholders.ofcom.org.uk/telecoms/ga-scheme/?a=0

[2] For further details on communication providers' obligations, please refer to http://stakeholders.ofcom.org.uk/telecoms/ga-scheme/general-conditions/

starting up or doing business across different Member States. Therefore the Authorisation Directive seeks to establish a harmonised market by limiting regulation to the minimum that is strictly necessary and ensuring a consistent approach to authorisations across Europe.

Policy Objectives

7. The overall objective of the Authorisation Directive is aligned with the general aim of promoting competition, investment and innovation in electronic communications, so that user needs are met and consumer interests are protected. The specific aims within this overall objective are:

   - promote more efficient and flexible spectrum management
   - increase the consistency of regulatory actions, in line with the wider objective of creating a single e-communications market in Europe
   - reinforce user rights and consumer protection

Options Analysis

8. The revised Authorisation Directive introduces a number of new articles and amendments to existing legislation that covers a wide range of issues in the electronic communications market. Some of these articles require significant changes to the UK regulatory regime, whilst others do not. The focus of this impact assessment is on the former. In determining which legislative amendments are 'significant', and therefore warrant assessment, DCMS has been guided by the topics covered in the Government consultation document <u>and</u> regulatory changes that were raised in a number of consultation responses as having a significant consequence.

9. Significant changes to the legislation have also been separated into two categories. The first group of legislative changes are articles that have no provision for leeway in implementation (category 1), whilst the second group can be implemented in more than one manner (category 2). In so far as it is possible, estimates of the costs and benefits of all articles under both categories have been made. However, for category 1, it is not possible to identify discrete 'options' for implementation, therefore they are assessed against a baseline 'no change' scenario without looking at alternatives. For articles that fall under category 2, however, a number of options are appraised. The impact of the two categories are considered and assessed separately

Category 1 – changes to existing regime; no options available

<u>Article 10 – Compliance with the conditions of the general authorisations or of rights of use with specific obligations</u>

10. This article sets out the enforcement powers of NRAs to ensure that communications providers comply with the obligations set out in the general authorisation and the specific obligations. The revised Authorisation Directive makes a number of operational changes to some of these powers, which are likely to have a significant impact in the UK.

Current Enforcement and Compliance

11. Ofcom currently takes enforcement action across a number of industry sectors and is able to use a range of statutory powers granted by various acts (including the Communications Act 2003, the Competition Act 1998, the Enterprise Act 2002, the Broadcasting Act 1990, the Broadcasting Act 1996, EU Regulations and the Wireless Telegraphy Act 2006). Ofcom takes enforcement action to – among other things - encourage competition, enforce consumer protection law and encourage regulatory compliance. It also maintains a set of principles, which include commitments to: operate with a bias against intervention (but with a willingness to intervene firmly, promptly and effectively where required); ensure that interventions are evidence-based, proportionate, consistent, accountable and transparent; always seek the least intrusive regulatory mechanisms to achieve Ofcom's policy objectives.

12. With regards to telecommunication issues specifically, Ofcom has responsibilities to enforce *ex ante* rules (e.g. in the conditions that it sets under the Communications Act 2003), competition law (under the Competition Act 1998 and the Enterprise Act 2002) and wider consumer protection laws

(including unfair terms in consumer contracts). Competition issues are usually investigated in response to information brought by companies whilst consumer issues are either investigated on the basis of complaints received, Ofcom's own initiative (using data collected by its Central Operations team) or information from external sources such as Consumer Direct. The regulator has a range of remedies available to correct the behaviour of operators and service providers, including:

- issuing notifications of contravention
- issuing a notification of misuse (of an electronic communications network of service)
- securing formal undertakings from companies that they will change their offending behaviour in order to become compliant with consumer law
- seeking an injunction or order from the courts to enforce consumer protection

13. With regards to the issuing of notifications, if they do not result in the communications provider correcting its behaviour then Ofcom may follow it up by an enforcement notification and/or the imposition of a penalty of up to ten per cent of relevant turnover. Figure 1 below shows the number and types of formal investigations that Ofcom has opened since 2004, whilst Figure 2 shows the outcome of all investigations between December 2003 and September 2010. The latter shows that around one in five investigations led to a notification, whilst one third successfully resulted in the target company changing its behaviour. In addition to such formal investigations, Ofcom will often redirect enquiries from consumers of firms or deal with it by informal action. For example, out of 41 complaints received in the period April – September 2010 (including dispute resolutions), only 8 were accepted to investigation. Others were either rejected (for example because they did not comply with Ofcom guidelines), redirected, are ongoing or were dealt with by information action. In the six months before April 2010, 12 investigations were opened as a result of 35 complaints[3].

Figure 1: Number of investigations opened by type (regulatory disputes not included)

Source: Ofcom's Investigations Activity: Report on activity between 1 April and 30 September 2010 (November 2010)

[3] Source: Ofcom's Investigations Activity – Six Monthly Round-up of Complaints and Disputes

Figure 2: Outcome of Investigations (includes regulatory disputes)

Source: Ofcom's Investigations Activity: Report on activity between 1 April and 30 September 2010 (November 2010). Note that these investigations include regulatory disputes between communication providers (where determination will be particularly relevant). Total number of investigations during the period between December 2003 and September 2010 was 176.

14. Evidence currently suggests that Ofcom's enforcement regime works reasonably well. A survey undertaken amongst Ofcom's stakeholders (principally from industry) received 38 responses[4]. Whilst this is not large enough to provide a robust analysis, the results indicated that the majority (61 per cent) were favourable towards Ofcom whilst half said that its enforcement policies are better than average. The vast majority – around 80 per cent – also believed that Ofcom investigations are conducted fairly.

15. Nevertheless, there are a number of areas where enforcement needs strengthening. The number of telecommunications-related complaints in Figures 3 and 4 below suggests that firms operating in the UK are not fully compliant with their obligations; the overall number of complaints has remained relatively stable at around 20,000 per month, with around half of these being about telecoms (see Figure 3). The biggest telecoms complaints such as mis-selling and complaints handling showed a general increase in the 14 month period to September 2010 (see Figure 4).

Figure 3: Number of complaints received by Ofcom: 2009-10, by month

Source: Ofcom, Ofcom's Advisory Team (OAT) Data. "General' enquiries could relate to broadcast, spectrum or telecoms issues.

[4] Ofcom, 'Enforcement Report: A report on Ofcom's approach to enforcement and recent activity' (May 2009). Survey carried out in December 2008.

Figure 4: Trend in complaints about telecoms issues

Source: Ofcom, Ofcom's Advisory Team (OAT) (Telecoms Complaints Data[5])

16. Such breaches of obligations and conditions can cause consumer detriment in the form of anxiety and distress, as well as having potential financial implications. It is extremely difficult to accurately quantify the amount of consumer detriment that the above problems cause but it is possible to approximate by using a study by the Office of Fair Trading, which assessed the economy-wide impact of consumer problems with goods and services[6]. The study estimated that the overall value of revealed consumer detriment in the UK economy over one year was £6.6 billion. Across a number of sectors, telecoms was one of the most complained about goods/services and the average value of financial loss due to a telecommunications problem was given to be £42 (which is significantly less than losses incurred from problems in other sectors, such as £1,033 for insurance and £533 for home maintenance). If one multiplies this by the number of complaints in the year to September 2010 (about 100,000 - see Figure 1 above) then this suggests a detriment of around £4.2 million per year. This only includes detriment associated with financial loss and does not take into account emotional distress or the cost of time to deal with the complaint; furthermore, it is likely that a number of consumers have problems that they do not complain about, which are therefore not captured in the figure above. On the other hand, some of the reported complaints may be without merit. Therefore, the estimate should provide a useful proxy of consumer detriment.

17. The calculation above is not intended to provide a robust estimate of the level of consumer detriment in the telecommunications sector as such a figure would require a more detailed consumer survey and analysis. However, it suggests the current cost of communication providers failing to comply with their obligations results in a level of consumer detriment that is of an order of magnitude of millions of pounds per year. The OFT study also found that only one half of telecommunications problems are completely resolved.

18. It should be noted that it is not the role of Ofcom to resolve individual consumer complaints; where there are problems with a customer's communications provider, complaints are referred to two adjudication schemes (Otelo and CISAS) and/or to Consumer Direct. However, Ofcom does have a role to tackle issues of widespread concern and where there is a pattern of bad behaviour, or if the level of consumer harm is significant to warrant Ofcom action. The evidence above suggests that

[5] Mis-selling occurs in instances when consumers are given incorrect or misleading information by communication providers (for example to encourage them to switch). 'Slamming' refers to consumers receiving a bill from a company they haven't signed up to (i.e. the new company has switched their account without first obtaining their permission). Silent calls are usually the result of predictive diallers used by various firms (e.g. telemarketing, market research, debt collection etc.) calling a consumer but not having an available agent to speak when the customer answers the phone – therefore, the customer only hears silence. 'Tags' refer to 'tags on the line' which prevent consumers who have just bought broadband for the first time (or have just moved into a new property) from using the internet; they occur for a variety of reasons and in the majority of cases the provider is best placed to fix the underlying cause of the Tag. Lastly, a 'MAC' is a code that enables a consumer to switch from one broadband provider to another with minimal disruption to their service; such codes should be given to a consumer by their current provider within five working days of a request.

[6] OFT, 'Consumer Detriment: Assessing the frequency and impact of consumer problems with goods and services' (April 2008)

there remains a problem in relation to electronic communications. Furthermore, the aforementioned stakeholder survey showed only half of respondents thought that Ofcom's interventions act as a deterrent against breaking compliance rules, whilst a significant minority – 20 per cent –stated that Ofcom's interventions did not reduce harm in the market[7].

Regulatory amendments

19. As discussed above, Ofcom currently has a number of tools at its disposal to enforce regulations and conditions and impose sanctions when they are breached (with any sanction needing to be appropriate and proportionate to the harm, damage and distress caused). However, amendments to Article 10 of the Authorisation Directive make a number of changes to the enforcement powers granted to Ofcom to enable it to deal more effectively with breaches of regulatory obligations. These changes could be relevant in addressing the detriment that currently exists in the market.

20. Article 10(2) has been amended so that instead of the need to notify an undertaking of an alleged breach and giving it one month either to state its views or to remedy the breach, the NRA now just has to allow a 'reasonable time limit' for the undertaking to state its views – thus the requirement to give the undertaking an opportunity to remedy the breach before issuing a penalty has been removed.

21. Ofcom's powers under Article 10(3) have also been strengthened so that it has a power to require the cessation of the breach either immediately or within a reasonable time limit. To this end, the revised Directive also allows penalties to be periodic and to have retroactive effect. The latter confirms that Ofcom will be able to issue a financial penalty that dates back to the start of the contravention, rather than just the date of the first notification. Once a breach has been established, Ofcom will also be able to issue periodic penalties going forward (for example a daily penalty for each day that the contravention continues).

22. Further enforcement powers are granted under Article 10(5), where NRAs can impose sanctions and penalties for a breach of obligations even if the breach has already been remedied. Changes to the legislation also allow Ofcom to prevent undertakings from continuing to provide a network or service (or suspend or withdraw its rights of use) where there are serious **or** repeated breaches of the firm's conditions; this is different to the current legislation which gives this power where there are serious **and** repeated breaches.

23. Lastly, changes to Article 10(6) - which currently allows the NRA to take interim measures where a breach of conditions poses a threat to public safety/security/health or creates serious economic or operational problems for other providers or users of communications networks or services (or radio spectrum) – make clear such interim measures are only valid for 3 months. They can be extended for a further period of 3 months if the enforcement process has not been completed.

Costs

24. The above legislative changes will be made by amending relevant sections of the Communications Act 2003 and the Wireless Telegraphy Act 2006. As their enforcement powers have been strengthened, Ofcom will consult this summer on revising its enforcement guidelines to reflect the changes at the European level (for example in determining what a 'reasonable time limit' is in the circumstances for a communications provider to respond to an Ofcom notification). Without knowing the details of how enforcement will be revised, it is not possible to estimate the costs of such changes, though these will analysed by Ofcom as they update their guidelines. However, it is worth noting that any direct cost on businesses ultimately depends on their compliance with the obligations set out in the General and specific conditions. Therefore, if they are fully compliant then the economic costs of changing Article 10 will be negligible.

25. In terms of enforcement costs to the regulator, again this will largely be determined by the details of the guidance that Ofcom will issue. However, it is likely that any cost increase will be negligible in the context of Ofcom's existing enforcement framework, which should be able to exercise the new powers (if necessary) without any additional burden.

[7] Ofcom, 'Enforcement Report: A report on Ofcom's approach to enforcement and recent activity' (May 2009).

Benefits

26. In the event that Ofcom's enhanced enforcement powers provide a greater deterrent for communication providers in breaching their obligations and conditions, it is possible that changes to Article 10 could lead to lower levels of consumer detriment in the market. Such benefits are not insignificant; for example if the amount of detriment falls by 10 per cent then users of telecommunication services could benefit by around £420,000 per year (based on the calculation estimated above). However, as with the costs above it is not possible to produce a robust quantification of benefits until Ofcom consults on the changes it intends to make.

27. It is also important to note the wider European context of making obligations and compliance with them more consistent. There are significant differences in this regard, for example the most recent ECTA scorecard assessed how effective NRAs were in enforcing the obligations of providers that have SMP. Whilst the UK has demonstrated that it has a track record of actively pursuing SMP violations (thus receiving the maximum score), four EU countries – including France and Germany – received the lowest score[8]. Therefore, if changes to the Authorisation Directive improve the level of regulatory compliance in other European countries, UK communication providers may have better incentives to export their services.

Risks and Assumptions

28. A number of consultation responses highlighted a series of risks that may result from the changes to Article 10 of the Authorisation Directive. Many of the amendments allow Ofcom to use its extended powers on a subjective basis; for example, defining a 'reasonable time limit' it moves away from an objective limit (e.g. a fixed one month period). Aside from the regulatory uncertainty this creates, it also has the potential to increase the number of appeals by network operators and service providers.

29. It was also argued that given the fast-moving nature of the communications industry, a number of providers may engage in certain innovative activities that – whilst intended to benefit customers – are negatively perceived. In these cases, it is important that providers are given the opportunity to adapt without the risk of a penalty or sanction; otherwise, certain innovations (be they product or process) may be stifled.

30. The above risks will be mitigated by Ofcom consulting on its new powers and, following on from that, the issuance of guidelines that give communication providers the regulatory certainty that they require. This will also avoid a necessary increase in appeals as Ofcom decisions will be justified on a standard set of guidelines. Furthermore, when Ofcom do take enforcement action in a particular case, they need to give the company concerned the opportunity to make representations first (except in urgent cases, though even in the latter Ofcom is required to provide the company with an opportunity to make representations after taking action).

<u>Article 10 (1) – Information Gathering and Spectrum</u>

31. Article 10(1) of the Authorisation Directive requires NRAs to monitor and supervise compliance with the conditions of general authorisation or of rights of use. In this regard, it has a power to require providers to provide all information necessary to verify compliance with its obligations. Section 135 of the Communications Act 2003 already gives Ofcom wide information gathering powers to require the collection of such information. However, whilst that power is wide (see impact assessment for the Framework Directive for further details), it does not extent to various matters relating to spectrum. Section 32 of the Wireless Telegraphy Act 2006 (WTA) contains an information gathering power but one that only enables Ofcom to require information to be provided for statistical powers.

32. Ofcom's power to request information under a licence is limited and does not adequately reflect what will soon be required by the Authorisation Directive; specifically that the powers for spectrum should be the same as for telecoms to enable Ofcom to carry out its duties in these areas. Therefore, in order to ensure that the UK is fully compliant, a new information gathering power will be introduced into the WTA to enable Ofcom to request information for the purpose of fulfilling its spectrum-related functions, such as ascertaining whether a contravention of a licence condition is occurring or has occurred, or for the purpose of exercising their general spectrum management functions.

[8] ECTA Regulatory Scorecard 2009.

Costs

33. The new WTA information gathering power will be enforced in much the same way as section 135 of the Communications Act 2003. Government did not receive any evidence during the consultation to indicate the likely costs this would impose on communication providers that use spectrum. Therefore, in order to estimate the cost of this new burden, it is assumed that they will be similar to the burdens currently incurred by communication providers as a result of Section 135 of the Communications Act, which is **£78,000 per year**[9].

Benefits

34. As discussed in the impact assessment for the Framework Directive, the benefits of information provision and reporting obligations are difficult to quantify. However, a regime that facilitates reporting obligations can provide a number of benefits. Spectrum enforcement seeks to address two principal causes of spectrum interference, namely illegal broadcasting (e.g. pirate radio) and the placing on the market of 'illegal' (non-compliant) equipment. By enhancing Ofcom's information gathering powers, it will be in a better position to investigate suspected breaches of the legal framework.

35. Illegal broadcasting and the sale and use of illegal equipment can cause significant harm, including interference caused to legitimate radio stations (which deprives them of audience and reduces revenue from advertisers, thus causing serious harm to their business and resulting in consumers not being able to listen to the station of their choice) and signals from illegal broadcasters interfering with the radio systems of emergency services or the National Air Traffic Service. The fact that there are around 6,000 spectrum complaints every month (see Figure 3 above) shows that spectrum problems are persistent across the UK. Further evidence from a survey commissioned by Ofcom in 2007 also showed that almost one third (30 per cent) of all radio listeners across the UK suffer interference on FM, with14% of these individuals believing it to be caused by illegal broadcasters. Based on current figures, this suggests that almost 2 million adults in the UK are affected by illegal broadcasting on a weekly basis[10]. Given that almost two thirds of listeners affected by radio interference said that they switch to a different station (or turn the radio off), there are clearly significant costs associated with illegal broadcasting. Furthermore, they are greater than the number of complaints would suggest, as only 2 per cent of listeners who experience radio interference saying that they complain about it[11].

36. Given the above evidence and the fact that in 2008 Ofcom undertook a number of illegal broadcasting activities (including 36 studio raids, 28 prosecutions, 14 formal cautions, 489 transmitter seizures and 74 written warnings[12]), the size of the problem is likely to be of a much larger scale than the costs outlined above. Unfortunately, it is not possible to estimate the extent to which Ofcom's enhanced information gathering power will reduce the current levels of harm incurred and, therefore, the benefits of changing Article 10(1).

<u>Article 14 – Amendments of rights and obligations</u>

37. This article has been revised such that minor amendments to rights, conditions and procedures concerning general authorisations and rights of use can be agreed with a communications provider without holding a public consultation. Given that such amendments are by definition minor with minimal impact, it is unlikely that this will have a significant impact, though industry should benefit by changes being implemented more quickly and without any burdens associated with a consultation.

<u>Annex (Part C)</u>

38. Paragraph 1 of Part C of the Annex to the Authorisation Directive has been amended to clarify that national regulatory authorities have the power to adopt tariff principles or to set tariff caps in relation to certain numbers or number ranges. This is intended to create greater transparency for consumers

[9] Cost estimates are based on the Better Regulation Executive's Administrative Burdens https://www.abcalculator.bis.gov.uk/index.php
[10] Evidence from Ofcom's 2010 Communications Market Report indicates that 46.8 million adults listen to the radio on a weekly basis. If 30% (14 million adults) are affected by interference and 14% of these are caused by illegal broadcastings, then it affects 1.97 million adults weekly.
[11] Ofcom, 'Illegal Broadcasting: Annex 3 Research into listener perceptions of radio interference' (April 2007)
[12] Ofcom, 'Enforcement Report: A report on Ofcom's approach to enforcement and recent activity' (May 2009). Survey carried out in December 2008.

calling – for example – non-geographic numbers and to help prevent consumers receiving bills with unexpectedly high call charges ('bill shock'). In order to transpose this change into UK legislation, the Communications Act will be amended such that Ofcom has this power; as it is discretionary, it is not possible to assess the costs and benefits without knowing how Ofcom will exercise the power. However, a more detailed analysis will be undertaken in the event that Ofcom decides to make use of it.

Category 2 – changes to existing regime; options available

Article 5 – Rights of use for radio frequencies and numbers
Article 7 – Procedure for limiting the number of rights of use for radio frequencies

39. Changes to the above two articles relate to the use and management of spectrum and so the impacts are assessed in Annex 1 of the Framework Directive, which covers the topic of spectrum in one complete analysis.

Articles 10 and 11: Information Gathering and Dissuasive Sanctions

40. Article 10(1) of the Authorisation Directive requires NRAs to monitor and supervise compliance with the conditions of general authorisation or of rights of use. In this regard, it has a power to require providers to provide all information necessary to verify compliance with the conditions of the general authorisation (or of rights of use or with specification obligations). This is in accordance with Article 11, which sets out the information that may be required by the regulator in order to ensure compliance with general authorisation (as well as for rights of use and for specific obligations).

41. Article 10(3) currently states that Member States may empower the relevant authorities to impose financial penalties where appropriate, in order to ensure compliance. However, under the revised Directive, the Article states that the regulatory shall be empowered to impose dissuasive financial penalties. This change also complements an amendment to the Framework Directive, specifically the addition of Article 21a, which states that:

> "*Member States shall lay down rules on penalties applicable to infringements of national provisions adopted pursuant to this Directive and the Specific Directives and shall take all measures necessary to ensure that they are implemented. The penalties provided for must be appropriate, effective, proportionate and dissuasive*"

42. Ofcom already has powers to impose financial sanctions. Under section 139 of the Communications Act 2003, Ofcom can impose a penalty of up to £50,000 for breaches of the information gathering power. It will do so if the provider has not responded to a notification request from Ofcom to provide specific information (which the regulator can issue under section 138).

43. Whilst the revised Directive calls for such sanctions to be "dissuasive", Ofcom has argued that a £50,000 penalty has not proven to be a sufficient deterrent during the past few years in relation to its information gathering powers. During the past six years, Ofcom has taken enforcement action on 11 occasions, with three providers requiring action on more than one occasion[13]. Furthermore, there have been a number of cases where communication providers have provided incorrect information or are late in providing the information requested. It was also argued by some communication providers, in their responses to the Government consultation, that a £50,000 is unlikely to be dissuasive to those operating short-term scams, where the potential gains can exceed the amount of the fine.

44. Under the current regime, if Ofcom is minded to take action against a provider who has failed to respond to an information request, the first step is to issue a notification (under section 138 of the Communications Act). This provides the firm with a minimum of 30 days to send the requested information (under section 139). If it fails to comply, Ofcom can then issue a penalty.

45. However, the regulator has argued that the current maximum fine is not sufficient to act as a deterrent to stop the above behaviour in the case of large communication providers, bearing in mind that such firms can generate annual revenues of billions of pounds. Therefore, Government consulted on the option of increasing the maximum penalty under Ofcom's information gathering

[13] Source: Ofcom

power to £2 million; a similar change has recently been implemented for sanctions related to silent calls. An assessment of strengthening Ofcom's enforcement in this manner is provided below, in addition to the baseline 'do nothing' option.

Option 1 – do nothing

46. Under this option, the penalty for failing to comply with an information request from Ofcom would remain at £50,000.

Costs

47. In order to be dissuasive, the level of a fine must be high enough to prevent a communications provider from breaching its information obligations. Firms would find it rational to breach its conditions if this creates more money for the business than they will be fined or from being made compliant. So for example, if the potential profit from a breach is £150,000 and the maximum penalty is £50,000 then it may be rational for a company to breach the conditions and pay the fine if being compliant would not cover the opportunity cost of £100,000. Furthermore, if they believe that the risks of investigation and sanctions being imposed are low, then the risk-adjusted level of penalty will fall, making it more likely that the benefits of breaching outweigh the costs of the penalty. Therefore, for the level of fine to be dissuasive, it must be greater than any potential benefits that can be gained by breaching the conditions.

48. Whilst there is no evidence on the current benefits of communication providers breaching Ofcom information requests, that fact that it occurs and that a number of providers either delay or provide incorrect information suggests that the current penalty level does not provide a sufficient deterrent. One of the key reasons for Ofcom requesting information is to ensure that firms are compliant with their obligations. Failure to do so can lead to significant consumer detriment which, as outlined above, could be in the order of millions of pounds. Therefore under this option, Ofcom is likely to continue to have problems enforcing section 135, meaning that the broader issue of consumer harm will remain.

49. It is also worth noting the fact that a penalty of up to £50,000 can be reasonably small compared to the penalty available to Ofcom in cases where firms breach their conditions (as set out in the General Authorisation or specific obligations), which is ten per cent of relevant turnover. If firms are in breach of their obligations but do not file their accounts with Companies House - which is the case for some communication providers - it is not possible for Ofcom to know the firm's turnover. As a result, Ofcom is required to request the information under section 135, but in cases where a firm's turnover is greater than £500,000 it is in the firm's interest to withhold the information. This scenario actually applies in more than one of the 11 above mentioned enforcement notices. As an example, in December 2010 one firm still had not complied with the enforcement action that Ofcom had started in February 2010. As the firm had not filed account with Companies House, its turnover is unknown and Ofcom has not been able to impose any penalty under section 96 (for breaching core obligations). As a result, consumer harm has not been remedied.

Benefits

50. Whilst this option does not produce any direct benefits in itself, it is important to note that the 'baseline' scenario still involves the implementation of the above mandatory changes to Article 10, which is likely to reduce a proportion of consumer detriment in the market.

Risks

51. The revised legislation clearly states that Member States must provide for dissuasive financial penalties. Given that there remain a number of instances where firms do not fully respond to Ofcom's information gathering powers, there is a risk that maintaining the current maximum of £50,000 will not be seen as dissuasive; meaning that the UK would not be compliant with European legislation.

Option 2 – increase the maximum penalty to £2 million

52. Under this option, the maximum penalty that Ofcom could issue to firms for failing to comply with an information enforcement notice would increase to £2 million (such an increase recently done for

silent calls). This sanction would apply to both electronic communication matters (under the Communications Act) and Ofcom's new information gathering power for spectrum (under the WTA, see above).

Costs

53. Increasing the maximum penalty will only have an impact on firms that are not compliant with their obligations in terms of information provision. If a higher penalty is incurred, it would be treated as an economic transfer from the offending company to Ofcom; however, given that it only arises where a provider is not fulfilling its legal obligations it is not considered to be a regulatory cost to business.

Benefits

54. The principal benefit of increasing the maximum sanction available to Ofcom is that it should enable the regulator to perform its duties as set out by the Directive, which could lead to a consumer protection benefits. Specifically, it provides for a higher deterrent for non-compliance and it also gives Ofcom greater scope to punish non-compliance.

55. If this option provides a deterrent that incentivises firms to provide Ofcom with the information it needs on a timelier basis, then Ofcom will be in a better position to monitor the market and, if necessary, enforce obligations associated with the legislation. Investigations should also be resolved more quickly and efficiently on the basis of more reliable information. This is likely to have particular relevance to the larger network operators and service providers that dominate the communications market, most of whom generate hundreds of millions of pounds in revenue per year[14], as they are more likely to ensure that the information they provide is accurate and factual.

56. It is not possible to accurately quantify the impact this option would have on the level of consumer harm in the market. It would be useful to assess the impact of increasing the penalty for silent calls but given that this has only been in place for a short while, such an analysis cannot be undertaken. However, given that this increasing the maximum sanction is effectively 'zero-cost' to firms that adhere to their obligations, any reduction in consumer detriment will bring a net benefit to the market.

57. As discussed in a number of consultation responses, it should be stressed that failure to comply with an information request under section 135 is not equivalent to silent calls or a breach in obligations, as the latter results in direct consumer harm. Therefore, improving Ofcom's information gathering power is unlikely to have the same impact as enhancing its more general enforcement powers. However, given that the regulator needs timely and accurate information to monitor compliance in the market, ensuring that firms comply with their information obligations under section 135 does have an *indirect* link to consumer detriment, meaning that it could have a beneficial effect if the deterrent is made stronger.

58. In addition, a higher limit increases Ofcom's flexibility to adequately penalise companies for any aggravating factors. A relatively low fixed penalty means that once a firm's conduct goes beyond a certain degree of seriousness, the punishment cannot match it, meaning that it is near-impossible to properly penalise the offending company.

Risks

59. It is possible for communication providers to appeal the imposition of fines to the Competition Appeal Tribunal. In the event that a higher penalty does not prove to be a deterrent – and so Ofcom will be required to exercise it – it could lead to a more litigious environment and increase the likelihood of appeals, rather than having firms work with Ofcom to resolve the information request. This could result in costly legal proceedings and delays in gathering the necessary information.

60. A number of firms stated in their responses to the Government consultation that the current sanction of up to £50,000 was adequately dissuasive and argue that increasing it to £2 million could be disproportionate, particularly given that Ofcom has not extensively exercised its sanction powers during the past seven years. However, this should be mitigated by Ofcom's legal obligation to ensure

[14] For example a report commissioned by DCMS illustrates that nine communication service providers in the UK have a total revenue of approximately £37 billion (Detica, 'Impact of Security and Integrity provisions of the EU Electronic Communications Framework' March 2011)

that any sanction is proportionate, bearing in mind that £2 million is the maximum fine (in practice it is likely that penalties will start at a lower level). In setting the penalty, Ofcom also ensures that it has regards to the particular facts of the case (for example it will not treat requests for significant amounts of information the same as requests for shorter pieces of information).

Preferred Option

61. Government intends to pursue option 2 and increase the maximum penalty to £2 million. The current maximum of £50,000 has not proved to be dissuasive for all firms in the market, which is now a requirement under the revised legislation. Furthermore, any indirect fall in consumer harm will result in a net benefit as the option is effectively zero cost for compliant communication providers.

One-in, One-Out

62. The preferred option does not fall under the scope of the Coalition Government's 'One-In One-Out' rule because it relates to penalties[15]. Furthermore, as discussed above there is a risk that maintaining the current penalty will not be compliant with the revised Authorisation Directive, which requires the provision of "dissuasive" financial penalties.

Summary of impacts

63. Table 1 below summarises the main impacts of the UK implementing the changes to the Authorisation Directive.

Table 1: Summary table of impacts

Legislative change	Costs	Benefits
Article 10 – compliance with general authorisations and rights of use Strengthening of Ofcom's enforcement powers	Costs to industry – not quantifiable as implementation details are not yet known. Ofcom will to consult on revisions to enforcement guidelines, after which costs will become clear. Fully compliant firms will bear negligible costs though. Costs to Ofcom – negligible	Indicative estimate of consumer detriment in the telecommunications sector is £4.2 million per year. Ensuring that fewer companies breach their obligations should result in a reduction to this detriment. In the wider context, strengthening enforcement and regulatory compliance in other countries may also increase incentives for UK communication providers to export their services in the EU.
Article 10(1) - information gathering and spectrum Ofcom given a power to request information on spectrum-related functions	Costs to industry of responding to information requests - **£78,000 per year** Costs to Ofcom - negligible	Not possible to quantify. Ofcom receive more than 5,000 spectrum complaints per month. Illegal broadcasting is estimated to affect radio quality for 2 million adults on a weekly basis. The size of the problem is therefore likely to be much greater than the quantified cost to industry. If additional information leads to more effective enforcement, the benefits could be significant.
Articles 10 and 11 – dissuasive sanctions (preferred option) Ofcom can impose a penalty of up to £2 million if firms breach their obligations to provide information	Costs to industry – no cost if firms are compliant with their regulatory obligations Costs to Ofcom - negligible	Increased penalty will act as a deterrent for firms to comply with their obligations, as currently not all communication providers are 100% compliant. This should reduce the level of consumer detriment in the market.

[15] HM Government, 'One-In, One-Out Methodology' (January 2011) states that fine and penalties levied on a regulated entity for non-compliance with a regulation is out of scope of OIOO.

Specific impact tests

Competition

The changes required to the UK regulatory regime that arise from amendments to the Authorisation Directive are not expected to have a significant effect on competition in the UK market. However, changes to the authorisation regime in other EU countries may have a positive effect on competition within the single EU electronic communications market as inconsistencies in authorisation regimes can act as barriers to businesses operating, or setting up, across Member States. By reducing these barriers, competition within the single market may improve as firms operate on a more level playing field. The potential benefits of these are addressed in the overarching impact assessment.

Small Firms
After initial screening, there is not expected to be a disproportionate effect of the Directive on small firms.

Other Specific Impact Tests

Other environment/ rural proofing

After an initial screening it has been deemed that no significant impact is anticipated on the environment and rural proofing.

Statutory Equality Tests

The Equality Impact Assessment provides an assessment on these issues.

Other tests

Other specific impact tests have been considered including Legal Aid, Sustainable Development and Carbon Assessment. Again, after initial screening, it has been deemed that no significant impact is anticipated.

Annexes

Annex 1 should be used to set out the Post Implementation Review Plan as detailed below. Further annexes may be added where the Specific Impact Tests yield information relevant to an overall understanding of policy options.

Annex 1: Post Implementation Review (PIR) Plan

A PIR should be undertaken, usually three to five years after implementation of the policy, but exceptionally a longer period may be more appropriate. If the policy is subject to a sunset clause, the review should be carried out sufficiently early that any renewal or amendment to legislation can be enacted before the expiry date. A PIR should examine the extent to which the implemented regulations have achieved their objectives, assess their costs and benefits and identify whether they are having any unintended consequences. Please set out the PIR Plan as detailed below. If there is no plan to do a PIR please provide reasons below.

Basis of the review: [The basis of the review could be statutory (forming part of the legislation), i.e. a sunset clause or a duty to review , or there could be a political commitment to review (PIR)]; See PIR plan in overarching impact assessment
Review objective: [Is it intended as a proportionate check that regulation is operating as expected to tackle the problem of concern?; or as a wider exploration of the policy approach taken?; or as a link from policy objective to outcome?]
Review approach and rationale: [e.g. describe here the review approach (in-depth evaluation, scope review of monitoring data, scan of stakeholder views, etc.) and the rationale that made choosing such an approach]
Baseline: [The current (baseline) position against which the change introduced by the legislation can be measured]
Success criteria: [Criteria showing achievement of the policy objectives as set out in the final impact assessment; criteria for modifying or replacing the policy if it does not achieve its objectives]
Monitoring information arrangements: [Provide further details of the planned/existing arrangements in place that will allow a systematic collection systematic collection of monitoring information for future policy review]
Reasons for not planning a review: [If there is no plan to do a PIR please provide reasons here]

Title: **Implementing the Revised EU Electronic Communications Framework - Access Directive**	Impact Assessment (IA)
Lead department or agency: Department for Culture, Media and Sport	**IA No:** DCMS021
Other departments or agencies: Ofcom	**Date:** 04/03/2011
	Stage: Final
	Source of intervention: EU
	Type of measure: Secondary legislation
	Contact for enquiries: Stephen Fernando (020 7215 6320)

Summary: Intervention and Options

What is the problem under consideration? Why is government intervention necessary?

Network industries require a specific regulatory approach because incumbent firms control access to infrastructures that are essential for competitors to provide services in the market place. In the vast majority of cases, these infrastructures are "non replicable assets" both because the costs of duplicating cannot be justified by any reasonable business case and also because having multiple physical networks serving the same purpose could be hugely inefficient. In order to address these natural monopoly characteristics, the Access Directive ensures competing firms have access to incumbent networks in order to encourage competition. It also sets out the rules on which that access is based and covers how the regulator might intervene to bring it about.

What are the policy objectives and the intended effects?

Within the overall objective of the EU framework, the Access Directive has a particular focus on competition. Specifically, it aims to ensure effective competition which brings tangible benefits to consumers, in particular through greater choice of services and lower prices. It does so by facilitating access to incumbent networks by other network operators and service providers.

What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)

The changes that Government is required to implement in the Access Directive allow for no flexibility in implementation. Furthermore, the amendments are largely enabling regulations that give Ofcom certain discretionary powers. However, because these are enabling and do not result in direct regulation, there is no direct cost or benefit. In the event that Ofcom decides to exercise or implement its new powers, it will produce an impact assessment, which is required for any proposal that has a significant impact either on communication firms or the general public. The most significant change to the Access Directive gives national regulatory authorities the power to impose functional separation on incumbent network owners (the establishment of an operationally separate entity, such that the parts of a company controlling the bottleneck assets are separate from other divisions, including service provision). However, Ofcom has already imposed functional separation on BT using its competition powers.

Will the policy be reviewed? It will be reviewed. **If applicable, set review date:** 5/2016	
What is the basis for this review? Duty to review. **If applicable, set sunset clause date:** Month/Year	
Are there arrangements in place that will allow a systematic collection of monitoring information for future policy review?	Yes

SELECT SIGNATORY Sign-off For final proposal stage Impact Assessments:

I have read the Impact Assessment and I am satisfied that (a) it represents a fair and reasonable view of the expected costs, benefits and impact of the policy, and (b) the benefits justify the costs.

Signed by the responsible Minister: _____ Date: 24/03/2011

Summary: Analysis and Evidence — Policy Option 1

Description:

Implementation of the Framework Directive - articles for which there are no options in implementation

Price Base Year 2011	PV Base Year 2011	Time Period Years 10	Net Benefit (Present Value (PV)) (£m)		
			Low:	High:	Best Estimate: 0

COSTS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low		N/A		
High				
Best Estimate	0		0	**0**

Description and scale of key monetised costs by 'main affected groups'

The Access Directive requires the UK to give Ofcom certain discretionary powers, for example under the Communications Act it will be possible to operationally separate an incumbent network owner if it represents a proportionate and effective remedy to monopoly power. However, because changes to the Directive give Ofcom enabling powers (rather than directly regulate the electronic communications market) there is no direct cost.

Other key non-monetised costs by 'main affected groups'

BENEFITS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low		N/A		
High				
Best Estimate	0		0	**0**

Description and scale of key monetised benefits by 'main affected groups'

The Access Directive requires the UK to give Ofcom certain discretionary powers, for example under the Communications Act it will be possible to operationally separate an incumbent network owner if it represents a proportionate and effective remedy to monopoly power. However, because changes to the Directive give Ofcom enabling powers (rather than directly regulate the electronic communications market) there is no direct benefit.

Other key non-monetised benefits by 'main affected groups'

Key assumptions/sensitivities/risks — **Discount rate (%)** 3.5

In the event that Ofcom decides to exercise its new powers under the Access Directive, it is under a statutory obligation to carry out an impact assessment, which will set out the costs and benefits of the proposed measures. Government cannot direct Ofcom – which is an independent regulator – to implement the legislation in a certain way.

Direct impact on business (Equivalent Annual) £m):			In scope of OIOO?	Measure qualifies as
Costs: 0	**Benefits:** 0	**Net:** 0	No	NA

Enforcement, Implementation and Wider Impacts

What is the geographic coverage of the policy/option?			United Kingdom		
From what date will the policy be implemented?			25/05/2011		
Which organisation(s) will enforce the policy?			Ofcom		
What is the annual change in enforcement cost (£m)?			0		
Does enforcement comply with Hampton principles?			Yes		
Does implementation go beyond minimum EU requirements?			No		
What is the CO_2 equivalent change in greenhouse gas emissions? (Million tonnes CO_2 equivalent)			**Traded:** N/A	**Non-traded:** N/A	
Does the proposal have an impact on competition?			No		
What proportion (%) of Total PV costs/benefits is directly attributable to primary legislation, if applicable?			**Costs:**	**Benefits:**	
Distribution of annual cost (%) by organisation size (excl. Transition) (Constant Price)	**Micro**	**< 20**	**Small**	**Medium**	**Large**
Are any of these organisations exempt?	No	No	No	No	No

Specific Impact Tests: Checklist

Set out in the table below where information on any SITs undertaken as part of the analysis of the policy options can be found in the evidence base. For guidance on how to complete each test, double-click on the link for the guidance provided by the relevant department.

Please note this checklist is not intended to list each and every statutory consideration that departments should take into account when deciding which policy option to follow. It is the responsibility of departments to make sure that their duties are complied with.

Does your policy option/proposal have an impact on…?	**Impact**	**Page ref within IA**
Statutory equality duties[1] Statutory Equality Duties Impact Test guidance	No	
Economic impacts		
Competition Competition Assessment Impact Test guidance	No	
Small firms Small Firms Impact Test guidance	No	
Environmental impacts		
Greenhouse gas assessment Greenhouse Gas Assessment Impact Test guidance	No	
Wider environmental issues Wider Environmental Issues Impact Test guidance	No	
Social impacts		
Health and well-being Health and Well-being Impact Test guidance	No	
Human rights Human Rights Impact Test guidance	No	
Justice system Justice Impact Test guidance	No	
Rural proofing Rural Proofing Impact Test guidance	No	
Sustainable development Sustainable Development Impact Test guidance	No	

[1] Public bodies including Whitehall departments are required to consider the impact of their policies and measures on race, disability and gender. It is intended to extend this consideration requirement under the Equality Act 2010 to cover age, sexual orientation, religion or belief and gender reassignment from April 2011 (to Great Britain only). The Toolkit provides advice on statutory equality duties for public authorities with a remit in Northern Ireland.

Evidence Base (for summary sheets) – Notes

Use this space to set out the relevant references, evidence, analysis and detailed narrative from which you have generated your policy options or proposal. Please fill in **References** section.

References

Include the links to relevant legislation and publications, such as public impact assessments of earlier stages (e.g. Consultation, Final, Enactment) and those of the matching IN or OUTs measures.

No.	Legislation or publication
1	Government consultation http://www.bis.gov.uk/Consultations/revised-eu-electronic-communications-framework
2	EC Legislative proposals and impact assessment http://ec.europa.eu/information_society/policy/ecomm/library/proposals/index_en.htm
3	Full European Legislation http://ec.europa.eu/information_society/policy/ecomm/doc/library/regframeforec_dec2009.pdf
4	Communications Act 2003 http://www.legislation.gov.uk/ukpga/2003/21/contents

Evidence Base

Ensure that the information in this section provides clear evidence of the information provided in the summary pages of this form (recommended maximum of 30 pages). Complete the **Annual profile of monetised costs and benefits** (transition and recurring) below over the life of the preferred policy (use the spreadsheet attached if the period is longer than 10 years).

The spreadsheet also contains an emission changes table that you will need to fill in if your measure has an impact on greenhouse gas emissions.

Annual profile of monetised costs and benefits* - (£m) constant prices

	Y_0	Y_1	Y_2	Y_3	Y_4	Y_5	Y_6	Y_7	Y_8	Y_9
Transition costs	0	0	0	0	0	0	0	0	0	0
Annual recurring cost	0	0	0	0	0	0	0	0	0	0
Total annual costs	0	0	0	0	0	0	0	0	0	0
Transition benefits	0	0	0	0	0	0	0	0	0	0
Annual recurring benefits	0	0	0	0	0	0	0	0	0	0
Total annual benefits	0	0	0	0	0	0	0	0	0	0

* For non-monetised benefits please see summary pages and main evidence base section

Evidence Base (for summary sheets)

Background

1. The Access Directive is intended to harmonise the way Member States regulate access to, and interconnection of, electronic communications networks as associated facilities. The aim is to establish a regulatory framework in accordance with internal market principles and to promote competition, interoperability of electronic communications services and consumer benefits.

2. The Directive establishes rights and obligations for operators and for undertakings seeking interconnection and/or access to their networks or associated facilities. The aspiration is progressively to reduce *ex ante*[1] sector specific rules as competition in the markets develops and ultimately to rely on competition law only. However, the Directive envisages that competition law rules alone are currently insufficient to deal with a number of access issues for which the Directive makes provision. Therefore, additionally to those rights and obligations, the Directive requires that national regulatory authorities (NRAs or Ofcom in the UK) encourage and, where appropriate, ensure adequate access (including interconnection as well as service interoperability) through imposing *ex ante* access obligations.

3. Such obligations may include issues concerning end-to-end connectivity, access to application program interfaces and electronic programme guides to ensure accessibility to digital radio and TV, conditional access systems and so on. The Directive also supplements the Framework Directive in relation to the responsibilities of NRAs to review specific product and service markets to identify whether (or not) these markets are effectively competitive. Where such markets are found not to be effectively competitive, NRAs must impose obligations on undertakings identified as having significant market power. However, the Access Directive seeks to avoid over-regulation by laying down a set of maximum obligations that can be applied to SMP operators.

4. Competition is encouraged by stimulating the development of communications services and networks, and by ensuring that any bottlenecks in the market do not constrain the emergence of innovative services that could benefit consumers. The approach adopted is technologically neutral, i.e. the Directive is not intended to introduce rules which could be adapted to technological progress but, instead, to establish a *modus operandi* to address market problems.

General access rights and obligations

5. Member States must ensure that there are no restrictions that prevent undertakings in the same Member State or in different Member States from negotiating between themselves agreements on access and/or interconnection. Moreover, the Directive establishes a fundamental rule regarding interconnection: that all network operators have rights and obligations with regard interconnection agreements. Thus, operators of public communications networks have a right and, when requested by other undertakings so authorised, an obligation, to negotiate interconnection with each other for the purpose of providing publicly available electronic communications services.

Obligations on specific access issues

6. The Access Directive envisages some circumstances in which it is appropriate for NRAs to impose access obligations on operators that do not have SMP in order to achieve goals such as end-to-end connectivity, service interoperability, access to application program interfaces and electronic programme guides to ensure accessibility to digital radio and TV, and so on. Additionally, the Directive mandates the regulation on conditional access systems and other facilities, which regulation must be rolled back only in specified cases. These specific access obligations are envisaged because certain operators may control specific instances of access without necessarily having SMP in a market. Large differences in negotiating power between such operators may also be present. This jurisdiction of NRAs (under Article 5) is without prejudice to measures that may be taken regarding SMP operators.

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[1] *Ex ante* regulation is distinct from *ex post* regulation; the former is anticipatory and mainly concerned with market structure (e.g. levels of market concentration, entry conditions, product differentiation), whilst *ex post* regulation addresses specific allegations of anti-competitive behaviour or market abuse and aims to redress proven misconduct through a range of enforcement options, including fines, injunctions or bans. It is therefore mainly concerned with market conduct.

Obligations imposed on SMP operators

7. NRAs are responsible for carrying out regular market analyses in order to determine whether (or not) the market in question is effectively competitive. This means that, following a market analysis, an NRA identifies one or more undertakings with SMP on a given market and finds that competition law remedies are insufficient to address the problems identified in its analysis. If the market is found not to be effectively competitive, the NRA is compelled under the Framework Directive to impose appropriate specific regulatory obligations. The Directive lays down a permissible range of SMP obligations that NRAs may impose to address the competition problems identified in the specific market and the obligations applied to the SMP operator in question will therefore vary according to the circumstances. Should NRAs identify the need to impose any other SMP obligations in exceptional cases, they must first be approved by the Commission. The set of maximum obligations that may be imposed without such approval are:

- obligations of transparency in relation to interconnection and/or access requiring operators to make public specified information such as accounting information, technical specifications or network characteristics;
- obligations of non-discrimination to ensure that operators apply equivalent conditions in equivalent circumstances to undertakings providing equivalent services;
- obligations of accounting separation in relation to specified activities concerning interconnection and/or access;
- obligations of access to, and use of, specific network facilities. Operators may be required *inter alia*:
  - to give third parties access to specified network elements and/or facilities, including unbundled access to the local loop;
  - to negotiate in good faith with undertakings requesting access;
  - not to withdraw access to facilities already granted;
  - to grant open access to technical interfaces, protocols or other key technologies that are indispensable for the interoperability of services;
  - to provide co-location or other forms of associated facility sharing;
  - to give access to associated services such as those related to identity, location and occupation.
- obligations relating to cost recovery and price controls, including obligations for cost orientation of prices and obligations concerning cost accounting systems

Rationale for Government Intervention

8. Network industries require a specific regulatory approach because incumbent firms control access to infrastructures that are essential for competitors to provide services in the market place. In the vast majority of cases, such infrastructures are “non replicable assets” because the costs of duplicating cannot be justified by any reasonable business case and also because having multiple physical networks serving the same purpose could be hugely inefficient. In order to address these natural monopoly characteristics, one of the key aims of the Access Directive is to ensure that competing firms have access to incumbent networks in order to encourage competition. It also sets out the rules on which that access is based and covers how the regulator might intervene to bring it about.

Separation

9. The application of regulatory remedies does not always lead to equivalent access, as the incumbent often has both the motive and the means, through control of the assets, to discriminate in favour of their vertically integrated subsidiaries. Where such access problems have a significant and enduring impact on competition, further regulatory intervention may be justified. One of the key interventions is ‘separation’, which is the main focus of this impact assessment as it is in relation to separation that changes to the Access Directive are particularly relevant. This remedy involves the transparent separation between the parts of the incumbent controlling the bottleneck assets and the other divisions. Separation of an incumbent can be carried in a graduated way, as follows:

- Accounting separation – keeping separate revenue and cost accounts for different activities

- Functional separation – establishment of an operationally separate entity (but ownership remains with the parent company)
- Structural separation – the entire network is placed in a separate legal entity and is placed under different ownership

10. Under the current framework, NRAs can impose accounting separation, in addition to other obligations mentioned above should they deem them necessary. During the review of the EU Framework regulation, the Commissioned assessed whether to give NRAs further powers to remedy potential market failures or whether the regulation should be scaled back by means of lifting *ex ante* regulation. Following a consultation and impact assessment[2], it was decided that the only significant change to the Access Directive would be to add functional separation as an exceptional measure available in the NRA's regulatory toolbox. This is intended to enhance competition in an environment where it is demonstrated that standard remedies are insufficient to improve market failure (subject to Commission oversight).

Functional Separation in the UK

11. In much of Europe, the connections between customers' premises and telephone exchanges are mostly provided by the incumbent fixed-line operator (e.g. BT in the UK). A key objective of the regulation of such networks is to enable fair competition by ensuring that alternative operators can get non-discriminatory access to the incumbent's access network. Under the existing regulatory framework, the incumbent operator is often required to supply wholesale services to rival communications providers and to itself on a non-discriminatory basis in order to facilitate fair competition in the provision of retail services to homes and businesses.

12. 'Functional separation' goes further and places the monopoly elements in a separate business unit. This allows any wholesale products and any services to be offered to both the incumbent's own retail businesses and to those of its rivals, on equal terms. It does not require the creation of a new company (which would result in structural separation) and so does not affect the private property rights of shareholders. Rather it allows the continued running of a vertically integrated firm to remain impact.

13. While regulators in other EU Member States have been considering the merits of functional separation, the UK has secured this outcome for more than five years. In September 2005, Ofcom accepted *in lieu* of a reference to the Competition Commission under the Enterprise Act undertakings from BT to place its access and backhaul businesses in a separate business unit called 'Openreach'. The latter was charged with freeing up access to BT's local exchanges, separating access and non-access (core and retail) services offered by BT without requiring BT to sell its infrastructure to third parties.

14. One of the indicators of success of functional separation is the extent of Local Loop Unbundling (LLU), which is the process where incumbent operators make their local network – that is the lines that run from customers' premises to the telephone exchange – available to other communications providers. The process involves competitors deploying their own equipment in the incumbent's local exchange to establish a backhaul connection between this equipment and the core network.

15. As shown in Tables 1 and 2 below, both the number and proportion of unbundled lines have increased since 2005, when Openreach was established. The incidence of full LLU, whereby the operator provides both broadband and voice services (as opposed to partial unbundling, where the incumbent still charges the consumer for a service), has also increased. This has contributed to greater choice for consumers, which is reflected in the fall of BT's market share for fixed telephone services (e.g. BT's share of retail residential voice call volumes fell from 56% in 2004 to 40% in 2009, whilst its share of fixed line connections fell from 80% to 57% over the same period[3]). It has also led to a reduction in prices over the period, which is reflected in the reduced average monthly revenue per fixed line between 2004 (£26 per month) and 2009 (£23 per month); this represents a decrease of 2.5% per year[4]. The average household spend on fixed voice services also fell from £26.74 per

[2] EC Impact Assessment
[3] Ofcom, Communications Market Report (2010)
[4] Ofcom, International Communications Market Report 2010 (2009 prices)

month in 2005 to £21.53 per month in 2009[5], though part of this will have been driven by a reduction in the number of connections as well as a fall in prices.

Table 1: Fully and partially unbundled lines

Source: Ofcom

Table 2: Proportion of unbundled exchanges and connected premises

Source: Ofcom

Policy Objectives

16. Within the overall objective of the EU framework, the Access Directive has a particular focus on competition. Specifically, it aims to ensure effective competition which brings tangible benefits to consumers, in particular through greater choice of services and lower prices. It does so by facilitating access to incumbent networks by other network operators and service providers.

[5] Ofcom, The Consumer Experience 2010 (2009 prices)

Regulatory Impacts

17. The revised Access introduces a number of new articles and amendments to existing legislation that covers a wide range of issues in the electronic communications market. Some of these articles require significant changes to the UK regulatory regime, whilst most do not. The focus of this impact assessment is on the former. In determining which legislative amendments are 'significant', and therefore warrant assessment, DCMS has been guided by the topics covered in the Government consultation document and regulatory changes that were raised in a number of consultation responses as having a significant consequence. All of the legislative changes which are required by the amended Access Directive provide for no leeway in implementation. It is therefore not possible to identify discrete 'options', thus impacts are assessed against a baseline 'no change' scenario without looking at alternatives.

Articles 13a and 13b – Functional Separation and Voluntary Separation

18. The most significant change to the Access Directive is the addition of Article 13a, which gives NRAs the power to impose functional separation where a wholesale market has persistent competition problems and/or market failures. In the case of BT, Ofcom was able to enforce this remedy under its competition powers. Whilst the implementation of the revised Framework will give Ofcom this power directly through the Communications Act, it can only be imposed as an 'exceptional measure', having made a determination that a vertically integrated undertaking has significant market power in an identified services market and that the necessary conditions apply.

19. As noted by the Commission, the imposition of functional separation requires a thorough cost-benefit assessment given the costs involved – it has been estimated that the one-off costs of setting up Openreach were £70 million[6]. Specifically, it is necessary to balance the gains of service-competition with the potential reduction in infrastructure-based competition, as well as possibly disincentivising investment and innovation. Under the revised Framework, NRAs can only impose the functional separation as an exceptional measure and they must first obtain the Commission's approval before it can be imposed on a specific undertaking.

20. Adding Article 13a is unlikely to have an impact in the UK electronic communications market in the immediate future because functional separation has already been imposed on BT, the incumbent fixed-line operator. However, if functional separation is imposed at a later point on another undertaking, Ofcom will be legally required to submit a proposal to the Commission that includes:

    - evidence justifying the conclusions
    - an assessment that there is no or little prospect of effective and sustainable infrastructure-based competition within a reasonable timeframe
    - an analysis of the expect impact
    - an analysis of the reasons justifying that the obligation would be the most efficient means to address competition problems and market failures

21. This requirement is the main difference between Ofcom imposing functional separation under its competition powers (which it used for BT) and under its powers under the Communications Act – the latter requires another procedural hurdle. However, this is unlikely to impose a significant burden on Ofcom (should it exercise its new power under the Communications Act) because it is already required under its statutory obligations to conduct a consultation and impact assessment, which will cover the issues above. As this change to the Access Directive is an enabling regulation, where the impact depends on whether (and the manner in which) Ofcom uses its power, it is not possible to estimate the costs and benefits to the regulator or industry. Such an assessment will be conducted if and when Ofcom considers functional separation.

22. The revised Framework also includes Article 13b, which requires operators seeking to voluntarily separate – either functionally or structurally – to notify Ofcom in advance and a timely manner. This notification duty is intended to enable Ofcom to assess the effect of the intended transaction on regulatory obligations and to propose any regulatory changes that may be necessary. Therefore, any changes to an operator's obligations will be informed by Ofcom's assessment of the likely effects of

[6] EC Impact Assessment

separation. As above, this will not be relevant unless functional separation is considered later in the future, at which point a separate impact assessment will be produced.

Article 5(1(ab)) – Powers and responsibilities of the national regulatory authorities with regard to access and interconnection

23. Article 5(1) of the Access Directive has been amended to add in a new sub-paragraph (ab), which requires Member States to empower NRAs to impose obligations on undertakings that control access to end-users to make their services interoperable. An example of controlled access to end-users can be found in recital 8 of the Access Directive, which states that, "*Network operators who control access to their own customers do so on the basis of unique numbers or addresses from a published numbering or addressing range. Other network operators needs to be able to deliver traffic to those customers, and so need to be able to interconnect directly or indirectly to each other…*".

24. A typical example in this regard may be a mobile call termination service, whereby a fixed-line customer calls a mobile subscriber of a mobile network operator; the latter controls the access to its mobile subscriber, so there must be an (interconnection) agreement between the operator of the fixed-line and the MNO for the call to be terminated (i.e. to reach the mobile subscriber).

25. It is not possible at this stage to robustly estimate the costs and benefits of this amendment, given that it is an enabling regulation for which Ofcom has discretion. Should Ofcom exercise this new power, it would do so through access conditions imposed on those undertakings. Therefore, it would be required to act in a proportionate manner and consult prior to imposing the obligation (which would also require an impact assessment).

Article 5(3)

26. Article 5(3) will be amended in a way that requires the UK to give Ofcom a power to intervene in certain types of network access disputes between communication providers. Under the current regime, Ofcom has a duty to intervene in such disputes. The impact of this changes has been addressed in the impact assessment for the Framework Directive under Article 20 (Dispute resolution between undertakings).

Article 9 – Obligation of transparency

27. In the original Framework, Article 9 gave NRAs a power to impose a number of obligations for transparency in relation to interconnection and/or access. Specifically, they can require operators to make public specified information, such as accounting information, technical specifications, network characteristics, prices and terms and conditions for supply and use. The latter has been clarified in the revised Directive to include conditions limiting access to and/or use of services and applications where such conditions are allowed. It is not possible at this stage to assess the extent to which Ofcom will require operators to make more information public than they currently do. However, it is unlikely that further requests would be disproportionate or have a significant cost impact.

Summary of impacts

28. The main changes to the Access Directive require the UK to give Ofcom certain discretionary powers. However, because changes to the Directive do not directly regulate the electronic communications market – rather they give Ofcom enabling powers - there is no direct cost or benefit. If Ofcom opts to exercise any of these powers, they will be legally required to produce an impact assessment and ensure proportionality.

Specific impact tests

Competition

As the changes to the Access Directive are enabling, there is no direct impact on competition as a result of the legislation. However, in the event that Ofcom imposes functional separation in the future, there are likely to be significant implications for competition. These would be addressed in Ofcom's impact assessment.

Small Firms

As the changes to the Access Directive are enabling, there is no direct impact on small firms as a result of the legislation. However, in the event that Ofcom imposes functional separation in the future, there could be implications for small firms. These would be addressed in Ofcom's impact assessment.

Other Specific Impact Tests

Other environment/ rural proofing

After an initial screening it has been deemed that no significant impact is anticipated on the environment and rural proofing.

Race, disability and gender equality

After an initial screening it has been deemed that no significant impact is anticipated on race, disability and gender equality.

Other tests

Other specific impact tests have been considered including Legal Aid, Sustainable Development and Carbon Assessment. Again, after initial screening, it has been deemed that no significant impact is anticipated.

Annexes

Annex 1 should be used to set out the Post Implementation Review Plan as detailed below. Further annexes may be added where the Specific Impact Tests yield information relevant to an overall understanding of policy options.

Annex 1: Post Implementation Review (PIR) Plan

A PIR should be undertaken, usually three to five years after implementation of the policy, but exceptionally a longer period may be more appropriate. If the policy is subject to a sunset clause, the review should be carried out sufficiently early that any renewal or amendment to legislation can be enacted before the expiry date. A PIR should examine the extent to which the implemented regulations have achieved their objectives, assess their costs and benefits and identify whether they are having any unintended consequences. Please set out the PIR Plan as detailed below. If there is no plan to do a PIR please provide reasons below.

Basis of the review: [The basis of the review could be statutory (forming part of the legislation), i.e. a sunset clause or a duty to review , or there could be a political commitment to review (PIR)]; See PIR plan in overarching impact assessment
Review objective: [Is it intended as a proportionate check that regulation is operating as expected to tackle the problem of concern?; or as a wider exploration of the policy approach taken?; or as a link from policy objective to outcome?]
Review approach and rationale: [e.g. describe here the review approach (in-depth evaluation, scope review of monitoring data, scan of stakeholder views, etc.) and the rationale that made choosing such an approach]
Baseline: [The current (baseline) position against which the change introduced by the legislation can be measured]
Success criteria: [Criteria showing achievement of the policy objectives as set out in the final impact assessment; criteria for modifying or replacing the policy if it does not achieve its objectives]
Monitoring information arrangements: [Provide further details of the planned/existing arrangements in place that will allow a systematic collection systematic collection of monitoring information for future policy review]
Reasons for not planning a review: [If there is no plan to do a PIR please provide reasons here]

Title: **Implementing the Revised EU Electronic Communications Framework - Universal Services Directive**	Impact Assessment (IA)
Lead department or agency: Department for Culture, Media and Sport	**IA No:** DCMS023
Other departments or agencies: Ofcom	**Date:** 04/03/2011
	Stage: Final
	Source of intervention: EU
	Type of measure: Secondary legislation
	Contact for enquiries: Stephen Fernando (020 7215 6320)

Summary: Intervention and Options

What is the problem under consideration? Why is government intervention necessary?

Intervention is needed to ensure consumer welfare when using electronic communications networks and services. First, by facilitating greater competition and address information asymmetries through greater provision of information. Second, by ensuring that all users (including disabled users) have access to equivalent services on the basis of equity grounds.

What are the policy objectives and the intended effects?

The amendments to the Directive aim to promote the interests of consumers by strengthening provisions relating to consumer protection. The objective of Article 23a of the Universal Services Directive is to empower the national regulatory authority to ensure equivalence in access and choice for disabled end-users where this is practicle and appropriate. The Government wishes to find the most effective way of encouraging the development of equivalent terminal equipment. By implementing this, the intended effect is to increase the availability of suitable terminal equipment for disabled users.

What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)

There are a number of articles within the Directive, some of which allow for flexibility in their implementation and some which do not. Each of the relevant articles can be grouped into one of the following two categories:

1. No change, relative to the current UK regulatory regime
2. Change to the current regulatory regime, but no scope for flexibility in implementation

The analysis focuses on the latter category and each legislative change is assessed against a counterfactual 'do nothing' baseline. In accordance with Better Regulation principles, the Government will largely utilise a "copy out" approach for transposing the Directive into UK law.

Will the policy be reviewed? It will be reviewed. **If applicable, set review date:** 5/2016	
What is the basis for this review? Duty to review. **If applicable, set sunset clause date:** Month/Year	
Are there arrangements in place that will allow a systematic collection of monitoring information for future policy review?	Yes

SELECT SIGNATORY Sign-off For final proposal stage Impact Assessments:

I have read the Impact Assessment and I am satisfied that (a) it represents a fair and reasonable view of the expected costs, benefits and impact of the policy, and (b) the benefits justify the costs.

Signed by the responsible Minister: _____ Date: 24/03/2011

Summary: Analysis and Evidence — Policy Option 1

Description:

Implementation of the Framework Directive - articles for which there are no options in implementation

Price Base Year 2011	PV Base Year 2011	Time Period Years 10	Net Benefit (Present Value (PV)) (£m)		
			Low:	High:	Best Estimate: -0.68

COSTS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low		1		
High				
Best Estimate	0.08		0.07	**0.68**

Description and scale of key monetised costs by 'main affected groups'

To help promote equivalent access to emergency services a requirement is imposed, which Ofcom have estimated will involve initial one-off capital costs of £80,000 and ongoing costs of £71,500 per annum.

Other key non-monetised costs by 'main affected groups'

There will be costs associated with holding additional e-accessibility forum meetings in order to discuss the options, both in terms of time for the members of the forum and in arranging a room for the meeting. At this time it is not clear how many additional meetings may be required, but it is not expected that many with be needed. Therefore, these costs are expected to be minimal.

BENEFITS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low		N/A		
High				
Best Estimate	0		Not quantified	**Not quantified**

Description and scale of key monetised benefits by 'main affected groups'

Other key non-monetised benefits by 'main affected groups'

There will be benefits associated with asking the opinions of the members of the e-accessibility forum for advice on the best way to encourage the development of equivalent terminal equipment. The members of the forum are stakeholders in the best position to offer advice on this issue. The benefits will come from their advice being able to give the highest level of benefits to disabled users in the shortest possible time The amendments to the Universal Service Directive should provide a number of benefits to consumers through the promotion of consumers' interests and increasing consumer protections. The provisions within the Directive that concern disabled users should enable greater access to the electronic communications networks and services for disabled users which has the potential to provide significant benefits. Examples of these include the cost savings available through online shopping and the improved social inclusion that telephones (both fixed and mobile) and the internet can provide. All users will be better protected from unexpected surprises, for example through the greater transparency of terms and conditions in consumer contracts, which should provide greater confidence in using services. It should also reduce the chance of anxiety and disruption caused by not being fully aware of these things. There will be benefits associated with asking the opinions of the members of the e-accessibility forum for advice on the best way to encourage the development of equivalent terminal equipment. The members of the forum are stakeholders in the best position to offer advice on this issue. The benefits will come from their advice being able to give the highest level of benefits to disabled users in the shortest possible time.

Key assumptions/sensitivities/risks — **Discount rate (%)** 3.5

Direct impact on business (Equivalent Annual) £m):			In scope of OIOO?	Measure qualifies as
Costs: 0	**Benefits:** 0	**Net:** 0	No	NA

Enforcement, Implementation and Wider Impacts

What is the geographic coverage of the policy/option?			United Kingdom		
From what date will the policy be implemented?			25/05/2011		
Which organisation(s) will enforce the policy?			Ofcom		
What is the annual change in enforcement cost (£m)?			0.07		
Does enforcement comply with Hampton principles?			Yes		
Does implementation go beyond minimum EU requirements?			No		
What is the CO_2 equivalent change in greenhouse gas emissions? (Million tonnes CO_2 equivalent)			**Traded:** N/A	**Non-traded:** N/A	
Does the proposal have an impact on competition?			No		
What proportion (%) of Total PV costs/benefits is directly attributable to primary legislation, if applicable?			**Costs:**	**Benefits:**	
Distribution of annual cost (%) by organisation size (excl. Transition) (Constant Price)	**Micro**	**< 20**	**Small**	**Medium**	**Large**
Are any of these organisations exempt?	No	No	No	No	No

Specific Impact Tests: Checklist

Set out in the table below where information on any SITs undertaken as part of the analysis of the policy options can be found in the evidence base. For guidance on how to complete each test, double-click on the link for the guidance provided by the relevant department.

Please note this checklist is not intended to list each and every statutory consideration that departments should take into account when deciding which policy option to follow. It is the responsibility of departments to make sure that their duties are complied with.

Does your policy option/proposal have an impact on…?	**Impact**	**Page ref within IA**
Statutory equality duties[1] Statutory Equality Duties Impact Test guidance	Yes	10
Economic impacts		
Competition Competition Assessment Impact Test guidance	No	
Small firms Small Firms Impact Test guidance	No	
Environmental impacts		
Greenhouse gas assessment Greenhouse Gas Assessment Impact Test guidance	No	
Wider environmental issues Wider Environmental Issues Impact Test guidance	No	
Social impacts		
Health and well-being Health and Well-being Impact Test guidance	No	
Human rights Human Rights Impact Test guidance	No	
Justice system Justice Impact Test guidance	No	
Rural proofing Rural Proofing Impact Test guidance	No	
Sustainable development Sustainable Development Impact Test guidance	No	

[1] Public bodies including Whitehall departments are required to consider the impact of their policies and measures on race, disability and gender. It is intended to extend this consideration requirement under the Equality Act 2010 to cover age, sexual orientation, religion or belief and gender reassignment from April 2011 (to Great Britain only). The Toolkit provides advice on statutory equality duties for public authorities with a remit in Northern Ireland.

Evidence Base (for summary sheets) – Notes

Use this space to set out the relevant references, evidence, analysis and detailed narrative from which you have generated your policy options or proposal. Please fill in **References** section.

References

Include the links to relevant legislation and publications, such as public impact assessments of earlier stages (e.g. Consultation, Final, Enactment) and those of the matching IN or OUTs measures.

No.	Legislation or publication
1	Government consultation http://www.bis.gov.uk/Consultations/revised-eu-electronic-communications-framework
2	EC Legislative proposals and impact assessment http://ec.europa.eu/information_society/policy/ecomm/library/proposals/index_en.htm
3	Full European Legislation http://ec.europa.eu/information_society/policy/ecomm/doc/library/regframeforec_dec2009.pdf
4	http://stakeholders.ofcom.org.uk/consultations/gc-usc/

Evidence Base

Ensure that the information in this section provides clear evidence of the information provided in the summary pages of this form (recommended maximum of 30 pages). Complete the **Annual profile of monetised costs and benefits** (transition and recurring) below over the life of the preferred policy (use the spreadsheet attached if the period is longer than 10 years).

The spreadsheet also contains an emission changes table that you will need to fill in if your measure has an impact on greenhouse gas emissions.

Annual profile of monetised costs and benefits* - (£m) constant prices

	Y_0	Y_1	Y_2	Y_3	Y_4	Y_5	Y_6	Y_7	Y_8	Y_9
Transition costs	0.08	0	0	0	0	0	0	0	0	0
Annual recurring cost	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
Total annual costs	0.15	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
Transition benefits	0	0	0	0	0	0	0	0	0	0
Annual recurring benefits	0	0	0	0	0	0	0	0	0	0
Total annual benefits	0	0	0	0	0	0	0	0	0	0

* For non-monetised benefits please see summary pages and main evidence base section

Evidence Base (for summary sheets)

This Impact Assessment should be read in conjunction with the Ofcom consultation on Changes to General Conditions and Universal Service Conditions, published on 24 February 2011.

Background

1. The Universal Service Directive (Directive 2002/22/EC on universal service and users' rights relating to electronic communications networks and services) aims to promote the interests of consumers and it includes a number of consumer protection measures including transparency in consumer contracts.

2. It was implemented through a combination of the Communications Act 2003, the "Universal Service Order" 2003 and conditions imposed by Ofcom – known as General Conditions and Universal Service Conditions – pursuant to that Act.

Box: GCs and USCs
The GCs apply in the main to Communications Providers ('CPs'). There are currently 24 GCs and the applicability of particular conditions varies depending on the type of network or service a CP is providing. The USCs apply only to the 2 universal service operators designated by Ofcom: BT (covering the whole of UK apart from Hull) and to Kingston Communications (in the Hull area only). They ensure that basic fixed line telecoms services are available at an affordable price to citizens across the UK.

3. The UK already provides many of the services to disabled end users that are required by the Universal Services Directive.

4. This Impact Assessment focuses on the costs and benefits associated with changes to the Communications Act and the Universal Service Order, which is secondary legislation.

5. However, the vast majority of amendments to the Directive will take place through the amendments to the General Conditions and Universal Service Conditions undertaken by Ofcom.

6. Ofcom have launched a consultation on the required changes to both sets of General conditions on 24th February 2011. This included an assessment of the impacts. Hence this Impact Assessment does not seek to cover the following amendments to the Universal Service Directive covered in that consultation:

   - Set a time limit of one working day for number porting, the process that enables users to change service provider but take their number with them, following a change of fixed or mobile operator.
   - CPs will have to provide additional information to consumers[1] and also make this information available to other end-users on request;
   - The maximum duration of initial consumer contracts will be 2 years; and users generally must also be offered an option to contract for the provision of public electronic communication services (PECS) for a duration of 12 months;
   - Subscribers must be able to withdraw from contracts penalty-free following a notice of contract modifications; and
   - Contract termination conditions and procedures for termination must not act as a disincentive to end-users from switching their providers.
   - To help promote equivalent access to emergency services a requirement is imposed, which Ofcom have estimated will involve initial one-off capital costs of £80,000 and ongoing costs of £71,500 per annum.

[1] The definition of *consumer* at Article 2 FD is: "any natural person who uses or requests a publicly available electronic communications service for purposes which are outside his or her trade, business or profession." For the purposes of this consultation document, any reference to this term is a reference to this FD definition. (The definition of the term 'Consumer' in the Act at s405 (5) is wider than the term as defined in the FD because it applies not just to natural persons but also includes businesses).

7. The changes to UK legislation which is the focus of this Impact Assessment include:

   - updating and strengthens provisions in the area of eAccessibility and the rights of users with disabilities. General Conditions may include access to electronic communication services be equivalent for disabled end-users as for non-disabled end-users. At present, such a condition can only be imposed as a Universal Service Condition, and not on CPs as a whole.

   - an obligation on Government to promote the availability of terminal equipment for disabled users.

Rationale for Government Intervention

8. The amendments to the Universal Service Directive is designed to address a number of market failures within the EU electronic communications market, covering both consumer issues and disability issues.

9. Where consumer issues are concerned the key market failures are:

   - Consumer Protection The amendments to the Directive aim to promote the interests of consumers by strengthening provisions relating to consumer protection. These include limits on the length of time that can be taken to port a number, which should reduce the barriers to switching consumers face, and the ability for Ofcom to set minimum quality of service obligations in particular circumstances.

   - Information Provision Currently consumers are not always provided with all the information about terms and conditions and the quality of service they may need to make informed decisions about the services they chose, or are provided with the information in a way that is not user-friendly, and may therefore make sub-optimal decisions.

10. Where disability issues are concerned, the key market failures are:

    - Equity Arguments: to address the fact that currently some disabled users may be missing out on the benefits that electronic communication technologies bring. For example, there is the potential for financial savings from shopping online, that those for whom it is not possible to use the internet may miss. There is also the fact that it may be difficult for disabled users to make the most of what society can offer, when they struggle to interact with technologies and end-equipment that might not be suitable, including phones, computers, televisions and radios, that many non-disabled users take for granted.

    - Positive spill-over effects of developing terminal technology suitable for disabled users. These are additional societal benefits that would not be included in the price of such technology. These include benefits to society from disabled users being able to use electronic communication technologies, which might enable them to make more use of online services or even to be able to move into employment. These benefits are not included in a manufacturer's decision on how many products to produce, and as a result there will be a lower level of production than would be socially optimal.

Policy Objective

11. The Government wishes to find the most effective way of encouraging the development of equivalent terminal equipment. By implementing this provision, the intended effect is to increase the availability of suitable terminal equipment for disabled users.

Options Analysis

12. The Directive includes a number of articles covering different aspects of the Electronic Communications market.

13. Where certain articles do require changes to be made, and are therefore likely to incur costs, these can be categorised into two types:

- Category 1: where the Directive contains no provisions for leeway in implementation
- Category 2 where the Directive contains flexibility for implementation.

14. In this case only Category 1 applies.

15. Category 1 – changes to existing regime; no options available

NB: All references to Ofcom assessment of costs and benefits are drawn from the Ofcom consultation on Changes to General Conditions and Universal Service Conditions, published on 24 February 2011.

- **Designation of undertakings – Article 8** Universal service providers (in the UK, BT and Kingston Communications) will be required to notify Ofcom in advance of any disposal of network assets. The UK proposes to implement this by amending the Communications Act 2003 to allow Ofcom to impose a universal service condition to require this notification. Ofcom will have to impose a new universal service condition on BT/Kingston so that if they intending to dispose of a substantial part or all of its local access network assets (the part of the communications network that provides the connection at the network termination point) to a separate legal entity under different ownership, it shall inform Ofcom no less than a month in advance of such disposal. Ofcom do not envisage that such notifications will be a regular occurrence: the administrative costs for BT and Kingston are not expected to be significant.

- **Quality of Service – Article 22(3)** where Ofcom can set minimum quality of service requirements to prevent the degradation of service and the hindering or slowing down of traffic over networks, and if Ofcom were to do so it would need to notify the Commission of such proposals. The UK intends to amend the Communications Act 2003 in 2 regards; to make explicit that such requirements can be made through General Conditions, and also to make provision for the Commission to be notified. The additional change here is the notification requirement for Ofcom, so the additional impact on business is likely to be minimal.

- **Ensuring equivalence in access and choice for disabled end-users – Article 23a(1),** which specifies that Member States shall empower the national regulatory authority to enable it to specify requirements (where appropriate) to be met by undertakings to ensure that disabled users have access to electronic communications services equivalent to those used by the majority of end users, and benefit from the choice of undertakings and services available to the majority of end users. At the moment, Ofcom has the power to specify such requirements, but only in respect of BT through the Universal Service Conditions. The amended Directive makes clear that the Universal Service Conditions can remain in place unless there is action taken under article 23a(1).

16. The UK will implement this article by making a minor amendment to Section 51 of the Communications Act to ensure that Ofcom has the power to specify, where appropriate, measures that undertakings will have to take to ensure disabled users have access to equivalent electronic communications technology as non-disabled users. This will give Ofcom the power to make General Conditions mandating In addition to this legislative change, as part of their wider work on equivalence. The UK will also amend the Universal Service Order to ensure that in the event of a General Condition being made which satisfies these requirements, there is no need to also make the Universal Service Condition on BT

17. Currently, as part of the requirement to ensure equivalence in access and choice for disabled numbers, Ofcom propose to mandate the provision of an emergency SMS service in order to ensure equivalent access to 112/999 emergency numbers. Ofcom have estimated that this will involve initial one-off capital costs of £80,000 (covers costs of installing a back-up system and will be recharged to mobile network operators) and ongoing costs (for BT which will be recharged to mobile network operators of £71,500 per annum. The benefits have not been quantified but Ofcom believe that the evidence – detailed information is not available - from a voluntary trial of emergency SMS suggests that the benefits delivered to users and to society has been substantial.

- **Encourage the availability of terminal equipment**[2] offering the necessary services and functions Member States shall encourage the availability of terminal equipment suitable for disabled end-users - Article 23a(2) obliges the UK Government to encourage the availability of terminal equipment offering the necessary services and functions.

18. The Government intends to implement this provision through the eAccessibility forum, which is a group, now led by the Department for Culture, Media and Sport that draws together Government, industry and the third sector to explore and understand issues of e-accessibility and develop and share best practice across all sectors[3]. Please see Costs and Benefits section overleaf, for further detail.

- **Facilitating change of provider – Article 30(4)** where Ofcom must be able to oblige companies to compensate subscribers in cases of abuse or delay in number porting.

19. The UK intends to make a small amendment to section 52 Communications Act 2003, to make it explicit that the section includes Ofcom being able to make a General Conditions requiring CPs to make and maintain a scheme for compensating consumers in the event of abuse or delay in number porting. However, Ofcom are adopting a light touch approach consistent with their regulatory principles whereby communication providers will be able to design the detail of the scheme themselves in a way that it is more suited to their business and existing administrative processes.

20. While there are costs associated with a compensation scheme, it is expected that that this approach will keep implementation costs to a minimum. Ofcom will monitor the compensation schemes that communication providers put in place after 12 months and may decide to specify the detail of the schemes at a later date should the schemes be inadequate for their purposes.

21. The proposals will result in a set of one-off costs for operators to implement their compensation schemes, which are not considered to be onerous. There will also be costs to administer the schemes and make payments to subscribers in relation to delayed porting; these costs will ultimately be borne by the communication providers responsible for the delayed port, so all communication providers will have an incentive to keep such costs to a minimum.

22. A do nothing option is included as a theoretical baseline against which the effects of implementing the amended provisions of the Directive can be assessed. Under this option UK consumers and businesses would miss out on the benefits that implementing the provisions of the Directive would bring.

Costs and Benefits

23. This section focuses on the costs and benefits associated with Article 23a (2).

Costs

24. The e-accessibility forum has already been set up and is operating. There are therefore only small costs associated with getting a view from this forum on ways to encourage the availability of necessary terminal equipment. There may be minimal costs associated with holding additional meetings. The Forum launched its action plan in October 2010 and is scheduled to meet quarterly, with meetings of linked sub-groups held on an ad hoc, demand led basis. If the Forum yields specific policies on encouraging the development of terminal equipment, then these will be the subject of future Impact Assessments.

Benefits

[2] Section 10 of the Communications Act 2003 requires Ofcom to encourage the availability of easily usable apparatus

[3] It was set up as a consequence of the Digital Economy Act 2010. The plan will be implemented by the eAccessibility Forum, a group of over 60 experts from Government, industry and the voluntary sector who work to explore issues surrounding e-accessibility so that better and more inclusive services can be developed for both business and consumer benefit. It brings together representatives of business, disability rights groups, Government and other interest groups to facilitate business opportunities around the development of products, and in particular, terminal equipment for disabled users. The Forum will initially operate from April 2010 to March 2013.

25. There are benefits from getting the e-accessibility forum to decide on possible methods of encouraging the development of terminal equipment that come from being able to consult a large group of stakeholders and include them in the development process. These include expanded opportunities for business and the engagement of disabled users in the wider digital economy. In this way it is hoped that the method of encouragement of terminal equipment used will be able to produce the maximum benefits to disabled users in the shortest necessary time. It is currently not possible to quantify this benefit. The Forum is also intended to share best practice and this should also lead to reduced costs for the development of terminal equipment for disabled users. It is also not possible to quantify this benefit.

Specific Impact Tests

Competition assessment

It is not anticipated that there will be any competition impact from consulting the e-accessibility forum on the best method for encouraging the development of technologies for disabled users. However, the chosen method may have competition effects which will be assessed in an impact assessment when possible methods are being implemented.

Small Firms

After initial screening, there is not expected to be a disproportionate effect of the Directive on small firms.

Statutory Equality Tests

After an initial screening it has been deemed that no significant impact is anticipated on race, disability and gender equality from consulting the e-accessibility forum. However, the method chosen for encouraging the development of terminal technology suitable for disabled users will have a positive effect on disabled users. These will be fully examined in a further impact assessment following consultation with the forum.

Other Specific Impact Tests

Other environment/ rural proofing

After an initial screening it has been deemed that no significant impact is anticipated on the environment and rural proofing.

Other tests

Other specific impact tests have been considered including Legal Aid, Sustainable Development and Carbon Assessment. Again, after initial screening, it has been deemed that no significant impact is anticipated.

Annexes

Annex 1 should be used to set out the Post Implementation Review Plan as detailed below. Further annexes may be added where the Specific Impact Tests yield information relevant to an overall understanding of policy options.

Annex 1: Post Implementation Review (PIR) Plan

A PIR should be undertaken, usually three to five years after implementation of the policy, but exceptionally a longer period may be more appropriate. If the policy is subject to a sunset clause, the review should be carried out sufficiently early that any renewal or amendment to legislation can be enacted before the expiry date. A PIR should examine the extent to which the implemented regulations have achieved their objectives, assess their costs and benefits and identify whether they are having any unintended consequences. Please set out the PIR Plan as detailed below. If there is no plan to do a PIR please provide reasons below.

Basis of the review: [The basis of the review could be statutory (forming part of the legislation), i.e. a sunset clause or a duty to review , or there could be a political commitment to review (PIR)]; See PIR plan in overarching impact assessment
Review objective: [Is it intended as a proportionate check that regulation is operating as expected to tackle the problem of concern?; or as a wider exploration of the policy approach taken?; or as a link from policy objective to outcome?]
Review approach and rationale: [e.g. describe here the review approach (in-depth evaluation, scope review of monitoring data, scan of stakeholder views, etc.) and the rationale that made choosing such an approach]
Baseline: [The current (baseline) position against which the change introduced by the legislation can be measured]
Success criteria: [Criteria showing achievement of the policy objectives as set out in the final impact assessment; criteria for modifying or replacing the policy if it does not achieve its objectives]
Monitoring information arrangements: [Provide further details of the planned/existing arrangements in place that will allow a systematic collection systematic collection of monitoring information for future policy review]
Reasons for not planning a review: [If there is no plan to do a PIR please provide reasons here]