

EXECUTIVE NOTE TO
THE RENEWABLES OBLIGATION (SCOTLAND) AMENDMENT ORDER
2010

SSI 2010/147

Introduction

1. Scottish Ministers are committed to the promotion of renewable energy in Scotland; as part of this, they have set a target that 50% of the electricity generated in Scotland (as a proportion of consumption) should come from renewable sources by 2020, with an interim target of 31% by 2011. This commitment is an important part of a package of initiatives aimed at tackling climate change. The Renewables Obligation (Scotland) Order, or ROS, is a key measure in terms of increasing the amount of renewable electricity generating capacity in Scotland.

Background to the Renewables Obligation

2. The ROS, an affirmative order, was first made in 2002 under powers in the Electricity Act 1989 which were executively devolved (as regards Scotland) to the Scottish Ministers. The Order imposes an obligation on electricity suppliers to provide an increasing percentage of their supply to customers in Scotland from qualifying renewable energy sources.

3. In line with the wishes of the energy sector subject to the Order and those affected by its provisions, the ROS was introduced in almost identical terms to the Renewables Obligation Order 2002 (the ROO), covering England and Wales, which also came into force on April 1 2002. Following reviews of its operation and to accommodate the introduction of a number of changes, the ROS has been revised and replaced or amended each April from 2004 through to 2008. For example, the ROS was amended in 2007 to introduce a system providing higher levels of support to wave and tidal generation located in Scottish waters.

4. The UK Renewables Obligations work by awarding generators of electricity from eligible renewable sources a number of Renewable Obligation Certificates, or ROCs, for each MWh (megawatt hour) of electricity they generate. ROCs are awarded to renewable generators in different numbers or “bands”, depending on technology. The certificates are a marketable commodity, and are bought by licensed electricity suppliers.

5. The market for ROCs is created by imposing an annual and increasing obligation on licensed electricity suppliers to provide a number of ROCs. Suppliers can demonstrate compliance with their Obligation by providing Ofgem with either the requisite number of ROCs, or by paying the buyout price, or by a combination of the two methods. The buy-out price is a fixed sum payable to Ofgem in lieu of providing ROCs; payments thus made constitute the buy-out fund.

6. The monies paid into the buyout fund are shared between those suppliers who have provided ROCs, and in proportion to the number of certificates they produce.

This means that those suppliers who are unable to produce ROCs effectively reward their competitors, driving the market value of ROCs and thus providing income for renewable generators.

Background to the 2010 Amendment Order

7. The 2010 Amendment Order proposes a number of changes to the ROS. These comprise:

- Removing the existing cap of 20% on renewable generation;
- Increasing the level of headroom from 8% to 10%;
- Extending the lifetime of the ROS to 2037, while limiting participation under the Obligation to 20 years;
- Increasing the band for offshore wind; and
- Transferring microgenerators out of the ROS and creating an option for other small generators to either stay within the ROS or transfer to a Feed-in Tariff (FIT) mechanism.

8. The ROS, in tandem with the other UK ROs, needs to increase the proportion of renewable electricity to the levels required by to meet the EU target of 20% renewable energy by 2020. To do this, the Obligations need to be modified and extended beyond their current limits (which impose a cap of 20% and a lifetime which extends until 2027).

9 There is also evidence that, further to the recent introduction of banding, offshore wind generation costs have increased. This technology will play a key role in meeting the 2020 targets. For this reason, consideration needs to be given to providing additional support under the ROS to these projects so that they come on-stream as originally envisaged, maintaining investor confidence and reducing the risk that the renewables targets are missed.

10 Not all of the uplift in renewable generation capacity will come from large-scale generation. Deployment of small-scale renewable generation can play a valuable part. For this reason, the Energy Act 2008 included provision to allow for the establishment of a FIT scheme to subsidise new renewable generation of up to 5 MegaWatts in size. The intention is that this scheme should be introduced across the UK from April 2010. The 2010 Order includes provisions managing the transition of generation which currently benefits from the ROS but which qualifies for the new FIT scheme.

Enabling powers

11. The 2010 Amendment Order is being made under powers conferred by sections 32(1) and (2), 32A(1) and (2), 32C(1), (2), (7) and (8), 32D(1) and (2), 32G, 32J(3) and 32K(1) and (3) of the Electricity Act 1989, as amended and introduced by the Energy Act 2008.

Consultation

12. Prior to its introduction in April 2002, the ROS was the subject of two consultations, the first between November 2000 and February 2001, and a formal

statutory consultation between August and October 2001. Statutory consultations also preceded the introduction of the revised ROS Orders from 2004. A consultation took place between August and November 2009 on the changes contained within the 2010 Order.

European Directive

13. The ROS, in tandem with the ROO, forms an important part of the UK's compliance with article 3.1 of the European Directive on the promotion of electricity produced from renewable sources ([Directive 2001/77/EC](#)). Article 3.1 provides that member states shall take appropriate steps to encourage greater consumption of renewable electricity in pursuit of national indicative targets.

State Aid

14. All UK Renewables Obligation Orders require State Aid clearance as the recycling of buy-out funds to compliant suppliers is deemed by the Commission to constitute a State Aid. An application was submitted to the Commission for approval relating to the changes contained within the 2010 Order; however, the Commission has not yet responded. Both the Renewables Obligation (Scotland) Amendment Order 2010 and its equivalent in England and Wales contain changes which must take effect from 1 April, reflecting the annual cycle upon which the Obligations work. The Order for England and Wales was laid before the UK Parliament in advance of any response from the Commission. The 2010 Amendment Order for Scotland is also being laid in advance of any response; we are confident that the Commission will respond before the Order is due to be made.

Financial Impacts

15. The ROS creates small additional costs for electricity suppliers, which suppliers can then pass through to industrial, business and domestic consumers as part of their electricity bills. Ofgem has estimated that the Renewables Obligation cost the average UK household £7.35 per year in 2007, and has forecast that this will rise to £11.41 by 2010/11 (based on 2006 prices).

**Scottish Government Renewables Policy Unit
February 2010**

Regulatory Impact Assessment for the Renewables Obligation (Scotland) Amendment Order 2010

1 Title of Proposed Regulation

1.1 Renewables Obligation (Scotland) Amendment Order 2010

2 Purpose And Intended Effect Of Measure

Objectives

2.1 The prime objective of the Renewables Obligation (Scotland) Amendment Order 2010 (the ROS) is to ensure that the ROS is capable of driving the substantial increases in renewable electricity in Scotland which will be necessary to help meet Scottish Government targets. The Order will:

- Extend the ROS out to 2037 from its current end date of 2027;
- Introduce changes to the proposed level of “headroom”;
- Remove the existing 20% limit under the ROS;
- Introduce a temporary higher band for offshore wind generation accredited after a certain date; and
- Make additional provision for the revocation of ROCs.

Background

2.2 The Renewables Obligation mechanism was introduced in 2002, with separate Orders in England and Wales, Scotland (and later Northern Ireland). These combined to create an obligation on licensed electricity suppliers across the UK to source more power from eligible sources of renewable electricity, such as wind, biomass, hydro, wave and tidal power. The Obligation remains the primary instrument via which renewable electricity generation targets in Scotland (50% of whole electricity demand by 2020) and across the UK are being pursued.

2.3 From 1 April 2009, the UK obligation changed from a *percentage* of a supplier's sales to an obligation to present a number of ROCs per MWh of a supplier's sales. The introduction of this change removed the direct link between the level of the Obligation and the actual amount of renewable energy required to meet it. One ROC is no longer necessarily equivalent to 1 MWh of renewable electricity. This has changed the ROS from an Obligation to produce evidence that a percentage of electricity supplied to customers comes from renewable sources, to one where suppliers are obliged to present a specified number of ROCs.

2.4 The UK Obligations therefore combine to require licensed electricity suppliers to produce a certain number of renewables obligation certificates (ROCs) in respect of each megawatt hour of electricity that they supply to customers during a specified period. In 2009/10, this number was 0.097 ROCs per megawatt hour. Without the financial support provided by the Obligations, most forms of renewable electricity would not be economic and

the Scottish Government would not achieve its targets for increasing the supply of electricity from renewable sources.

Rationale for Government Intervention

2.5 The ROS is the key driver in terms of meeting the Scottish Government's renewable electricity targets. Achieving this will, particularly in light of the demands imposed by the EU Renewable Energy Directive, require the ROS and the other UK Obligations to move beyond the current cap in the legislation of 20%, and the creation of a longer term framework and incentive through the extension of the lifetime of the measure.

2.6 The market on its own will not deliver the required development and deployment of renewable technologies to achieve Scotland's renewables and carbon reduction targets. This is because the carbon price is not yet high enough or certain enough to support these higher cost technologies, and there are market failures such as positive externalities from innovation, asymmetric information and uncertainty, and increasing returns to scale in the power sector.

2.7 The ROS, in tandem with the other UK ROs, needs to increase the proportion of renewable electricity to the levels required by to meet the EU target. To do this, it needs to be modified and extended. Subject to Parliamentary procedure and State Aid approval, the Scottish Government plans to implement changes in April 2010 to make the ROS more effective.

2.8 Further to the recent introduction of banding, there is evidence that offshore wind generation costs have increased. This technology will play a key role in meeting the 2020 targets, as recent announcements regarding potential lease awards in Scottish waters have confirmed. For this reason, consideration needs to be given to providing additional support under the ROS to these projects so that they come on-stream as originally envisaged, maintaining investor confidence and reducing the risk that the renewables targets are missed.

2.9 Not all of the uplift in renewable generation capacity will come from large-scale generation. Deployment of small-scale renewable generation can play a valuable part. For this reason, the Energy Act 2008 included provision to allow for the establishment of a FITs scheme to subsidise new renewable generation of up to 5 MW in size. The intention is to introduce this scheme across the UK in April 2010. Generation which currently benefits from the ROS but which qualifies for the new FITs scheme will need to be transitioned efficiently from one scheme to the other.

3 Consultation

Within Government

3.1 The Order and the related consultation have been subject to discussions within Enterprise, Energy and Tourism Directorate, and circulated to colleagues in other Departments with an interest, notably Environment. The UK wide nature of the Obligation mechanism has been reflected in regular discussions with colleagues in the Department of Energy and Climate Change, and the Department of Enterprise, Trade and Investment in Northern Ireland.

Public Consultation

3.2 A consultation paper, *Renewable Energy: Changes to the Renewables Obligation (Scotland) Order 2009: Consultation¹*, ran for 12 weeks between August and October 2009. This consultation sought views on the following proposals:

A – Extend the lifetime of the RO from 2027 to 2037

3.3 Because of the long term nature of renewable electricity projects, if the RO were to expire on its current end date of 2027, it would be unlikely to incentivise new investment much beyond 2015. Extending the RO to 2037 will give long term certainty to investors to at least 2020 that they will receive support for renewable electricity projects

B – Introduce a 20 year time limit on support under the RO

3.4 By extending the RO to 2037, a time limit on eligibility needs to be set, as it would not be cost-effective to allow projects to continue to claim ROCs for the full life-time of the RO where that exceeds the amount of support they really need for economic viability. As RO support is based on a 20-year period, participation has been limited to 20 years. The introduction of the new time limit on participation will be grandfathered to protect existing investments.

C – Remove the 20% renewable electricity limit from the RO

3.5 The current 20% limit on RO generation would restrict the UK's ability to reach the 2020 renewable energy target. Removal will ensure generation can grow and be guaranteed support from the RO.

¹ <http://www.scotland.gov.uk/Publications/2009/08/07092158/0>

D – Retain the concept of headroom, replacing fixed targets² after 2015/16

3.6 The original purpose of fixed targets was to provide a clear trajectory towards our target for renewable generation that would create a “scarcity signal” if deployment lagged behind. However, experience has shown that this scarcity signal has not been effective as deployment has been hampered by other constraints such as grid connection and planning and the price spikes which result are too short term to influence developers’ decisions to invest. Government believes that fixed targets can therefore drive up ROC prices, increasing the cost of the RO to consumers, without necessarily increasing deployment.

3.7 Headroom will continue to operate alongside fixed targets to 2015/16. In determining the Obligation level from 2011/12 to 2015/16, it will be the higher of fixed target and the prediction of renewables generation in the period plus 10% headroom that sets the level. The size of the Obligation has already been set using headroom for the 2010/11 Obligation period. From 2016/17 onwards, the obligation level is expected to be set through the prediction of renewables generation plus headroom. Headroom ensures that the chances of an oversupply of ROCs and hence a ROC price crash are low, and thus increases incentives to invest.

E – Increase the level of headroom from 8% to 10%

3.8 Recent research and industry feedback indicates that the current level of headroom of 8% above deployment levels is too low to give investors confidence that a ROC price crash will be avoided. The level of headroom will therefore be increased from 8% to 10% in one step as of the 2011/12 Obligation period. The initial proposal had been to ramp this up in four 0.5% point increments, but it has since been decided that, given the risks, it should be increased directly to 10% from 2011/12.

F – Amend the RO so that some offshore wind projects qualify for an increase in ROC support.

3.9 Over the winter of 2008-9, DECC were approached by a number of offshore wind developers who argued that the economics of offshore wind projects had been particularly hard hit by the credit crunch, coming at a time when their supply chain costs were already rising. A study was commissioned to look into the costs faced by projects looking to achieve financial close in the next year.

² Fixed targets will still be in operation from 2016/17 onwards, but will not be increase any further. It is therefore expected that the level of the obligation will be set by the predicted level of generation for the period plus headroom.

3.10 The results appeared to demonstrate that a combination of factors had led to significant increases in costs over a relatively short period. These factors include: increased costs due to the immature supply chain; increased foreign exchange costs where the majority of capital costs are priced in Euros or Danish Kroner and increased cost of risk (reflected in increased borrowing costs) in the current financial climate. An early review of the offshore wind banding was initiated, and following review by the Renewables Advisory Board (RAB) and statutory consultation, the Secretary of State for Energy and Climate Change has proposed, subject to state aid and parliamentary procedure, that there should be an increase in offshore wind banding for stations or capacity receiving full accreditation between 1st April 2010 and 31st March 2014.

3.11 Scottish Ministers have been consulted and kept fully informed regarding this review's progress and conclusions; they have consulted in turn with Scottish stakeholders on the question of any changes emerging from the review being introduced to the ROS.

G – Enable transition of eligible microgenerators (up to 50 kW) and small generators (50 kW – 5 MW) to the FITs scheme

3.12 Despite the changes made to the ROS within the past few years to make it easier for microgenerators to access support - for example, allowing them to appoint an agent and submit annual claims - it remains a scheme better suited to large-scale generation. By contrast, the simplicity and income certainty of feed-in tariffs makes them much better suited to the needs of households and other microgenerators. In addition, the administrative burden placed on Ofgem by the microgeneration section of the ROS has always been disproportionate to the level of support provided.

3.13 The introduction of a FITs scheme for small-scale electricity generation up to a maximum of 5 MW will provide an alternative support mechanism for small generators of most technologies that would previously have been eligible for support under the ROS. Whilst small generators already accredited under the ROS before FITs were announced will remain there, small generators up to the maximum capacity of the FITs scheme who have not applied for ROS accreditation before this date will be able to choose between the two schemes.

3.14 Our consultation attracted 20 responses from a range of stakeholders, including electricity suppliers and generators, trade associations, environmental organisations, public sector bodies and individuals.

3.15 The consultation responses revealed a strong consensus on the majority of issues raised.

4 Options, Costs and Benefits

4.1 Do Nothing – under this option, the ROS would not be modified to create the necessary longer term incentive for investment in new renewables capacity, nor would an Obligation of higher than 20% be possible. This would result in the Scottish Government's renewable electricity targets being missed.

4.2 The alternative options for making the ROS consistent with the Scottish Government and EU renewables targets, and which will also apply to the other UK Obligations, are set out over the following paragraphs. The costs and impacts of doing so are set out at a pan-UK level; this reflects both the combined nature of the Obligations and their creation of a market for renewable electricity across the UK, as well as the way in which electricity supply businesses are likely to share their compliance costs across a UK customer base.

Analysis of the options and the costs and benefits – Introduction

4.3 The analysis presented here considers the impact of the preferred “minimum change” option. It also considers the proposed rebanding of offshore wind and the transition arrangement for small generators from the ROS to FITs. All costs and benefits are reported in 2009 prices discounted to 2009, and using the assumption of updated carbon price projections.

4.4 There are four elements to the analysis of options and costs and benefits:

- 1A – Minimum Change
- 1B – Moving to 10% headroom from 2011/12
- 2A – Rebanding Offshore Wind
- 3 – Transferring eligible microgenerators from the Renewables Obligation to the Feed-in Tariff scheme, and enabling new small generators to choose between the two schemes

4.5 Because of the overlap between the assumptions for policy options 1A and 2A, some of the impacts, in particular those relating to extra support for offshore wind projects accredited in 2013/14, are counted in both.

1A – Minimum Change Option

4.6 The analysis of this option covers modifications (1) to (5) on pp 7 to 8. These are:

- Extension of Obligations to 2037
- Extension of participation period to 20 years for new projects
- Fixed annual targets and headroom to 2015/16, and then “headroom only”
- 20% cap on Obligation size lifted
- Obligation size increased as necessary to maintain headroom
- Increase in headroom from 8% to 10% in 2011/12

4.7 The impact is measured against the ‘do nothing’ option (status quo). Under this option the Obligations would not be modified to increase the amount of renewable deployment in the electricity sector, resulting in around 14% of renewable generation across the UK by 2020 (with the highest proportion in Scotland, as at present). The baseline costs and benefits of the do nothing option are given in Table 1 below:

Table 1: Characteristics of the Status Quo ‘do nothing’ option, 2009 prices

	2020	Lifetime to 2030
Generation costs	£18 bn	£390 bn
Carbon Emitted/ Mt CO2	150	2900
Consumer cost ³	£21 bn	£460 bn

4.8 The generation costs in this table refer to the costs attributable to UK electricity generation, including the cost of generation from both renewable and fossil fuel sources, the cost of carbon emitted (estimated at the EUA price), an estimate of the cost of unserved energy and demand side response. The costs to consumers of this generation are slightly higher than generation costs due to margins and rents.

4.9 The impacts of the Minimum Change option, compared to the Status Quo scenario, are given in Table 2 below:

Table 2: Quantified Costs and Benefits of the Minimum Change Option relative to the status quo counterfactual, 2009 prices

	2020	Lifetime to 2030
Gross resource costs (additional generation costs gross of carbon compared to counterfactual)	£2.6 bn	£41 bn
Reduction in Carbon Emitted/ Mt CO2	22	400
Value of Carbon Reduction	£380 m	£10 bn
Grid reinforcement costs	£230 m	£3.0 bn
NPV of monetised costs and benefits for UK economy (= net resource cost, that is net of carbon)	£2.5 bn	£34 bn
Additional consumer cost ⁴	£3.1 bn	£42 bn

³ Defined here as the sum of the net renewables subsidy, wholesale cost and balancing costs. The net renewables subsidy is made up of the Obligation subsidy, climate change levy exemption and balancing costs.

⁴ The increase in net renewables subsidy, wholesale cost and balancing cost, plus the cost of grid reinforcement.

4.10 Resource costs include all costs associated with the increase in renewable generation, over and above the costs of the counterfactual fossil fuel technology. These estimates include the higher cost of the renewable technologies, and other costs, for example, the grid connection costs. The separate entry on grid costs includes the costs of further reinforcement to the grid that would be necessary to support additional renewable generation. The estimate of grid costs is taken from the ENSG report⁵.

4.11 The minimum change option leads to an increase in generation costs compared to the status quo as a result of the increased proportion of renewable electricity, which costs more than the fossil fuel alternative. The consumer cost increases as well, mainly reflecting the increase in the renewables obligation needed to incentivise this additional generation.

4.12 In addition to the carbon-related benefit quantified above at around £10 billion from 2010 to 2030, minimum change is likely to have other benefits which have not been monetised. These include encouraging innovation, economic benefits in developing new industries and jobs, and security of supply benefits through diversity of supply and reduced dependence on imported fossil fuels compared to the dependence that would pertain in the status quo counterfactual. However, there are also non-monetised costs of minimum change, especially the macroeconomic costs of higher electricity prices, as well as displacement and crowding out effects. ROS administration costs are not included in the monetised costs either, but are expected to rise with the increasing size of the ROS.

4.13 In some sectors such as electricity generation – where new technologies can struggle to compete with conventional technologies – policies to support the market for early-stage technologies are critical. The cost of deploying new technologies typically falls as volumes increase and learning effects take hold, supply chains are established, and commitments to further expansion get firmer. Minimum change is likely to encourage renewables innovation and hence reduce the future costs of reaching Scotland’s long-term renewable energy and greenhouse gas emission targets.

4.14 Analysis of the costs and benefits of minimum change stops in 2030, reflecting the dates used in the relevant model⁶. At this date there will still be operational renewables plant that was incentivised by minimum change. This plant will be associated with continued resource costs post-2030 (annuitised capital costs, operation and maintenance costs etc. over and above the level in the status quo scenario) and continued offsetting benefits including carbon-related benefits.

⁵ Available at <http://www.ensg.gov.uk/index.php?article=126>

⁶ Redpoint (2009), *Implementation of the EU 2020 Renewables Target in the UK Electricity Sector: RO Reform*

1B – Moving from 8% to 10% Headroom as of Obligation Period 2011/12

4.15 Redpoint's study modelled a move from 8% to 10% headroom as of the obligation period 2011/12, instead of moving gradually from 8% to 10% by 0.5 percentage points a year, finally reaching 10% headroom in 2014/15, as was proposed originally.

4.16 It found that there was no net resource cost or carbon benefit to the UK economy as a whole from the change, but the small increase in size of the Renewables Obligation would lead to a transfer of £39 million discounted over three years from consumers to producers, that is to say there would be a cost of £39 million spread over electricity consumers, which would be a shared benefit between electricity suppliers and renewables generators. The profile of costs is £19 million in 2011/12, £15m in 2012/13 and £8m in 2013/14 (all values discounted to 2009 at the social discount rate). This increase in subsidy cost is included in the total subsidy costs of minimum change above.

4.17 The result that an early move to 10% headroom has no net resource cost or carbon benefit is because there is no change in the level of renewables deployment. In practice, however, moving from 8% to 10% headroom early will reduce the chances of a ROC price crash in those years, and this will increase investor confidence and in practice could marginally increase the level of renewables build from 2011/12 to 2013/14, thus potentially reducing investor hurdle rates. Any extra renewables build will be associated with a resource cost, since renewables generation is more expensive than conventional electricity generation, but this effect is likely to be small for this minimal change. ROS administration costs should not be affected by the early move to 10% headroom.

2A – Increase in ROC support for Offshore Wind

4.18 Evidence from Ernst & Young⁷ suggests that the costs of offshore generation have increased significantly in recent years, and hence up to 2 GW of offshore wind farms around the UK may not go ahead without increased support. The proposal for a temporary increase in offshore wind bands has, following consultation, shifted from a contract criteria to accreditation-based criteria (that is, predicated on when an offshore wind project is accredited under the Obligation by Ofgem), in line with other technologies.

4.19 Alternative policy options to a higher banding for supporting offshore wind, over and above the existing 1.5 ROCs/MWh level in place since April 2009, include capital grant support, tax credits, production credits and loans/credit support. These would all imply additional administrative costs in set-up and monitoring and very significant costs for the public sector in spending or foregone revenue.

⁷ Ernst & Young (2009), *Cost of and financial support for offshore wind*

4.20 Changing the banding for offshore wind implies minimal additional administrative costs and no additional monitoring costs. It also ensures simplicity by retaining support within the existing system. Whilst capital grant support has the advantage of being more easily targeted, it may be more discounted by private investors in the assessment of project economics, given the policy risk that future administrations could divert public spending to other priorities.

4.20 Table 3 below details the resource costs and the consumer costs of the proposed option of 2 ROCs for all projects accrediting from April 2010 to March 2014, relative to the option of leaving the banding unchanged at 1.5 ROCs. A significant proportion of these costs are included in policy option 1A, minimum change, which assumes some technologies will have to 'band-up' to reach the 2020 renewables target.

Table 3 – Impact of offshore wind rebanding options, 2009 prices

Option	NPV (= resource cost net of carbon)	Subsidy cost		
		In 2020	2010 to 2030	In 2020
2A – 2 ROCs, if accredited April 2010 to March 2014	£240 million	£4.6 billion	£230 million	£4.9 billion
Approximate additional costs of option above Minimum Change	£200 million	£3.8 billion	£190 million	£4.1 billion
2 ROCs, if accredited April 2010 to March 2015	£410 million	£3.8 billion	£190 million	£4.1 billion

4.21 The additional transfer from consumers to producers associated with the accreditation option is estimated at around £1 billion. However, there would have been potential indirect impacts on projects not receiving extra support under the contract criteria. For example, competing with other projects who receive higher levels of support could increase these projects' operating and maintenance (O&M) costs if the supply of such services is restricted. It is also possible they would not have committed to proceed with their project had they known the O&M costs were to go up. Increasing offshore wind banding clearly for a four-year window will increase investor confidence significantly, albeit at a significant cost to UK consumers.

4.22 It has been estimated, very approximately, that around 84% of the impact of offshore wind rebanding against its counterfactual is not included in the impact of Minimum Change against *its* counterfactual. As such, table 3 gives the estimated costs from offshore wind banding that are *additional* to those of Minimum Change. This very approximate calculation gives a total NPV for minimum change policy option 1A and offshore wind rebanding policy option 2A together of £37 billion, with an annual cost in 2020 of £2.7 billion.

4.23 The re-banding of offshore wind should not increase the administration costs of the Obligation. However, if individual offshore wind projects that are built as a result of the change are deemed to have the potential to cause significant adverse environmental impacts, they are required to undertake an Environmental Impact Assessment (Directive 85/337/EEC) as part of the planning process.

4.24 The benefits of re-banding offshore wind include:

- Carbon abatement, arising from deployment of large scale offshore wind projects;
- Innovation, as the higher learning rates arising from the increased deployment and a higher domestic market share (in terms of manufacturing) could have a balancing effect in terms of the costs of support.
- Industrial benefits, as Scotland is well placed to meet the demands for construction and installation arising from a multi-GW deployment around the UK; and
- Security of supply, lessening dependence on fossil fuels and imports of gas from abroad.

3 – Transferring eligible microgenerators (up to 50 kW) from the Renewables Obligation to the Feed-in Tariff scheme, and enabling new small generators (50 kW – 5 MW) to choose between the two schemes

4.25 The main impact of transferring eligible microgenerators from the ROS to FITs, and providing new small generators with a choice between the two schemes, will be the potential change in level of subsidy cost to electricity consumers. This change could be positive or negative, since the levels of feed-in tariffs have not yet been set. It will also depend on the relative efficiency of the two schemes.

4.26 The impact of different tariff levels is considered in the Impact Assessments for Feed-in Tariffs. Any differences in the level of support relative to the ROS will ultimately feed back through to electricity consumers' bills; while the FIT, like the combined Obligations, will apply across the UK, there may be regional variations in the way in which costs are levied by suppliers from consumers.

4.27 Although there will initially be administrative costs to Ofgem in transferring microgenerators from the Obligation to FITs, it will be more cost-effective over the long term to maintain a single scheme for microgeneration rather than two schemes in parallel. There will also be benefits from allowing new small generators to choose between the ROS and FITs, because it should enable them to pick the scheme that is more appropriate for them. Smaller generators are likely to find the FITs simpler and less burdensome than the ROS.

Consumer Costs

4.28 The costs to consumers of the proposed changes to the obligation will be reflected through increases in electricity bills. The total cost passed through to consumers across the UK as a result of the minimum change option is estimated to amount to £3.1 billion in 2020 and £42 billion cumulatively to 2030. This cost will include the impact of the subsidy in addition to wholesale and balancing costs, plus the costs required for grid upgrade or reinforcement. However the net cost to the economy will be lower as these costs are offset against the net present value (social) cost per tonne of CO₂e abated. The net cost to the economy is estimated at £2.5 billion in 2020 and £34 billion cumulatively to 2030.

4.29 The rebanding of offshore wind projects accrediting from April 2010 to March 2014 will increase net renewables subsidy costs by around £4.9 billion total from 2010 to 2030 (compared to not changing the banding for offshore wind). It will increase rents to electricity suppliers and renewables generators. The total cost to the economy (compared to not changing the banding) is estimated at £4.6 billion.

4.30 As pointed out above, there is an overlap in the assessment of the impacts of policy options 1A and 2A. The very approximate estimate of the consumer cost of both policies together, taking the overlap into account, is around £46 billion total from 2010 to 2030. The very approximate estimate of the total additional cost to the economy of policy options 1A and 2A together is £37 billion.

4.31 These impacts on consumer costs can also be described in terms of the impact on consumer electricity bills. This analysis has been carried out for policy option 1A only, minimum change. The table below shows the impacts on annual bills of minimum change, with an average over the period of 8% for domestic bills and 7% for industrial bills

Table 4 – Estimated impact of minimum change on consumer bills against the status quo counterfactual

Year	Percentage increase in domestic bills	Percentage increase in industrial bills
2015	1%	1%
2020	12%	11%
Average 2010 to 2030	8%	7%

5 Small / Micro Firms Impact

5.1 The major impact of the Obligation on the large majority of small businesses is likely to continue to come from increased costs of electricity which, while affecting all electricity consumers, will represent a larger proportion of income for smaller companies.

5.2 The majority of small businesses involved in renewables generation (those with generation at 50 kW and less) are to be transferred to the new Feed-in Tariff (FIT) system being introduced in April 2010. The FIT offers a simpler and more certain income stream for such generators.

5.3 Small businesses involved in licensed electricity supply should not experience any additional burdens from the proposals.

6 Legal Aid Impact Test

6.1 This test is not considered relevant to the changes to the ROS.

7 ‘Test Run’ of Business Forms

7.1 The changes to the ROS do not involve business forms.

8 Competition Assessment

8.1 The ROS is a market-based instrument that operates in a competitive market for electricity. The rules of the ROS apply in a non-discriminatory way to all participants in the renewables industry and electricity sector. It is intended that this will remain the case. The proposed changes, coupled with the retention of the mechanism which recycles money from the buyout fund, should act as a positive incentive to competition between existing and new renewable generators, as well as licensed electricity suppliers.

9 Enforcement, Sanctions and Monitoring

9.1 The ROS, like all UK Renewable Obligations, is administered and enforced by Ofgem. Non-compliance is considered a breach of a 'relevant requirement' of the Electricity Act and Ofgem may impose appropriate sanctions. Ofgem reports annually on its administration of the Obligations and conducts regular audits in relation to compliance.

9.2 The changes proposed do not introduce any new powers of sanction.

10 Implementation and Delivery Plan

10.1 The Renewables Obligation (Scotland) Amendment Order 2010 will be laid before the Parliament during February 2010, and is due to come into force with effect from April 1.

11 Post-Implementation Review

11.1 The legislation requires the Scottish Government to carry out reviews of the ROS on an agreed timetable. Subject to the triggers for an early or "emergency" review set out in the ROS, it is proposed that the first review of the RO banding levels should commence in October 2010, and that subsequent reviews should operate at four yearly intervals.

11.2 The Scottish Government will continue to monitor the performance of the ROS, and will work closely with Scottish stakeholders, the other UK administrations and with Ofgem on future changes to the mechanism.

12 Summary and Recommendation

12.1 The recommendation is that the proposed changes be made to the ROS, thus supporting progress towards and the achievement of the Scottish Government's renewable electricity targets.

13 Declaration and Publication

13.1 I have read the Regulatory Impact Assessment and I am satisfied that the benefits justify the costs.