

Title: The Environmental Protection (Miscellaneous Amendments) (England and Wales) Regulations 2018 IA No: Defra/ENV/004 RPC Reference No: RPC-4122(2)-DEFRA Lead department or agency: Defra Other departments or agencies:	Impact Assessment (IA)			
	Date: 21/11/2018			
	Stage: Final			
	Source of intervention: Domestic			
	Type of measure: Secondary legislation			
	Contact for enquiries: Stephen.House@defra.gsi.gov.uk			

Summary: Intervention and Options	RPC Opinion: Fit for purpose
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Cost of Preferred (or more likely) Option

Total Net Present Value	Business Net Present Value (2016 prices)	Net cost to business per year (EANDCB in 2016 prices)	One-In, Three-Out	Business Impact Target Status
£94.77m	-£12.0m	£1.4m	Not in scope	Non qualifying provision

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

Waste sites that are seriously mismanaged can have significant consequences for the wider public. They cause pollution to the natural environment and nearby communities are adversely impacted by vermin, fly infestations, fires, smoke, litter, dust and odours. Evidence from the industry trade association, the Environmental Services Association, estimates the cost to the UK economy as being in the order of magnitude of hundreds of millions of pounds. Strengthening the regulator's assessment and enforcement of a waste site operator's competence will increase compliance levels and decrease the number of waste sites being abandoned and reduce the externality costs to the environment and community.

What are the policy objectives and the intended effects?

The overall policy objective is to improve compliance levels at waste sites and reduce the abandonment of sites by strengthening the regulator's ability to assess and enforce operator competence regulations. The appraisal will focus mainly on four elements: 1) past operator performance, 2) management systems, 3) technical competence and 4) financial competence. The intended effect is to reduce risks to the natural environment and local communities. It will also lower costs to the tax payer and ensure public services that rely on well managed sites can occur. The removal of seriously mismanaged sites that regularly breach the regulations will reduce unfair competition which will bring benefits to compliant and responsible waste operators and the wider economy.

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

The policy options include amending core guidance and regulations or amending permit conditions to strengthen the assessment and enforcement of each of the four elements:

Option 1: Do nothing, under this base case there will be no changes to the rules that apply to operator competence.

Option 2: Improve the four elements of operator competence, this is the preferred option

Will the policy be reviewed? It will be reviewed. **If applicable, set review date:** 09/2023

Does implementation go beyond minimum EU requirements?	N/A			
Are any of these organisations in scope?	Micro Yes	Small Yes	Medium Yes	Large Yes
What is the CO ₂ equivalent change in greenhouse gas emissions? (Million tonnes CO ₂ equivalent)	Traded: 0.00		Non-traded: 0.00	

I have read the Impact Assessment and I am satisfied that, given the available evidence, it represents a reasonable view of the likely costs, benefits and impact of the leading options.

Signed by the responsible Minister: _____ Thérèse Coffey _____ Date: _____ 22nd November 2018 _____

Summary: Analysis & Evidence

Policy Option 1

Description: Do nothing - maintain status quo

FULL ECONOMIC ASSESSMENT

Price Base Year 2017	PV Base Year 2018	Time Period Years 10	Net Benefit (Present Value (PV)) (£m)		
			Low: 0.0	High: 0.0	Best Estimate: 0.0
COSTS (£m)		Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)	
Low		0.0	0.0	0.0	0.0
High		0.0	0.0	0.0	0.0
Best Estimate		0.0	0.0	0.0	0.0
Description and scale of key monetised costs by 'main affected groups'					
None.					
Other key non-monetised costs by 'main affected groups'					
None.					
BENEFITS (£m)		Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)	
Low		0.0	0.0	0.0	0.0
High		0.0	0.0	0.0	0.0
Best Estimate		0.0	0.0	0.0	0.0
Description and scale of key monetised benefits by 'main affected groups'					
None.					
Other key non-monetised benefits by 'main affected groups'					
None.					
Key assumptions/sensitivities/risks				Discount rate (%)	3.5
Although the Environmental Services Association suggests that the level of waste crime may be increasing ¹ , in the absence of conclusive proof of such a trend, for this analysis the conservative working assumption was adopted that the cost to the regulators and society will remain the same over the next 10 years.					

BUSINESS ASSESSMENT (Option 1)

Direct impact on business (Equivalent Annual) £m:			Score for Business Impact Target (qualifying provisions only) £m:
Costs: 0.0	Benefits: 0.0	Net: 0.0	
			0

¹ Rethinking Waste Crime, Environmental Services Association, 2017

Summary: Analysis & Evidence

Policy Option 2

Description: Improving four elements of operator competence

FULL ECONOMIC ASSESSMENT

Price Base Year 2017	PV Base Year 2018	Time Period Years 10	Net Benefit (Present Value (PV)) (£m)		
			Low 78.2	High: 111.7	Best Estimate: 94.77
COSTS (£m)		Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)	
Low	10.1	2	0.3	12.7	
High	10.9		0.5	14.6	
Best Estimate	10.5		0.4	13.6	
Description and scale of key monetised costs by 'main affected groups' This option will result in costs to waste site operators and the regulators. There will be £10.5m in transition costs for operators to become technically competent, produce management systems and to cover familiarisation time. Ongoing costs to operators are £40,000 (approx.) in the first year to cover the financial competence report, rising to £355,000 (approx.) per year after year 2 for renewal of their technical competence qualification and management systems. Regulators face costs of £85,000 (approx.) per year from the additional time to complete checks according to the new regulations.					
Other key non-monetised costs by 'main affected groups' There are no non-monetised costs identified.					
BENEFITS (£m)		Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)	
Low	0.0	0	10.8	92.6	
High	0.0		14.5	124.2	
Best Estimate	0.0		12.7	108.4	
Description and scale of key monetised benefits by 'main affected groups' The option would result in a reduction in the number of poor performing sites. This would result in benefits to society from avoided environmental damage and disamenity impacts, of £7.33m benefits in year 1 and £12.22m per annum thereafter. In addition, there is approx. £0.94m benefits per annum to the regulators from dealing with fewer pollution incidents from poor performing sites.					
Other key non-monetised benefits by 'main affected groups' Certain benefits have not been possible to quantify, including improving human health, improved reputation to the waste industry and regulators, and reduced criminality in the waste sector, such as, less illegal waste sites and illegal exporting of waste. There will also be a benefit to waste businesses as it will create a level playing field where non-compliant waste operators will be less able to undercut legitimate and compliant operators.					
Key assumptions/sensitivities/risks			Discount rate(%)	3.5	
A number of assumptions were made when calculating the costs and benefits. The key assumptions were: estimating the proportion of waste operators impacted by the intervention, the costs to the waste site operators, and the decrease in the number of poorly compliant sites from the intervention.					

BUSINESS ASSESSMENT (Option 2)

Direct impact on business (Equivalent Annual) £m:			Score for Business Impact Target (qualifying provisions only) £m:
Costs: 1.5	Benefits: 0.0	Net:-1.5	6.9

Evidence Base

1. What is the problem under consideration?

Since the introduction of the EU Waste Framework Directive in 2008, the waste sector in England and Wales has changed; more waste has been diverted away from landfill and put to beneficial use, with clear benefits to the environment and the taxpayer. Waste sites operating under a permit play a critical role in managing waste safely and under controlled conditions. Most of these sites operate responsibly and meet the required standards. However, certain permitted waste sites act illegally by not complying with the conditions of their waste permit, resulting in poor compliance and sites being abandoned.

These non-compliant sites have many negative impacts. They cause serious pollution to the natural environment and disamenity for nearby communities in the form of odour, litter, dust, vermin, fly infestations and fires. External sources have indicated that this issue has had a substantial impact on the economy. The figures quoted in the ESA report¹ give an indication of the scale of the problem. Waste crime also hampers resource efficiency by creating illegal shortcuts for disposing of waste cheaply, and so undercutting compliant businesses who seek to recycle or recover resources and feed them back into the economy.

These impacts are partly attributed to non-compliance as a result of poor operator competence. The environmental regulators' (Environment Agency and Natural Resource Wales) Operational Risk Appraisal (Opra) assessment categorises all permitted waste sites into bands from A to F. These bands are based on site performance and compliance levels in the previous year. In this categorisation Bands A, B and C constitute well run sites, which are compliant with the environmental permitting regulations. Bands D, E and F are considered poor performers and are not compliant with the regulations or the regulators' enforcement efforts.

In 2015, Opra found 465 (4%) of the around 11,700 permits in the waste industry showed poor compliance with permit conditions and were rated DEF band. Of these, 203 were persistent poor performers who have been rated DEF for two years or more. In the same year 72% (104) of serious pollution incidents were caused by permitted waste sites rated DEF. In a sample of 14 waste sites which were designated as 'sites of high public interest'² in 2015 by the regulators, 64% (9) had a DEF rating.

Dealing with a poor performing site costs the regulator substantially more than it receives in permit fees. The Environment Agency (EA) estimate that the average cost to the regulator of successfully resolving a DEF rated site is £30,690.

Poor competence can also lead to site operators failing to comply with the regulators' enforcement requirements and ultimately abandoning the site. In these cases government bears the cost of clearing the remaining waste. There are approximately 40 abandoned sites in England and Wales at present, and on average there are around 19 sites abandoned each year. The cost of clearing the 40 sites is estimated to be £13m, depending on the type of waste. The waste at abandoned sites is not stored or managed in accordance with the conditions of the permit. It increases the risk of fires and can involve large amounts of waste which can burn for prolonged periods. The cost to the regulators and local services to deal

¹ [Rethinking Waste Crime, Environmental Services association, 2017](#)

² Sites of high public interest are sites that are already generating a lot of public interest, or have the potential to generate high public interest (whether for environmental, legal or political reasons)

with these fires can be significant. For example, costs incurred by the London Fire Brigade in attending a site in London over the course of 2013 to 2015 were nearly £1m³.

Poor performance at permitted waste sites can also lead to greater criminality in the waste sector as a whole. Certain operators use waste permits to hide their illegal waste activity and can be involved in other forms of waste crime, such as, illegal waste sites, large scale illegal dumping and illegal exporting of waste.

2. The Base Case

Under the provisions of the current system of regulation ongoing and fairly widespread shortfalls in appropriate levels of due diligence have occurred and are still occurring across the subsector. Unanticipated outturns developed in the form of significant patterns of negligence on the part of many permit holders or site managers in discharging their environmental responsibilities. In the consultation stage IA the associated environmental and disamenity costs arising from these malpractices were presented explicitly in option 1, the 'do nothing' option, indicating the significant risks of continuing on this path. Option 2 was compared to option 1 using the same consistent counterfactual baseline whereby the current regulations would function as they were designed to do⁴.

However, whilst the core economic cost-benefit analysis is basically the same, in this final version of the IA the presentation has been revised in order to make it directly comparable with other IAs assessed across the whole range of policies. The baseline is now taken as the current status quo. Therefore, option 1 has been given a net present value of zero and represents the baseline to which option 2 is compared. The avoidance of the costs to society and the regulator as a result of malpractices that presently exist due to the ambiguities and imprecision in the current formulation of the regulations are represented as benefits in option 2.

It is worth noting that in the consultation there was no challenge to the IA and no new evidence was provided. One can therefore conclude that the analysis and the evidence in the IA were broadly supported.

The following illustrates the costs to society and the regulator from the current circumstance. This would be the true costs of option 1. However, the approach taken in this IA is to use a baseline with zero costs and benefits.

There would be no additional cost to waste site operators if option 1 is taken forward. Regulators would continue to incur costs of £3.03m per annum. This is calculated as the baseline number of incidents per year multiplied by the cost to the regulator of an incident: 126 x £24,048 = £3.03m. The costs to the environment, ecology, local communities and pollution incidents will continue due to poor compliance.

3. What is the rationale for intervention?

The rationale for Government and regulatory intervention is predominantly to rectify the environmental and social effects associated with poor performing permitted sites. Significant

³ This IA on Operator Competence can be seen in the context of a suite of regulatory reforms, as explained in IAs /RTAs on waste site exemptions and affirmative measures that are being proposed to address and ameliorate serious problems arising from waste crime and malpractice.

⁴ This allowed for comparison between the negative net present value of the current situation (Option 1) with the positive net present value of Option 2 without double counting the avoidance of these existing costs.

shortfalls in performance generate negative externalities, a form of market failure, which occurs when economic activities give rise to costs that are not reflected in market prices. These externalities consist of the environmental and disamenity impacts outlined above. Not only do persistent poor performing sites generate externalities, they also compromise fair competition for those sites that operate responsibly by complying with regulations and safety standards.

Intervention is necessary to address these externalities by strengthening the regulators' assessment and enforcement of the competence of waste site operators. As highlighted in the 2015 call for evidence, there are four elements of operator competence outlined in the Environmental Permitting Regulations (EPR) Core Guidance 2013 that the regulators currently assess and will need strengthening:

- 1) Past operator performance;
- 2) Management systems;
- 3) Technical competence;
- 4) Financial competence.

Evidence collected by the regulator⁵ shows these four elements of competence are linked to poor compliance. Changes to the EPR Core Guidance in 2013, which expanded the regulators ability to refuse and revoke permits on competence grounds, resulted in a reduction of 6% (217 to 203) of persistent poor performers from 2014 to 2015. Whilst this was clearly beneficial, it did not go far enough to strengthen the ability of the regulators to assess and enforce all four areas of competence to significantly increase compliance levels and reduce the number of abandoned sites.

Past Performance

The regulator is currently able to take into account an operator's past performance when determining whether a permit should be issued, transferred or reviewed. This includes an operator's, and persons associated with the waste operations, compliance with regulatory requirements and convictions for relevant offences (defined as an offence relating to the environment or the operation of a waste site). However, evidence of previous poor compliance or a relevant conviction does not automatically mean that a permit is declined or revoked. It is within the discretionary power of the regulator to assess the risks and decide whether or not to issue a permit. A recent audit by the EA National Permitting Service of 22 permits chosen at random showed that three of the 22 permits (13.6%) should be challenged under the current scope of poor past performance. This suggests that more robust scrutiny of past performance would be beneficial.

The 2015 call for evidence and subsequent engagement with stakeholders revealed considerable support for widening the scope of what is considered "relevant convictions". Extending the range of convictions to be declared and operators past behaviour would help prevent potentially high risk individuals from acquiring permits under a veil of legitimacy. The EA National Permitting Service is running a project in 2017/18 to gather further information on intelligence/criminal checks in permit applications.

Management Systems

Management systems are an important and effective means of ensuring waste is managed without endangering human health or the environment and minimising the risk of fire. Permits issued or varied since 2008 contain a condition which requires a written management system. However this is not a legal requirement so that 2,018 sites are potentially operating without a management system in place (cf. p.14). This is a significant contributory factor in poor

⁵ Environment Agency: '[Regulating the waste industry: 2015 evidence summary](#)'

performance. An audit undertaken by the EA National Permitting Service showed that of five permitted sites that fell into DEF status within a year of being issued, one in five (20%) was due to inadequate management systems and poor technical competence. This highlights the importance of permit holders adopting and implementing a written management system.

Technical Competence

All permits issued or varied after 2008 contain a condition for the operator to be technically competent through a scheme approved by Defra. There are currently two approved schemes; CIWM/WAMITAB⁶ scheme of individual operator competence and the ESA/EU Skills⁷ scheme of corporate competence.

There is a requirement in legislation for an operator to be technically competent; however this legislation does not require an operator to show their technical competence through a scheme approved by the regulators. The legislation does not enable the regulators to use the full range of their discretionally enforcement powers on permits issued before 2008 that have not been varied. It only enables the regulators to revoke these permits which they choose not to do because it is often too draconian an option and does not enable the regulators to suspend or issue compliance notices.

There is also evidence that certain technically competent managers (TCM) are not acting in a proper manner. Some TCMs are spread too thinly by providing cover at many waste sites at the same time, whilst other TCMs are acting improperly and can be known to provide poor or wrong advice to waste operators. This loop-hole effectively means that a waste site is able to show the regulators that they meet suitable levels of technical competence because they have employed a TCM, but the TCM will not have the time or ability to influence the running or compliance levels of the site.

Following the 2015 call for evidence, the scheme providers and the regulators have worked together to agree the time TCMs should be present on site to enable TCMs to handle multiple sites at the same time in a safe manner. The time a TCM must spend on site depends on the type of permit and the regulatory compliance rating, although a TCM does not need to attend a site for more than 48 hours per week regardless of the type of operation.

There is currently no legal requirement for a waste site to provide the name of their TCM to the regulator to enable the regulator to build up a national picture of TCMs and waste sites.

Financial Competence

The EPR Core Guidance states there is an obligation for permitted waste sites to be financially capable of complying with the conditions of their permit, but regulators are only able to consider financial solvency explicitly in cases they have reason to doubt the financial viability of the activity. Prospective measures to strengthen the regulators' assessment of financial competence would decrease the number of sites becoming non-compliant in the first place.

4. Policy objectives

The overall policy objective is to improve compliance levels at waste sites and reduce the abandonment of sites by strengthening the regulators' assessment and enforcement of operator competence. The policy objectives for each element are:

⁶ Chartered Institution of Wastes Management / Waste Management Industry Training and Advisory Board

⁷ Environmental Services Association / Energy and Utilities Skills

Past Performance – reduce the number of waste sites from becoming non-compliant in the first place by widening the scope of convictions and past behaviour when assessing past performance.

Management System – increase levels of compliance at all permitted sites by requiring all permitted waste operators to manage and operate in accordance with a written management system.

Technical Competence – increase compliance at all permitted sites by enabling the regulators to require suitable levels of technical competence at all permitted waste sites.

Financial Competence – reduce the likelihood of waste sites becoming non-compliant in the first place and the number of sites being abandoned because the operator is unwilling or unable to meet their permit obligations.

The intended effect is to reduce risks to human health, the natural environment and local communities. It will reduce costs to landowners and the tax payer. The removal of illegal and unfair practices will bring benefits to legitimate waste operators and the wider economy.

5. What are the options?

The options to strengthen the assessment and enforcement of operator competence are set out below. We considered three options in the consultation, including the do nothing option, to strengthen the regulators' enforcement and assessment of operator competence.

Option 1: 'Do nothing' will not address the impacts to the natural environment and local communities as there will be no action taken from government.

Option 2: 'Improving four elements of operator competence' provides the best value for money for the taxpayer, whilst achieving the policy aims. The majority of respondents to the consultation (80%) favoured option 2.

Option 3: 'Financial provision for all permitted waste sites' was not the preferred option because the assessment suggested that a financial provision mechanism for all waste sites would be prohibitively expensive for business. Whilst the majority of respondents to the consultation preferred option 2, a significant number of respondents were in favour of a more targeted approach to financial provision to cover the cost of clearing waste if the site is abandoned. We intend to consult further on financial provision policy options separately and have not included this option in this final IA.

The two main groups that are impacted by the costs are waste site operators and the regulators.

Option 1: Do Nothing

The first option is for government not to intervene in the waste sector to improve operator competence at this stage.

Description of each element

Past Performance — no change to how the regulators assess past performance. The regulators are currently able to take into account an operator's compliance with regulatory requirements and convictions for relevant offences (defined as an offence relating to the environment or the operation of a waste site) and are not able to take account of offences that are not related to the environment or waste.

Management Systems — no change to how the regulators enforce compulsory management systems. All permits issued after 2008, and all pre-2008 permits varied after 2008, will have a permit condition for a management system. Without intervention it will take approximately 20 years for all remaining pre-2008 permits to come up for variation and a management system requirement to be included in these permits.

Technical Competence — not change how the regulators enforce technical competence. As with management systems, all permits issued after 2008 permits, and all pre-2008 permits varied after 2008, will have a permit condition of technical competence. It will take approximately 20 years for remaining pre-2008 permits come up for variation and a technical competency requirement to be included in these permits.

Financial Competence — there will be no change to how the regulators assess an operator's financial competence and no requirement of financial provision for high risk sites.

Costs

There are no costs from this option.

Benefits

There are no benefits from this option.

Option 2: Improving four elements of operator competence

The second option is improving four elements of operator competence. It would involve a combination of amending the Environmental Permitting Regulations 2016 (EPRs) and the EPR Core Guidance. The preferred mechanism for each of the four elements is outlined below. The majority of respondents to the consultation agreed that guidance and legislation should be amended to achieve the policy objectives of improving the four elements of operator competence. In this option, the costs for each of the elements have been set out separately, however the benefits of each element have been combined to show the total impact of the reduction in the number of poor performing sites.

Options for each element

Past performance - amend the EPR Core Guidance to strengthen the regulators' assessment of past performance by widening the scope of relevant offences that regulators can take into account in order to suspend, revoke or decline a permit. The definition of relevant offences will be widened to include all offences.

Technical Competence - amend EPR legislation to strengthen the regulators' assessment and enforcement of technical competence by:

- 1) making it more explicit in legislation that operators need to become technically competent through a scheme approved by the regulator to operate a permitted waste site.
- 2) enabling the regulators to require operators to inform them who the Technically Competent Manger is at their waste site.

Management Systems - amend EPR legislation to strengthen the regulator's assessment and enforcement of management systems by including a requirement for all permitted waste sites to have a management system. It would require all operators to manage and operate the activities in accordance with a written management system.

Financial Competence - amend the EPR Core Guidance to strengthen the regulators ability to determine an operator's financial competence by requesting an independent financial report.

Costs

These consist of ongoing regular and transitional costs. Respondents to the consultation did not provide any quantitative evidence about the costs. Costs to the regulator will be recovered through permit fees. As per HMT rules, all permit fees need to be cost recovered.

Past performance

Costs to waste site operators

We do not anticipate any direct cost on current waste site operators. Operators already have to provide information of convictions and past behaviour when applying or transferring a permit. This change will mean that operators will need to provide information on a widened scope of past behaviour and convictions (currently only waste convictions are in scope). This will have a very marginal increase in the operators' time to complete an application form. For example, if a person applying for a permit has previous fraud convictions, they would need to list those convictions in the application form, as well as listing their waste related offences. The regulator estimates that, in reality, this will take an operator less than 60 seconds. As this additional time is so marginal it has not been included as a cost.

Costs to regulators

A permitting officer would have to spend additional time checking a permit application or transfer against the widened definition of relevant convictions and past behaviour. This cost would only be marginal because permit officer already checks applications against the current definition of convictions and past behaviour. It currently takes a permit officer around 20 minutes to review the past convictions and behaviour during a permit application and the regulators expect to spend a similar time again, or slightly less, to review the wider convictions and past behaviour. Through discussions with the regulators it has been estimated that it would take a permit officer an extra 10 to 20 minutes to check a permit against the widened definition of relevant convictions and past behaviour. The standard manpower cost of a permit officer is £90/hr including overheads. Based on an average of 1,167 new permit applications and transfers per year it will take an additional 194.5 hours to 389 hours to check the permits.⁸ These costs range from £17,500 to £35,000 (approx.) per year. This is an ongoing yearly cost.

Management Systems

Costs to waste site operators

There will be a transitional cost to a proportion of waste site operators to develop a management system or amend their current working plan to comply with the modern format. As set out below, we estimate that 2,602 waste operators do not currently have any system in place. Of the current 11,775 permits, 6,698 (57%) were issued before 2008 and do not contain a management system condition unless they have since been varied.⁹ According to the regulator, 7,186 waste permits have been varied since 2008, and we have assumed that 57% of all permits varied are pre-2008 permits, meaning 4,096 of the 6,698 pre-2008 permits now

⁸ EA National Permitting Service gave figures for cost of permit officer (£90/hr) and the time (10-20mins) to check an application against the new requirements.

⁹ The number of permits that were issued before 2008 is taken from the EA permitting data, given by the EA National Permitting Service. Only permits that have been issued or varied since 2008 will have the new management system condition in them.

include a management system condition. Therefore, we estimate that the remaining 2,602 waste operators do not currently have any system in place.

From discussions with the regulators and waste management consultants we have estimated that the average cost of revising a working plan so it complies with the modern management system condition is £1,000 and the cost of producing a new management system is £3,000. Based on estimates from the Environment Agency, we assume that half of the target population has a management plan that needs to be revised, and that the other half will need an entirely new management plan. The transitional cost for the 1,301 operators to revise their working plans is (1,301 x £1000) approx. £1.3m and the costs for the other 1,301 operators to produce a new management system (1,301 x £3,000) are approx. £3.9m. The total cost is around £5m. This is a transitional cost which will occur in year 1.

There will also be an ongoing cost to maintain management systems. Only the cost of revising the written management system is attributable as any implementation costs are attributable to the operator choosing to amend their operations. Most updates will be minor and only significant change would necessitate major rewriting of the management system. The regulator estimates that such updates would take no more than 2 hours of a TCM's time per year, and we assume that 5% of the 2602 operators will revise their plans every year based on EA experience of existing industry practice. Based on a TCM average annual salary of £30,000 to £65,000 per annum (according to National Career Service data) an hourly salary is estimated to range from £14-£31 giving an ongoing cost of £3,643-£8,066. Where an operator already has an existing working plan this will already be maintained and so the additional cost does not arise.

Costs to regulators

The cost of checking management systems is already accounted for in the subsistence fee during the inspection of sites. However, the additional workload may result in permit officers having to spend more time working than they would have otherwise. We estimate this as an opportunity cost of their time that could have been spent on other activities. The regulator advises a permit officer (£90/hr) will spend an extra 15 mins per application to assess the additional information, we estimate an opportunity cost in year 1 of £58,545 (from processing 2602 applications), and an ongoing cost of £2,927 to process the renewals (5% of the 2602 operators every year).

Technical Competence

Costs to waste site operators

There will be a transitional cost for a proportion of waste site operators to become technically competent through a scheme approved by the regulators. We estimate that 2,602 waste operators will need to gain this qualification¹⁰. As with management systems, we estimate that permits issued or varied after 2008 already contain a technical competence condition in their permit.

There are currently two approved schemes, each of which have been running for about 8 years so all the infrastructure is already in place. The schemes are both industry run schemes and were approved by government. They are used by the vast majority of permitted waste operators and this proposal will require the remainder to choose and use one of those schemes. The regulators are beneficiaries of the schemes, accepting the

¹⁰ Source: Environment Agency and Natural Resources Wales

qualification/accreditation frameworks as evidence of technical competence whilst avoiding the need to get involved in the training and assessment process, as independent third party accreditation is utilised. The role of regulators is limited to checking that sites are using one of the schemes. The task of checking technical competence forms part of a list of compliance assessment actions that can be carried out during inspections. The annual subsistence fee paid by the operator covers the regulator’s costs so there is no additional burden in extending technical competence schemes to all waste operators.

EU Skills Ltd has confirmed that the vast majority of the 2,602 waste operators would train an employee to become technically competent through the individual CIWM/WAMITAB scheme, rather than the corporate ESA/EU skills scheme, as the large scale operators who use the ESA/EU skills scheme are likely to already be technically competent. WAMITAB and the regulators have not been able to provide information on the proportion of waste operators that will employ a TCM, rather than training a current employee. A key driver of employing a TCM over training a current employee is that it could be the more financially viable option, so for the purposes of assessing the costs in the IA we expect that the costs per waste site should not vary if an employee is trained in-house or a TCM is employed. The consultation confirmed that the majority of operators would train an employee in-house.

The average cost of a CIWM/WAMITAB qualification varies depending on the level of risk at a site (low risk £1,080, medium risk £1,620, and high risk £3,240 for registration and centre fees). WAMITAB have provided the risk breakdown of operators that have previously gained a qualification (low risk 42%, medium risk 45%, and high risk 13%). The risk profile for the remaining 2,602 operators is likely to be similar. This postulation is based on the fact that the reason these operators had not previously acquired the qualifications was because the regulations before now did not require this rather than any carelessness towards risk. On this basis it has been estimated that the cost to the remaining operators will total £4.2m to gain the relevant qualifications, (low risk operators £1.2m, medium risk £1.9m and high risk £1.1m).

	Number of learner registrations as a % of total registrations	Target population (2602) by risk level	Registration + centre fees	Total cost
Low risk qualification	41.77%	1,087	£1,080	£1,173,732
Medium risk qualification	45.32%	1,179	£1,620	£1,910,358
High risk qualification	12.91%	336	£3,240	£1,088,502
Total		2602		£4,172,593

It also costs employers to take employees off-site to undertake a qualification and reimburse travel costs. It takes an average 0.5 day to undertake a WAMITAB qualification test. As there are many test centres across England and Wales, we have estimated the time to travel to a centre as 0.25 day and £20/day is likely to be spent on travel costs. Based on a TCM average annual salary of £30,000 to £65,000 per annum (according to National Career Service data) a one day salary ranges from £115 - £250. Three quarters of a day, plus travel costs, results in robust cost estimations for the 2,602 operators from £0.28m - £0.54m.

Time for an employee to train up in preparation of taking the test should not be included as the regulations stipulate that waste site employees should already be technically competent, but not through a scheme approved by the regulator. However, the cost for operators to revise for an exam should be taken into account. The regulator suggests 1 day of revision is sufficient. Based on the daily salary, this gives an additional transition cost of £0.3m-£0.65m.

As such, based on the total registration and centre fees (£4.2m), time and travel costs (£0.28m-£0.54m) and revision costs (£0.3m-£0.65m), the estimated total transition cost to

waste site operators is £4.8m - £5.4m. We assume that this is split over two years, with half of the first tests taken in year 1 and half in year 2.

There will also be an ongoing cost. Operators need to keep up their technical competence by taking a WAMITAB continuing competence test every two years. It will cost operators £130 per test every two years to renew the qualification. Based on the same risk breakdown as above, the target population is 2,602 employees and their continuing competence tests would cost operators £0.17m annually for registration and centre fees. This is based on the assumption that half the employees will take the test in year 1 and half in year 2 (as above), and therefore half of the renewals will take place each year going forward. Employees will be off-site to travel to a test centre and take the test, as the renewal test is shorter than the initial qualification this is estimated to take half a day in total. Travel costs are estimated at £20/day. Therefore, total time and travel costs are estimated to be between £0.2m and £0.38m (approx.). Split over alternate years, this will result in total ongoing renewal cost to the operators of £0.27m-0.36m per year. There will be a minimal cost on operators to inform regulators who the TCM is at a waste site. The regulators will likely request this information through an additional field on the quarterly waste returns. It should not increase the time it takes for an operator to complete the form, as the regulators already complete a waste return on an annual basis.

Costs to regulators

The cost of checking that operators are qualified is already accounted for in the subsistence fee during the inspection of sites. There will be a minimal cost to the regulator to include a TCM name field in the annual waste return. We estimate this as an opportunity cost of their time that could have been spent on other activities. Assuming half of the target population is taking tests/renewing every year (1301) and a permit officer (£90/hr) will spend an extra 15 mins per application to assess the additional information, we estimate costs of £29,273 per year.

Financial competence

Costs to waste site operators

It will cost an operator to submit an independent financial report when applying for or transferring a permit. We estimate it will cost an operator £10-£50 to produce a report¹¹. As there are 1,167 new permits applications and permit transfers per year, the estimated cost to operators range from £11,670 - £58,350 per annum. This is an ongoing cost.

Costs to regulators

It will also cost the regulators to assess the result of the independent financial report as part of the application or transfer determination process. As the financial report will likely be undertaken by a third party, a permit officer (£90/hr) will spend an extra 15 mins per application to assess the additional information. This would result in an estimated cost to the regulators of £26,258 per year. This is an ongoing cost. However, it will be the operator who will pay the third party and this cost has been included in the IA.

General costs

¹¹ This is taken from commercially available examples of company financial reports such as those offered by Experian. These are for different types of report available with varying levels of detail. It will be for regulators to determine which type of report is most appropriate for their purposes

Familiarisation costs have also been included. Based on discussions with the regulators, we estimate that it will take operators between 3-5 hours to familiarise themselves with the changes in approach. Based on the typical salary of a TCM (£115 to £250, as above) working an 8 hour day, we estimate an hourly cost of £14-£31. Assuming an average of 4 hours familiarisation, we anticipate this will cost £0.15m-£0.32m across the 2602 target sites. These would be one-off costs.

Benefits

Option 2 would result in a reduction in the number of poor performing (DEF) sites. We estimate 82 applications by high risk operators will be rejected due to improved assessment of past performance and financial competence, resulting in 82 less DEF rated sites in future years (cf. paragraph below). Management systems and technical competence will lead to a 20% reduction of permits in DEF status, down from 465 to 372.

Past performance and financial competence

Strengthening the regulators' assessment and enforcement of past performance and financial competence will result in the rejection of applications before they can become DEF rated sites in the first place. The changes to the assessment of past performance will result in around 2.5% of permits applications or transfers being declined in the future and DEF rated site status avoided. This estimate is based on the EA National permitting Service's audit of 22 permits. 3 of 22 permits (14%) would be challenged based on current convictions and an additional 1 (5%) currently considered high risk and would be challenged based on the widened definition of convictions. Approximately half of the permits that are challenged will be issued and the other half rejected. This is based on information from the regulators. When permit applications are challenged it is usually by way of asking for further information. The regulators looked at a sample of permit applications. Half of the permits in the sample was granted after further information was received. The applicant provided enough justification for the regulators to be satisfied with their competence. Therefore, of the 1,167 permit applications and transfers a year, an additional 58 permits (5%) will be challenged from which 29 (2.5%) permits will be rejected.

Strengthening financial competence will result in 5% of permit applications or transfers being rejected in the future and DEF rated site status avoided¹². From discussions with the regulator we have estimated that 5% should not be included into DEF status, meaning of the 1,167 permit applications and transfers a year 58 permits (5%) will not be issued. In total, 87 (29 and 58) applications by high risk operators will come under past performance or financial competence. The EA advise that a lack of financial competence is unlikely to form a significant part of the DEF population, so the overlap will be small. They estimate 5 applications per year. Poor past performance is typically related to poor management and a lack of focus on how site operations are conducted, those operators who view their permit purely as a licence to operate and for whom compliance with conditions is of marginal concern, a lack of technical competence or finally a lack of financial competence. As such, a total of 82 applications by high risk operators will be rejected by the regulators each year.

Management Systems and Technical Competence

Strengthening the assessment and enforcement of management systems and technical competence would result in a reduction of 20% of the total stock of DEF rated sites by shifting those sites up to an ABC rating. The EA National Permitting Service recently audited 5 permits

¹² See sensitivity analysis for estimations of 4% and 6% rejection rate

that fell into DEF status within one year of being issued. 1 in 5 (20%) had poor compliance because of insufficient management systems. We recognise that this is a small sample, however we are confident that this is a realistic representation, based on this we assume that policy approach will decrease the 465 DEF rated sites by 20% (93).

Benefits to society

The benefits to society have been calculated as the benefits per tonnes of waste that will no longer be kept at poor performing sites. From discussions with the regulators we estimated that approximately 7,500 - 10,000 tonnes of waste is kept at a DEF rated site. This estimate is based on the mean volume of tonnes at a DEF rated site at a specific point in time. Of the 82 sites per year, where applications will now be refused on financial or past performance grounds, this intervention will result in between 615,000 and 820,000 tonnes of waste being diverted away from non-compliant operators.

Additionally, 93 less DEF rated sites per year, due to site management systems and technical competence, will result in between 697,500 and 930,000 tonnes of waste being diverted away from non-compliant operators.

In total between 1,312,500 and 1,750,000 tonnes will be diverted away from non-compliant operators from the 175 avoided/improved sites. The latest data from Ricardo AEA's Technical Report on the Waste Crime Intervention and Evaluation Project estimates the benefits of avoided ecological / environment damage by illegal waste sites are £1.86 - £1.88 per tonne. In terms of the consequences in environmental pollution and disamenity effects, the externalities at an illegal waste site and non-complaint site are not dissimilar.

Table 1 Externality Costs

Estimates £/tonne	Low	High	Central
Environmental	£1.86	£1.88	£1.87
Disamenity	£6.02	£6.18	£6.10
Total	£7.88	£8.06	£7.97

Taking these estimated costs and multiplying by the tonnage of waste from the avoided DEF rated sites (above) results in avoided environmental costs of £2.4m-£3.3m and avoided disamenity costs of £7.9m-£10.8m. These represent costs that will be avoided by society under Option 2, and hence are counted as among its benefits.

Benefits to the regulators of dealing with fewer incidents

The benefits to the regulators of dealing with fewer incidents have been calculated on a site basis. The EA pollution incidents 2015 evidence summary¹³ shows that 145 incidents were caused by waste sites. 72% (104) of these were caused by DEF rated sites. Meaning 22% (104 out of the 465) DEF rated sites caused category 1 and 2 incidents. This intervention will result in 93 fewer DEF rated sites and 82 avoided future DEF rated sites. Assuming that the same incident rate (22%) applies, it means that there will be 39 fewer incidents a year. The

¹³ Environment Agency: 'Pollution incidents: 2015 evidence summary'.

evidence summary shows that each incident generates an average cost of approximately £24,048¹⁴ so the total benefit is £937,872 per year.

Non-monetised benefits

Certain benefits have not been possible to quantify, but have been included as non-monetised benefits. The main non-monetised benefit is the creation of a more level playing field where non-compliant waste operators will be less able to undercut legitimate and compliant businesses. Another main benefit is the reduction in criminality in the waste sector as a whole. Improving the performance at permitted waste sites will also crack down on operators use waste permits to hide their illegal waste activity and are also involved in other forms of waste crime, such as, illegal waste sites, large scale illegal dumping and illegal exporting of waste.

Other non-monetised benefits include the reduction of:

- Health impacts from incidents
- Risks of surface and groundwater contamination
- Reputational damage to waste industry from publicity surrounding poor performing sites
- Reputational damage to regulators
- Greenhouse gas emissions from fires.

The intervention will deter future poor performance through a multiplier effect or scaling, however values were not sufficiently robust to accurately monetise, but could significantly increase benefit estimates of policies.

Summary of costs and benefits

A summary of the costs and benefits over 10 years are set out in Table 2. There will be some transition costs and the table shows a summary of these and regular ongoing costs per year to businesses and regulators, and benefits to the regulators and society. It has been assumed that the transition costs realised in year 1 are familiarisation costs, costs for all necessary sites to develop appropriate management systems, and half of the costs for all necessary sites to become technically competent. Those transition costs for year 2 are half of the costs for all necessary sites to become technically competent. Transition costs are accounted for in this manner as technical competence certifications last for 2 years, so this allows all sites to become compliant. Ongoing regular costs incurred from year 1 through to year 10 are incurred in addition to these, and remain constant over time.

Benefits are all accounted for as regular, however those accruing in year 1 are attributed to 60% of the disamenity value and avoided sites rated DEF, and those accruing from years 2 to 10 are attributed to 100% of this disamenity. Assumptions on the time apportionment are made on the understanding that regulator and environmental benefits will not be fully realised immediately. The 60% is a reasonable assumption as there is no empirical evidence on the speed, continuation and implementation of compliance from sites.

Table 2: Costs & Benefits (undiscounted) summary tables of Option 2. Values are in £m

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
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¹⁴ EA Pollution incidents 2015 evidence summary; (July 2016). Available here: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/651707/Pollution_incidents_2015_evidence_summary_LIT_10487.pdf

£12,000,000 for all permitted sites with 499 serious pollution incidents gives approximately £24,048,10 per incident.

Transition Costs	Business	7.97	2.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Society	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual Costs	Business	0.04	0.04	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35
	Regulator	0.14	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
Total Costs		8.15	2.65	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44
Transition Benefits	Business	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Society	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual benefits	Regulator	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
	Society	7.33	12.22	12.22	12.22	12.22	12.22	12.22	12.22	12.22	12.22
Total Benefits		8.27	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16
Net Benefit		0.13	10.51	12.72	12.72	12.72	12.72	12.72	12.72	12.72	12.72
Discounted Net Benefit		£94.77 ¹⁵									

6. Wider impacts

Small and Micro Business Assessment (SaMBA)

Around 40% of waste site operators in England and Wales are considered to be Small and Micro Business (SMBs). 15% are considered small businesses and 25% are considered micro businesses. Regulators do not collect data on the size of individual permit holder's business as this is not relevant to the permitting process. However, based on its knowledge of the sector and an analysis of the current stock of waste permits they recommend these percentages. The waste industry comprises a small number of large national companies with a large network of permitted and exempt operations. Their coverage is extensive and their operations are usually large enough to require a permit rather than an exemption. At the other end of the scale there are a large number of small and micro-businesses which offer local collection and waste management services. This network of small operators typically pass their waste to larger sites, often after intermediate bulking up, sorting or other treatment. These operators may benefit from one or more of the waste exemptions but a sizable number also hold permits. In the middle are a number of regional operators. They may be wholly independent or trading arms of one of the larger companies. Despite some consolidation within the industry in recent years they still represent an important part of the waste sector. 15% of the costs (£1.7m of the £11.4m total costs to business over the first ten years) will fall on small businesses and 25% (£2.6m) on micro businesses.

If we excluded SMBs from the approach then it would significantly compromise the objectives of the policy. SMBs account for a large part of the waste sector, so excluding them would

¹⁵ Please note that the years refer to financial years

mean that the proposals will not be applied to a significant proportion of waste permits. The environmental and social effects associated with poor performing SMBs will not be mitigated.

As such, this intervention will impose an impact on SMBs. However, mitigating this, the waste permitting regime already takes an operator's size into account. Small scale operations are able to register for a waste exemption (an exemption from a waste permit), if their waste activities are considered very low risk. Additionally, we have taken into account the size and scale of waste businesses when designing the policy to ensure that the regulators apply the appropriate level of regulation. An operator will be required to produce a management system which is proportional to its size and scale. Smaller sites will be required to complete and implement a less comprehensive system in comparison to a larger complex site, and therefore would have to commit less time and funds to do this.

In addition, an operator's size and scale will be taken into account when undertaking a technical competency qualification. Through the regulators' assessment of the permitting stock, smaller sites perform lower risk activities and therefore need to gain the cheaper lower risk qualifications. For example, small sites undertake basic and lower risk activities, such as, inert construction waste sorting and transfer sites. Higher risk activities are performed by the larger and more complex sites. There are exceptions, for example a small site can specialise in higher risk activity such as asbestos removal, but these situations are rare.

The financial competence test will also be proportionate to the scale of the site. A smaller site will need to submit less information about their organisation, and will therefore take less time, to produce the independent financial report. We will design the independent financial report so it takes account of the size and age of the businesses when determining financial competence, in recognition that smaller and newer sites have naturally lower credit levels compared to larger sites.

The legislation to implement option 2 will include a suitable transition period to allow smaller sites time to develop a site management system or ensure they have correct technical competence qualifications. The regulators will communicate the changes to all waste permit holders in advance of option 2 being implemented. This will make smaller sites aware of the changes to ensure that they are able to comply with the legislation when it come into force.

Competition

Whilst this regulatory intervention will raise the barrier to entry for waste site operators the detailed measures have been carefully designed to target non-compliant waste operators and prevent them from entering the waste sector, while still enabling diligent compliant operators to obtain a permit. The intervention will create a level playing field in the waste sector by ensuring that all waste sites are operated to the same levels of compliance. Therefore, intervention should increase legitimate competition in the waste sector as non-compliant waste operators will be less able to undercut compliant and legitimate operators.

As existing permitted sites move out of the DEF categories into ABC, waste will continue to be managed at existing permitted sites so capacity and choice will not be diminished, it may just not expand as quickly. Any apparent under-capacity in the market will be filled by more suitable operators. The Environment Agency has identified no reason to believe that waste will be diverted away from compliant sites as a result of a more effective screening of applicants. Indeed the core purpose of a permitting regime is to ensure permits are only issued to operators who are most likely to be compliant with their permit. Issuing permits to high risk operators is the most likely way of driving waste into non-compliant sites so restricting their access to permits is an effective way of supporting good operators.

7. Sensitivity analysis

We have undertaken a sensitivity analysis around the 175 fewer DEF rated sites as a result of this intervention. The main assumption behind this was that strengthening financial competence will result in 5% of permit applications or transfers being rejected in the future and DEF rated site status avoided. The benefits of past performance, site management and technical competence have all been based on an EA survey of permits. Through discussions with the regulators, 5% of permits rejected due to a more stringent financial health check is the best assumption. However, the regulators have used their experience to show that could decrease to 4% or increase to 6%. If that were the case then the number of sites rejected on the basis of financial health checks per year would range from 47-70, instead of the 58 assumed above. This would result in the total number of fewer DEF rated sites ranging from 164-187.

8. Preferred option and implementation

After considering the cost benefit analysis, Option 2 is the preferred option to take forward because it provides the best value for money for the taxpayer while achieving the policy aims. Option 1 is not the preferred option, as the costs to the natural environment, local communities and pollution incidents are not addressed and would remain very substantial.

9. Implementation and post implementation review

The regulators will take a risk based approach to implementing the policy. When implementing technical competence the regulator will expect all sites to take a technical competent qualification within two years and will focus on DEF status sites in year 1. When implementing management systems, all operators will have completed a management system within a year. Past performance will be implemented in year one and will apply to future permit applications and transfers. Similar scheduling would apply to financial competence.

The need for monitoring and for a post implementation review have been recognised. The regulators will analyse the number of poor performing sites on a quarterly basis and publish figures on an annual basis. Data from the regulators on the number of DEF rated sites will be

analysed on an annual basis to monitor and assess the effectiveness of the intervention. The regulators will also provide an assessment of the levels of improvement of operator competence. We will use this data and the assessment to determine the benefits of the intervention. This will inform the post implementation review in five years. For example, if the assessment shows that certain elements of operator competence have not increased then we will work with the regulators to target those elements.

Annex 1: Note on Technical Qualifications

CIWM/WAMITAB: based on individuals demonstrating their competence by attending courses and completing formal assessments. All course content and qualifications are accredited by relevant bodies to ensure high standards. Training and assessment providers are nominated by the scheme providers and offered to waste operators on a commercial basis. Scheme providers and regulators bear no costs. Once qualified an individual is required to be reassessed every two years. The costs of these continuing competence assessments may be borne by the individual or by their employer. The technically competent status resides with the individual and is a marketable asset so in many cases the individual will choose to organise and pay for their assessment.

ESA/EU Skills: is a corporate based competence scheme in which a company develops and implements a competence management system in order to deliver technically competent management at its permitted sites. The initial draft management system is assessed by UKAS¹⁶ accredited auditors and once approved is accepted by regulators as evidence of technical competence. The content and implementation of the management system is reassessed on a regular basis by UKAS accredited auditors. Companies bear the cost of developing, implementing and auditing their schemes. Scheme providers and regulators bear no costs.

¹⁶ **United Kingdom Accreditation Service** (UKAS) is the sole national accreditation body recognised by Government, which assesses the competence of organisations that provide certification, testing, inspection and calibration services