Title: Regulatory Triage Assessment of the WEEE Directive on WEEE Reporting Categories in the UK **IA No:** N/A **RPC Reference No:** N/A **Lead department or agency:** Department for Environment, Food and Rural Affairs **Other departments or agencies:** N/A	Regulatory Triage Assessment (RTA) **Date:** 16/10/2017 **Stage:** Consultation **Source of intervention:** EU **Type of measure:** Secondary legislation **Contact for enquiries:** Melanie Foster, Graeme Vickery, John Walsh

Summary: Intervention and Options

RPC Opinion: Not Applicable

Cost of Preferred (or more likely) Option				
Total Net Present Value	**Business Net Present Value**	**Net cost to business per year** (EANDCB in 2014 prices)	**One-In, Three-Out**	**Business Impact Target Status**
£0.61m	£0.46m	£0.00m	Not in scope	Qualifying provision

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

The Recast of the Waste Electrical and Electronic Equipment (WEEE) Directive included a move to 'open scope' from 15 August 2018, which means all EEE will fall under the scope of the Directive unless explicitly exempt, and a requirement to categorise and report EEE and WEEE in 6 revised categories. The WEEE Regulations adopted a position that would ensure compliance with these requirements from January 2019 by moving from 14 to 6 categories. This change in categories may significantly impact the amount individual producers pay due to distributional impacts resulting from changing market shares under broader categories. Although, the overall industry level cost of recycling WEEE are not expected to change. Government intervention is necessary to ease transitional burdens on business of moving to 'open scope'.

What are the policy objectives and the intended effects?

The policy objective is to meet the requirements of the EU WEEE Directive by ensuring the scope of the WEEE Regulations includes all EEE, unless explicitly exempt, in a way that minimises distributional impacts on business and ensures business pay for the costs of disposing of products that they produce, and not products that may have higher disposal costs. Maintaining the current UK system of 14 categories with new flexibility to allocate products previously out of scope to one of the 14 categories will better reflect the cost of WEEE disposal than under 6 amalgamated categories. If required to remain compliant with the EU WEEE Directive the UK will also develop a protocol or methodology to allow reporting under the 6 categories.

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

Option 1 - do nothing. Allow the WEEE Regulations to take effect as written, with the requirement to categorise and report EEE and WEEE in the revised 6 categories under open scope.

Option 2 - amend the UK WEEE Regulations to retain the current broader system of 14 categories, with flexibility to allocate new 'in scope' products to one of the 14 categories. This is a deregulatory option which minimises impacts on business. This is the preferred option.

Option 3 - Amend the UK WEEE Regulations to move to reporting to the EU in the 6 categories, but utilising 3 additional subcategories to reduce impact on business, resulting in 9 categories overall.

Will the policy be reviewed? It will not be reviewed.

Does implementation go beyond minimum EU requirements?		No		
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:** N/A	**Non-traded:** N/A	

Required clearance of this RTA obtained by:

Senior official	Economist	Better Regulations Unit
Chris Preston	**Roald Dickens**	**Yewande Lawal**

Summary: Analysis & Evidence

Policy Option 1

Description: Do nothing option: **a**llow WEEE Regulations to take effect as written and report EEE and WEEE in 6 categories

FULL ECONOMIC ASSESSMENT

Price Base Year 2017	**PV Base Year** 2018	**Time Period Years** 10	**Net Benefit (Present Value (PV)) (£m)**		
			Low:	**High:**	**Best Estimate: -0.37**

COSTS (£m)	**Total Transition** (Constant Price)	Years	**Average Annual** (excl. Transition) (Constant Price)	**Total Cost** (Present Value)
Low		0		
High				
Best Estimate	0.37		0	0.37

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

This option is the situation that will occur legally by default if there is no further intervention, and represents the benchmarking base case. Whilst there would be costs for producer compliance schemes (PCSs), Approved Authorised Treatment Facilities (AATFs), designated collection facilities (DCFs) and the regulator of implementing this, because it is the base case comparator, instead the corollary of these expenses are applied as avoided costs i.e. relative benefits, for the other options scenarios when determining relative NPVs. Firms placing EEE on the market face one off familiarisation costs in year 1 estimated at £371,000.

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

Shifting to a system of merged categories compared to 14 will have distributional impacts at the firm level due to changing market shares. Firms will have less precise targets for their products as each category will include a wider range of products than under a 14 category system. Costs arising from including new products under open scope have been assessed in earlier IAs.

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

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

None monetised.

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

This is the status quo and would not require amending the regulation, so does not require additional resources from the regulators or Defra, aside from those aforementioned.
A reduced number of categories will simplify the system, possibly reducing instances of misreporting by producers or AATFs or aligning more closely with systems in other member states.

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

Assumptions regarding where WEEE in the current 14 category UK system would fall in a new category system have been made; these splits are detailed in the supporting evidence section. Tonnage assumptions are based on Environment Agency (EA) 2016 reported categories. The analysis assumes that the producer compliance schemes that returned surveys are representative of the other producer schemes. This will enable estimation of total tonnages for the proposed categories.

BUSINESS ASSESSMENT (Option 1)

Direct impact on business (Equivalent Annual) £m:			**Score for Business Impact Target (qualifying provisions only) £m:**
Costs: 0.04	**Benefits:** 0.0	**Net:** -0.04	

Summary: Analysis & Evidence

Policy Option 2

Description: Amend the UK WEEE Regulations to retain the current system of 14 categories, with flexibility to allocate new 'in scope' products to one of the 14 categories

FULL ECONOMIC ASSESSMENT

Price Base Year 2017	PV Base Year 2018	Time Period Years 10	Net Benefit (Present Value (PV)) (£m)		
			Low:	**High:**	**Best Estimate:** 0.61

COSTS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low		0		
High				
Best Estimate	0.08		0	**0.08**

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

Firms placing household EEE on the UK market, PCSs and AATFs face a one off familiarisation cost totalling approximately £40,000 in year 1. There will be a small cost to regulator of receiving data in 14 categories and reporting it to the EU in 6 categories. This protocol will be developed by Defra in conjunction with industry and would likely need to be updated regularly in recognition of new EEE products being placed on the market. This is estimated as a one off cost of £43,000 to business and £1,000 to Defra.

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

The process of reporting in the 6 categories should be automated and so would require minimal input to operate.

BENEFITS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low		0		
High				
Best Estimate	0.54		0.02	**0.69**

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

Relative to the baseline, this option is deregulatory for businesses as it would remove the burden to switch reporting systems to 6 categories in 2019. This has the benefit of avoiding the costs of changing reporting and/or collection systems for producers and PCSs, AATFs and DCFs, relative to the Options 1 and Option 3. This benefit is valued as a one off benefit to business of £540,000 in year 1. The cost to the regulator of changing their IT systems is also avoided, valued as a £150,000 one off benefit.

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

Firms placing EEE on the market have more precise targets for their specific EEE categories which could mean they have reduced costs of collection and treatment or gate fees compared to Options 1 & 3.

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

Assumes this option would be acceptable to businesses, based on survey responses from PCSs. Assumes this option would not incur a risk of infraction from the EU, based on correspondence with the Commission. Risk that data reported to the EU would be less robust than if producers themselves report their EEE placed on the market in 6 categories. Risk of a Commission proposal to introduce harmonised registration and reporting, preventing producers in the UK from continuing to report under the current 14 categories.

BUSINESS ASSESSMENT (Option 2)

Direct impact on business (Equivalent Annual) £m:			Score for Business Impact Target (qualifying provisions only) £m: 0
Costs: 0.01	**Benefits:** 0.05	**Net:** 0.05	

Summary: Analysis & Evidence

Policy Option 3

Description: Amend the UK WEEE Regulations to move to reporting in the 6 categories to the EU but with 3 additional subcategories, so 9 categories overall

FULL ECONOMIC ASSESSMENT

Price Base Year 2017	PV Base Year 2018	Time Period Years 10	Net Benefit (Present Value (PV)) (£m)		
			Low:	High:	Best Estimate: **-0.32**

COSTS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low				
High		0		
Best Estimate	0.37		0	0.37

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

Firms placing household EEE on the UK market will face one off familiarisation costs of reporting in 9 categories, estimated at £371,000 in year 1. As in Option 1, regulator IT costs and implementation costs to PCSs, AATFs and DCFs of reporting in 9 categories are part of the baseline and as such are not included in the NPV calculations.

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

Shifting to a system of merged categories compared to 14 will have distributional impacts at the firm level due to changing market shares; these effects are expected to be reduced in Option 3 compared to Option 1 due to the inclusion of additional categories, however firms will still have less precise targets for their products than under a 14 category system. At the industry level, costs are not expected to change. Costs arising from including new products under open scope have been assessed in earlier IAs.

BENEFITS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low				
High		0		
Best Estimate	0.05		0	0.05

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

Avoided IT costs compared to Option 1 as the subcategories map more directly with the current 14 category system. This avoided cost has been estimated at £50,000.

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

A reduced number of categories will simplify the system, possibly reducing instances of misreporting by producers or AATFs or aligning more closely with systems in other member states.

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

Assumptions regarding where WEEE in the current 14 category UK system would fall in a new category system have been made; these splits are detailed in the supporting evidence section. Tonnage assumptions are based on Environment Agency (EA) 2016 reported categories. The analysis assumes that the producer compliance schemes that returned surveys are representative of the other producer schemes. This will enable estimation of total tonnages for the proposed categories.

BUSINESS ASSESSMENT (Option 3)

Direct impact on business (Equivalent Annual) £m:			Score for Business Impact Target (qualifying provisions only) £m:
Costs: 0.04	**Benefits:** 0.01	**Net:** -0.03	

Evidence Base (for summary sheets)

Executive summary

1. The Recast of the Waste Electrical and Electronic Equipment (WEEE) Directive 2012/19/EU introduced a number of changes to the WEEE Directive, which included a move to 'open scope' from 15 August 2018. 'Open scope' means that all electrical and electronic equipment (EEE) will fall under the scope of the Directive, unless explicitly exempt, and includes a requirement to categorise and report EEE and WEEE in 6 revised categories - a change from the current 10 Directive categories and our UK position of 14 categories (10 plus 4 sub categories). Currently only EEE that falls within one of the 10 Directive categories is within scope of the Directive. The revised 6 categories include two 'catch all' categories – any large and any small – ensuring all EEE will fall within the scope of the Directive unless explicitly exempt. The WEEE Regulations 2013 fully transposed the requirements of the WEEE Recast, including the change from the UK's 14 categories to the 6 revised categories. This was done on a copy-out basis, but without detailed analysis of the impact this would have.

2. Although the overall cost of WEEE collection and recycling will not change, a change in categories will have an impact on the amount each producer is required to pay, which based on a producer's market share of EEE placed on the market by category. This ensures producers pay a fair proportion of the overall cost of recycling EEE in that category and the current UK regime of 14 categories of EEE was established to broadly reflect the cost of recycling different types of EEE. Any change in categories for which producers have to declare their EEE placed on the market, will therefore have a knock on effect on their market share of EEE placed on the market in that category and, ultimately, the amount the producer has to pay for WEEE treatment and recycling.

3. This Impact Assessment assesses the cost to business of moving to six categories, insofar as serious data restrictions allow, as currently set out in the WEEE Regulations (option 1 - the do nothing option). It also assesses the costs of amending the UK WEEE Regulations to retain our current system of 14 categories (option 2 – our preferred option) and amending the WEEE Regulations to move to reporting in the 6 categories but with 3 additional subcategories; 9 categories overall (option 3).

4. Based on the subsequent analysis, our preferred option is to maintain the UK's current 14 categories, which constitutes a deregulatory option compared to the 'do nothing' scenario. Under the preferred option, no changes to net costs are estimated for producer compliance schemes (PCSs) or firms placing any quantity of EEE on the market, and the status quo is maintained for SMEs. The addition of new EEE under open scope may have a small effect on the relative payments of those already in a PCS as payments are based on market shares of each EEE category. Approximated changes in market shares due to inclusion of new products are included in this analysis, specifically household luminaries coming into scope. Small impacts are expected for the regulators due to reported data received in the 14 categories operating in the UK compared to the 6 in the EU Directive.

Background

5. The WEEE Directive (Directive 2002/96/EC) ('the 2002 Directive') of the European Parliament and Council) was adopted on 27 January 2003 and came into force on 13 February 2003. Transposition of the Directive was required by Member States into national legislation by 13 August 2004. Directive 2003/108/EC amended the 2002 Directive with respect to the financing of WEEE from non-household users (8th

December 2003) and it was further amended by Directive 2008/34/EC (11th March 2008).

6. The UK transposed the 2002 Directive into UK law as 'The Waste Electrical and Electronic Equipment (WEEE) Regulations' (SI 2006 No. 3289). These Regulations were amended by 'The WEEE (Amendment) Regulations 2007' (SI 2007 No. 3454) and 'The WEEE (Amendment) Regulations 2009, No 1 & 2 (SIs 2009 No. 2957 and No. 3216) and 'The WEEE (Amendment) Regulations 2010, (SI No. 1155). The UK's WEEE Regulations were supported by a full Regulatory Impact Assessment in 2006 ((RIA), URN 06/2206) when they were made in Parliament.

7. The 2002 Directive set minimum targets for the separate collection of household WEEE from other forms of waste, as well as requiring the subsequent treatment, re-use, recycling and recovery of separately collected WEEE. To achieve this, distributors (usually retailers) of electrical and electronic equipment (EEE), the producers of EEE, treatment facilities and re-processors dealing with WEEE, had to fulfil obligations set out by the Directive.

8. The 2002 Directive applied to EEE listed under 10 categories in the Directive: Category 1- Large household appliances, Category 2 – Small household appliances, Category 3 – Information technology and telecommunications (ITC) equipment, Category 4 – Consumer equipment, Category 5 – Lighting equipment, Category 6 – Electrical and electronic tools, Category 7 – Toys, leisure and sports equipment, Category 8 – Medical devices, Category 9 – Monitoring and control equipment and Category 10 – Automatic Dispensers. The UK collected and reported three additional categories which are sub-sets of the EU categories: Category 11 – Display equipment (sub-set of EU categories 3&4), Category 12 – Cooling Equipment (sub-set of EU category 1) and Category 13 – Gas Discharge Lamps (sub-set of EU category 5). PV panels were included as Category 14 as of 2014.

9. Excluded from the scope of the 2002 Directive were: EEE that is used exclusively to protect the essential interests of the security of member states, arms, munitions and war material, EEE which is part of another type of equipment which is outside the scope of the WEEE Directive, large scale stationary industrial tools, filament light bulbs, household luminaires and implanted and infected medical devices.

10. A Recast of the WEEE Directive (Directive 2012/19/EU, 'the WEEE Recast') was published in the Official Journal of the EU on 24th July 2012 and entered into force 20 days after this date. Member States were required to transpose the requirements of the WEEE Recast by 14th February 2014.

11. The WEEE Recast introduced a number of changes to the 2002 WEEE Directive, including amending the scope of the WEEE Directive from 15 August 2018 so that all EEE will fall under the scope of the Directive, unless explicitly exempt (open scope). Currently only EEE that falls within one of the 10 Directive categories is within scope of the Directive. The revised 6 categories include two 'catch all' categories – any large and any small – ensuring all EEE will fall within the scope of the Directive unless explicitly exempt. Member States are therefore required to categorise and report EEE and WEEE in the 6 revised categories - a change from the original 10 Directive categories set out in the 2002 WEEE Directive and the UK current 14 categories (as outlined in paragraph 8, with the additional category to cover PV panels).

12. The WEEE Recast sets out that the 10 EEE categories will continue to apply during a transitional period until 14 August 2018. From 15 August 2018 the following 6 categories

of EEE will apply (as set out in Annex III of the WEEE Recast Directive): Category 1 – Temperature exchange equipment; Category 2 – Screens, monitors, and equipment containing screens having a surface greater than 100cm^2; Category 3 – Lamps; Category 4 – Large equipment (any external dimensions more than 50cm); Category 5 – Small equipment (no external dimension more than 50cm); Category 6 – Small IT and telecommunication equipment (no external dimension more than 50cm).

13. The requirements of the WEEE Recast were transposed in the UK by the Waste Electrical and Electronic Equipment Regulations 2013 (SI 2013, No. 3113). These Regulations were amended by the Waste Electrical and Electronic Equipment and Restriction of the Use of Hazardous Substances in Electrical and Electronic Equipment (Amendment) Regulations 2014 (SI 2014, No. 1771) and The Waste Electrical and Electronic Equipment (Amendment) Regulations 2015 (SI 2015, No. 1968). The WEEE Regulations 2013 were subject to an Impact Assessment (Impact Assessment of the Recast Directive 2012/19/EU on Waste Electrical and Electronic Equipment (WEEE), IA No: BIS 0382).[1]

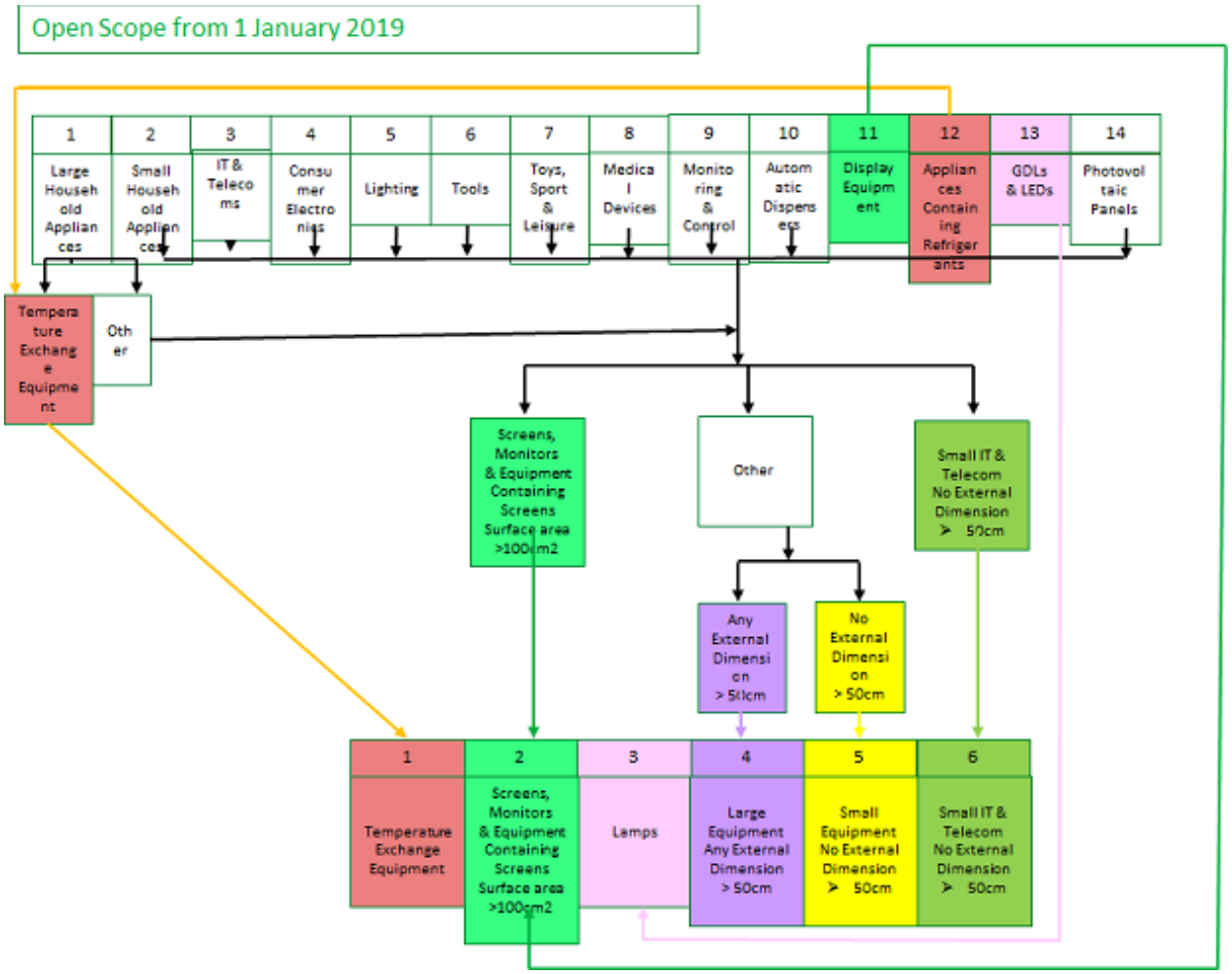
Problem under consideration

14. The WEEE Regulations 2013 fully transposed the requirements of the WEEE Recast, including ensuring compliance with the post-August 2018 requirements by stating that from 1st January 2019 the regulations will apply to EEE within the six revised categories. The reason that the WEEE Regulations impose this requirement from 1 January 2019 rather than 14 august 2018, as set out in the Directive, is to align with the WEEE compliance year in the UK (which runs from 1 January to 31 December each year). To introduce a change mid-way through the year would bring significant additional reporting burdens on all obligated businesses and undermine the effectiveness of the UK WEEE system. As this constitutes late transposition of the Directive requirements, Ministers were willing to accept what was assessed at the time as a low risk of infraction. The Regulations came into force on 1 January.

15. The change from the current 14 categories (the 10 WEEE Directive categories, plus four additional subcategories) to the 6 revised categories was included in the WEEE Regulations on a copy-out basis. However, this was done without detailed analysis of the impact this would have. The below diagram demonstrates the complexities of changing from our current 14 categories to the 6 revised categories.

Figure 1: transition from 14 categories to 6 categories of WEEE reporting

[1] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/249742/bis-13-1180-impact-assessment-recast-directive-201219EU-waste-electrical-and-electronic-equipment-weee.pdf



16. Although the overall cost of WEEE collection and recycling will not change, a change in categories will have an impact on the amount each producer is required to pay. Producers are required to finance the cost of household WEEE arising based on their market share of EEE placed on the market by category, ensuring they pay a fair proportion of the overall cost of recycling EEE in that category. The current UK regime includes 14 categories of EEE, which were established to broadly reflect the cost of recycling different types of electrical equipment. Any change in categories for which producers have to declare their EEE placed on the market, will therefore have a knock on effect on their market share of EEE placed on the market in that category and, ultimately, the amount the producer has to pay for WEEE treatment and recycling.

17. The change in categories could also result in cross-subsidy between producers of different types of EEE as the revised 6 categories of EEE, which include 2 'catch all' categories – any large EEE and any small EEE – would see different types of EEE (which have different recycling processes and therefore costs) in the same category. While changes to the categories will not increase the overall cost of WEEE collection and recycling, this will result in significant winners and losers amongst producers. These changes are explored in more detail in the sections on costs and benefits on pages 17-26.

18. As an example, a producer of washing machines, who previously paid for the recycling of their washing machines as a proportion of category 1 (large household appliances), which are a zero cost product to recycle, will find themselves subsidising the costs of recycling a proportion of the new category 4 (large equipment), for example tools, toys, medical devices and PV panels (all of which have higher recycling costs than washing machines). Not only will the average cost of recycling EEE in that category change, the producer's market share of the EEE in that category will also change. In some instances

producers may see the amount they have to pay under the WEEE Regulations increase by over 100% (see illustrative case studies on pages 27-28). This is unacceptable, particularly in light of EU exit, whereby producers would see their costs increase, as a result of EU legislation, at a time when the UK is leaving the EU. Further examples are explored in the sections on costs and benefits on pages 17-26.

19. In addition, changes to reporting obligations will bring a change to costs for producers and those businesses reporting WEEE received and treated on their behalf. There would also be additional costs to the regulators who would have to amend their IT systems which are currently set up for reporting of EEE and WEEE based on the current 14 categories.

Rationale for intervention

20. When the WEEE Regulations were initially transposed, the requirement to move to 6 categories from 15 August 2018 was implemented on a copy out basis, but without detailed analysis of the impact this would have. Without amending the WEEE Regulations, the 6 revised categories will automatically come into effect in the UK from 1 January 2019, with a requirement for producers and those who report on their behalf to report EEE and WEEE under the 6 revised categories, resulting in consequential and potentially unfair rebalancing of costs imposed as a result.

21. The WEEE Regulations therefore need to be amended to ensure the best outcome for UK business. Our understanding of the best outcome based on initial stakeholder engagement is to maintain the status quo as far as possible, while ensuring we remain compliant with our obligations under the EU WEEE Directive, as well as ensuring we maintain the same environmental standards as the rest of Europe. This will be confirmed in the consultation.

22. On 23 June 2016, the EU referendum took place and the people of the United Kingdom voted to leave the European Union. Until exit negotiations are concluded, the UK remains a full member of the European Union and all the rights and obligations of EU membership remain in force. During this period the Government will continue to negotiate, implement and apply EU legislation. The outcome of these negotiations will determine what arrangements apply in relation to EU legislation in future once the UK has left the EU.

23. The Commission has published a draft implementing regulation which will apply from 1 January 2019, which establishes the format for registration and reporting and the frequency of reporting to the register. This includes an obligation for producers to report EEE placed on the market and WEEE collected, treated, recycled and recovered in the 6 revised categories. However, it also allows Member States to require additional information elements, in the way of additional sub-categories, and we will be working with the Commission and other Member States to ensure that the implementing regulation, once adopted, allows us to continue to require producer reporting against our 14 categories.

24. From an economic perspective, the producer compliance scheme itself addresses the market failure resulting from negative externalities. Negative externalities arise when the actions of one party affect or impose costs or benefits upon a third party, but the person causing them does not consider this effect on others in their production or consumption decisions. In the context of WEEE, negative externalities arise due to waste and pollution from discarded EEE, which can lead to environmental damage by affecting soil, air and water quality, and have a negative impact on human and animal health. By bringing

additional items of EEE into scope, these negative outcomes would be further reduced. The rationale for intervention would be justified on the grounds that within the compliance scheme there is an incomplete market, with some WEEE items falling outside of the system as it stands.

Policy objective

25. The policy objective is to effectively implement the requirements under the WEEE Directive to move to 'open scope' from 15 August 2018, ensuring that all EEE falls under the scope of the Directive unless explicitly exempt. However, we will implement this from 1 January 2019 in line with the WEEE compliance year, ensuring that all electronic and electrical equipment (EEE) is subject to the requirements of the WEEE Regulations, whilst ensuring minimal costs to business. (This delay in our implementation of open scope by 4 months does carry a low risk of infraction. However, to implement by 15 August 2018 whilst staying in line with the compliance year would require implementation from 1 January 2018, which would constitute gold-plating). The aim is to do this in a way that minimises negative impacts on business resulting from distributional impacts of WEEE targets. These occur because WEEE targets are calculated based on market shares and under broader categories, it is essential to ensure that business pay for the costs of disposing of product types that they produce, and not for other products that may have higher disposal costs.

26. In order to ensure compliance with the WEEE Recast Directive, which will require annual Member State reporting against the 6 categories, we will work with industry to develop protocols that will map the UK's 14 categories for EEE and WEEE against the 6 categories, allowing the tonnage in each of the 14 categories to be distributed between the revised 6 categories in order to report to the Commission.

27. We are also consulting to amend the WEEE Regulations to include a statutory obligation on Producer Compliance Schemes to join a Producer Balancing System (PBS). The PBS has already been set up as a voluntary initiative by many Producer Compliance Schemes. It is a collaborative solution to statutory demands from councils (under Regulation 34) for the clearance of WEEE from their sites where it has not been possible to enter a contract with specific PCS Regulation 34 states: '*In each compliance period, the operator of a designated collection facility may contact the operator of any scheme … and request that operator of a scheme arranges for the collection, treatment, recovery and environmentally sound disposal of the WEEE that has been deposited at a facility'.*

28. Costs arising from Regulation 34 requests handled by the PBS are shared on a market share basis across all PCS members. PBS member schemes bid to undertake the collections on a competitive basis for 6 months or until the end of the compliance year - whichever is longest. This approach maximises efficiencies and ensures the local authority has its WEEE collected without the need for continual requests under Regulation 34 when collection bins become full

29. The PBS has been set up as a voluntary initiative, but there are concerns raised by the producer community on the functioning of the PBS given that some schemes are not members of the PBS (and therefore not taking on their share of dealing with such requests) and the system is at risk of failing if insufficient PCSs are members. We believe putting the PBS on a statutory footing will be cost neutral, as PCSs are already obliged under, Regulation 28, to fully cover the costs of collection, treatment, recovery and environmentally sound disposal of WEEE deposited at designated collection facilities (DCF). This mechanism simply concerns how that cost is disbursed equitably amongst all

PCSs when a local authority is unable to agree a contract with a specified PCS and requests a collection under Regulation 34.

Sectors and groups affected

30. The sectors that are affected by the current WEEE Directive include EEE manufacturers, including professional importers, EEE distributors (e.g. retailers, internet sellers), used EEE exporters, Producer Compliance Schemes, consumers and businesses using EEE, waste companies that deal with WEEE, secondary metal merchants who deal with WEEE, shredders who deal with WEEE, repressors, recyclers and exporters who deal with WEEE, and landfill and incineration operators. Local Authorities and charities and voluntary organisations who are involved with WEEE are indirectly affected.

31. Data provided by the Environment Agency shows that in the 2017 reporting period 6,007 businesses were registered as producers of B2C (business to consumer) and B2B (business to business) EEE under the UK WEEE Regulations, compared with 5,957 in 2011. It also shows that there were 26 approved producer compliance schemes (PCS) in 2012, compared with 37 in 2012. There are over 170 Approved Authorised Treatment Facilities (AATFs) in the UK and over 50 companies were on the Approved Exporter (AE) register in 2017. The total number of Designated Collection Facilities (DCFs) including Local Authority sites and commercial and charity sites was 1847 as of August 2017 (Valpak). According to Valpak, which officially operates the Distributor Take Back Scheme (DTS) in the UK, the DTS Scheme has 744 members.

Alternatives to regulation

32. Alternatives to Regulation were considered when the WEEE Recast was transposed, including the introduction of voluntary targets for producers and the adoption guidance on the proper treatment of WEEE. These options, although possible, were considered to be difficult to implement and that they would not be effective in achieving the aims of the directive. Alternatives were therefore considered not to be sufficient to meet the targets and to ensure compliance with the requirements of the Recast WEEE Directive.

33. In terms of implementing our preferred option to meet the requirements of open scope, alternatives to regulation are not possible as to meet the policy objective of minimising the distributional impacts on business and maintaining precise WEEE targets, the WEEE Regulations need to be amended given that, as currently written, the Regulations impose a move to the 6 categories from 1 January 2019.

Description of options considered

34. In order to ease the burden on producers of moving to open scope, the following options have been identified and are costed in this Impact Assessment. These options, while driven by the fact that we are leaving the EU, are not short term. The options need to be compliant with the directive given the need to introduce open scope before exiting the EU. After exiting the EU we may not need to report to the Commission, so we may not need to report under the 6 categories, however we are required to adopt open scope before we will have exited the EU and therefore the UK must be compliant. More detail on the impacts on stakeholders are included in Annex 1.

    i) **Do nothing - Allow the existing WEEE Regulations to take effect, with the requirement to categorise and report EEE and WEEE in the six revised categories.** We believe this option will result in significant increased costs to

some producers albeit offset by savings for others, and will require regulators, producers and treatment facilities to amend their existing reporting systems.

ii) **Amend the UK WEEE Regulations to retain the current system of 14 categories with new flexibility to allocate products previously out of scope to one of the 14 categories.** This is our preferred option. Many industry stakeholders, through informal consultations, have also indicated that this is their preferred option.

iii) **Amend the UK WEEE Regulations to move to the 6 categories, but utilising additional sub-categories, while still ensuring compliance with the EU Directive requirements.** This option attempts to reduce the swing in costs that would result in option i) by utilising sub-categories based on the cost of treatment technologies for different types of WEEE. This ensures the more costly or hazardous WEEE treatment is fairly apportioned to producers placing that EEE on the market. This option will still result in increased costs to some producers and savings for others, and will also require recyclers to amend their existing reporting systems.

Monetised and non-monetised costs and benefits of each option

Option 1: do nothing; move to reporting under the 6 revised categories

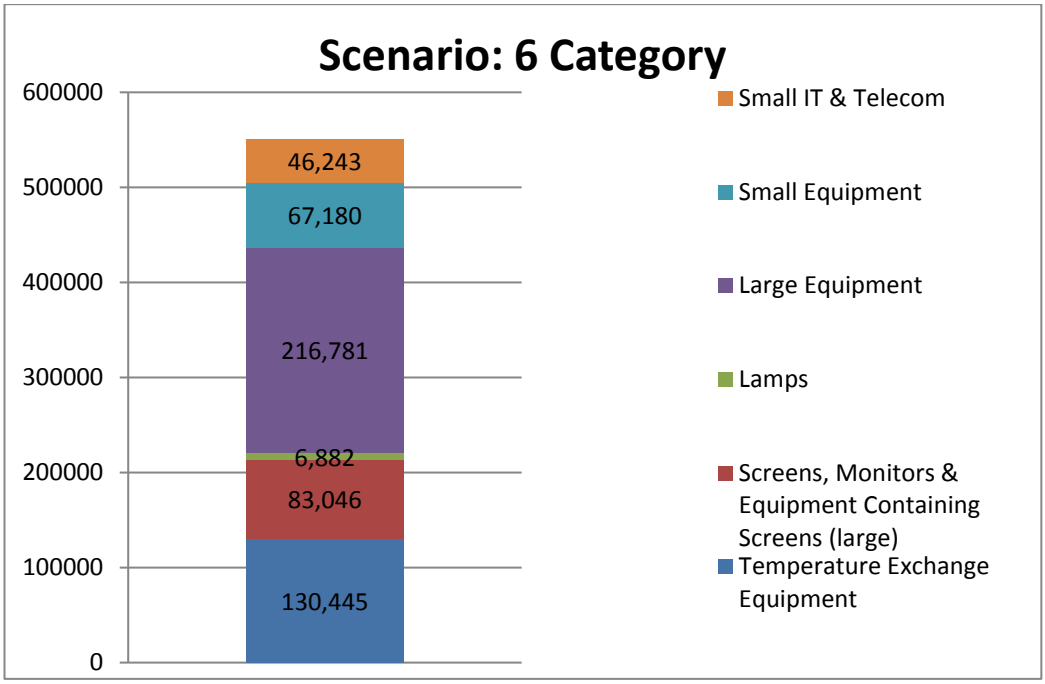
35. As the 6 category option is the baseline which would occur if no action is taken, only costs and benefits additional to the baseline scenario are assessed in the IA. Therefore, any costs associated with adopting the legal “do nothing” scenario are taken as the base case and are not included in the NPV calculations, although they are recognised in the sections below for reference. This also represents the benchmark against which the costs and benefits of the other options will be compared.

36. The table and graph below illustrate the expected tonnes for each category under the 6 category scenario. The table emphasises the new category classifications and tonnages, and the graph illustrates the representative sizes of each of the new categories. These estimates are calculated using the 2016 WEEE targets and the PCS survey responses, which are for 2016 EEE placed on the market.

Table 1: category types and WEEE tonnages for the 6 category scenario based on 2016 WEEE targets

Temperature Exchange Equipment	Screens, Monitors & Equipment Containing Screens Surface area >100cm2	Lamps	Large Equipment Any External Dimension > 50cm	Small Equipment No External Dimension > 50cm	Small IT & Telecom No External Dimension > 50cm
1	2	3	4	5	6
130445	83046	6882	216781	67180	46243

Figure 2: category types and WEEE tonnages for the 6 category scenario



Costs: monetised

37. All firms placing household EEE on the UK market would need to report in 6 categories. Although this does not require additional costs as the amount of WEEE being treated will remain the same across all options, firms would face the administrative burden of familiarisation costs of understanding how the UK's 14 categories would map to the new 6 categories. This is estimated to be approximately 5 hours per affected business which is valued at £26/hour, with a total one off cost to business of approximately £371,000 in year 1 given there are 2850 producers. The value of £26/hr is based on wages of £20, the mean hourly wage from the 2016 Annual Survey of Hours and Earnings data set. This is for waste disposal and environmental services managers (SOC 2010 code 1255). A supplement for overheads is applied to the average wage, of 30% in accordance with standard assumptions. Time spent on familiarisation is an estimate which will be refined during the consultation. Implementation costs are not estimated as the data is not available, furthermore these would occur under the baseline option and so would not be included in the NPV (see table 5).

38. PCSs, DCFs and AATFs would face costs due to collecting data and reporting evidence according to 6 categories rather than 14, which would require new collection protocols. For DCFs this would mean maintaining the status quo but reporting under the 6 categories due to the infeasibility of changing how WEEE is currently collected at DCFs. This implementation is estimated to take approximately 10 hours per affected AATF, DCF and PCS which is valued at £26/hour as above, with a total one off cost to business of approximately £540,000 in year 1. Implementation costs occur under the baseline option and are not included in the NPV of this Option (see table 5).

39. There would be costs to the regulators who would have to amend their IT systems which are currently set up for reporting of EEE and WEEE based on the current 14 categories. The breakdown of these costs is not possible to quantify as the data is not available, with total costs expected to be in the region of £150,000 according to the EA. This includes changing WEEEOnline, the settlement centre, the National Packaging Waste Database and WEEEIT systems to accommodate new category reporting.

40. However, because this change in IT is necessary under the legal requirement of the base case to adopt open scope, and to avoid double counting, this cost is not included in the NPV of this option but rather as a benefit of Option 2 by avoiding this cost. Therefore, costs listed in Table 5 that are not included in the NPV are included as a relative benefit of Option 2 where appropriate.

Table 2: costs (constant prices) of Option 1

Cost	Year 1	Year 2 - 10	Included in NPV
Administrative burden to businesses	£371,000	0	Yes
Producer reporting costs	£7,000	0	No
AATF reporting costs	£45,000	0	No
DCF collection protocols	£488,000	0	No
Regulator IT change	£150,000	0	No
Defra	£0	0	N/A
Total	£1,061,400	0	

Costs: non-monetised

41. There will be distributional impacts as a result of this option which may incur costs that we are currently unable to monetise, and are outlined in the section below.

Distributional impacts

42. Due to the commercially sensitive nature of the data, it is not possible for us to fully monetise the distributional impacts on businesses. The best alternative for this analysis is to illustrate the scale of the potential impacts of adopting open scope and how categories will change as a result of re-classification. Firms placing EEE on the market may face increased obligations under PCSs if their market shares of the category increase when transitioning from 14 to 6 categories. This is estimated to occur in 4 cases, as illustrated in the table below. The significant increase in market share would fall to approximately 40,500 tonnes of IT and telecoms equipment which would map directly to the small IT and telecoms category under the 6 category system. This could have significant implications for exertion of market power, an issue with the WEEE target system which has been addressed in IA BIS 0393. The three other product groups that would face increased market shares represent 6300 ± 500 tonnes each are:

- large household appliances classified as temperature exchange equipment that do not contain refrigerants
- large household appliances that are not temperature exchange equipment
- display equipment that moves to small IT and telecom

Table 3: categories facing increased market shares under open scope

Current UK Category Description	Current UK Category Number	Increased category share under 6 Categories, compared to 14	Tonnage shifting	Total share of new category (% of 2016 estimate)
Large Household Appliances	1	3.1% moving to category 1 3.6% moves to category 5	5869 6816	4.5% 10.2%

IT and Telecoms Equipment	3	71.3% moves to category 6	40471	87.5%
Display Equipment	11	8.4% move to category 6	5771	12.5%
Total	-	-	58927	-

43. Under the 6 category scenario we estimate that producers responsible for 59,000 tonnes of household WEEE will face increased market shares and therefore increased obligations compared to a 14 category scenario, equal to approximately 11% of total target household WEEE in 2016. 7,000 tonnes will face no change in market shares. This is offset by producers responsible for 478,000 tonnes of WEEE facing decreased market shares and therefore decreased obligations, equal to approximately 88% of total target household WEEE in 2016. As producers are required to finance the cost of household WEEE arising based on their market share of EEE placed on the market by category, the four cases would face increased obligations under open scope, but the majority of cases would face no change in obligations, or reduced obligations. The cost impact of these changing obligations is not possible for Defra to monetise, as treatment cost data and the relevant contracts are deemed commercially sensitive and thus a fully monetised cost benefit analysis is not possible to carry out for this IA.

44. Although a full cost benefit analysis would require monetisation of the distributional impacts due to changing categories, this is not possible given the unfortunate opacity that characterises this economic activity. Treatment costs and gate fees for WEEE are considered to be commercially sensitive information which industry does not appear to wish to share with Defra or the regulators on a regular basis even at a high level, as the system of evidence notes circumvents this requirement. Because of this unfortunate constraint, we have had to use the rather outdated figures below (Table 7) to illustrate for the purposes of this RTA the potential impacts of adopting open scope.

45. Whether a firm's share of a category increases or decreases does not necessarily correspond to whether they will face increased or decreased costs of meeting their targets. This is due to potential increases or decreases in costs of treatment due to the change in categories, as the cost of treating WEEE could be classified in 6 rather than 14 categories under open scope. This is more effectively demonstrated by applying costs to potential scenarios. As the cost per tonne of treating WEEE would be split by category, 6,300 tonnes of category 1 under the UK's 14 category system would currently be valued at approximately £108 per tonne, net of treatment costs (see Table 7). The revenue of category 1 in this case would be approximately £678,000, and would be split between the producer and the recycler of the WEEE according to their own contract. Under a 6 category system, if the same aforementioned business produced the same EEE tonnage, under the new categorisation it could be considered categories 1, 4 or 5, valued at approximately £111, £108 or £113 per tonne net of treatment costs respectively (see Table 7). Revenue of category 1 in this case would be approximately £698,000, £678,000 or £712,000 and would be split between the producer and the recycler according to their own contract. These costs per tonne are outlined in the table below and are based on AATFs treatment costs of WEEE including labour, power, maintenance, rent etc. for a treatment site, after a call for evidence for previous IAs. Gross cost data was provided by Axion Consulting for BIS 2013 IA 0382 on Recast, and revenue data is from IA 0382 and BIS 2013 IA 0393 on the WEEE System. Given the opaque nature of treatment cost data, even at the levels of overall averages and movement patterns, unfortunately these costs are not possible to quantify further and this example should be considered purely illustrative.

Table 4: treatment costs of WEEE (2011 prices adjusted to 2016 prices)

Treatment Costs and Revenues per tonne £/tonne	Gross Treatment Costs per tonne (2016 prices)	Revenues from materials after treatment (2016 prices)	Net Revenue (2016 prices)
Large domestic appliances (LDA)	54	161	108
Mixed	81	194	113
Display	108	134	27
Cooling	161	272	111
Gas discharge lamps (GDL)[2]	968	0	-968
PV	93	656	564

Benefits: monetised

46. None identified.

Benefits: non-monetised

47. For Defra and the Environment Agencies this option would not require amending the UK WEEE Regulations, therefore fewer internal resources would be required than for alternative options. However, the scale of these is uncertain and therefore this is not monetised.

48. There may be benefits to producers and AATFs of this option due to increased simplicity from a reduced number of reporting categories compared to the 9 or 14 scenarios. This could offer time savings from reduced time spent on reporting, and could reduce cases of incorrect reporting, however the extent of incorrect reporting is not certain and therefore this benefit is non-monetised. The benefits of this simplicity may not offset the costs of having to change from the current reporting system. However, a 6 category system is more likely to align with the approach taken in other Member States and so could benefit firms putting EEE on EU markets. To what extent open scope will be directly comparable across member states is not certain, as there is the possibility to implement open scope with subcategories.

49. Some firms placing EEE on the market will face decreased obligations under their PCSs, if their market shares of the category decreases when transitioning from 14 to 6 categories. This is expected to occur in most cases, with estimates illustrated in the table below.

Table 5: categories facing decreased market shares under open scope

Current UK Category Description	Current UK Category Number	Decreased category share under 6 Categories, compared to 14	Tonnage shifting	Total share of new category (%)
Large Household Appliances	1	93.2% moves to category 4	176448	81.3%
Small Household Appliances	2	20.2% moves to category 4 79.8% moves to category 5	7470 29511	3.4% 43.9%

[2] In the case of GDL where the net revenue is negative, this would be a cost that would be passed on to the producer.

IT and Telecoms Equipment	3	18.2% moves to category 2 10.5% moves to category 4	10331 5960	12.4% 2.7%
Consumer Equipment	4	24.8% moves to category 2 28.9% moves to category 4 46.3% moves to category 5	9778 11395 18256	5.3% 5.3% 27.2%
Lighting Equipment	5	8.3% moves to category 4 91.7 % moves to category 5	0[3] 0	0% 0%
Electrical and Electronic Tools	6	61.5% moves to category 4 38.4 % moves to category 5	11751 7337	5.4% 10.9%
Toys, Leisure and Sports Equipment	7	45.8% moves to category 4 54.2 % moves to category 5	1048 1241	0.5% 1.8%
Medical Devices	8	3% moves to category 4 91.2 % moves to category 5	2 64	0.0% 0.0%
Monitoring and Control Instruments	9	0.9% moves to category 4 99.1 % moves to category 5	2 195	0.0% 0.3%
Automatic Dispensers	10	100% move to category 4	18	0%
Display Equipment	11	91.6% moves to category 2	62937	75.8%
Cooling Appliances Containing Refrigerants	12	100% moves to category 1	124576	95.5%
Gas Discharge Lamps and LED Light Sources	13	100% moves to category 3	6882	100%
Photovoltaic Panels	14	100% moves to category 4	90	0%
Total	-	-	485292	-

50. Although decreasing market shares mean that producer's obligations reduce in many cases, the cost of treatment may increase due to the change in categories which would be passed on to the producers. This is because the cost of treating WEEE could be classified in 6 rather than 14 categories under open scope. A clear example would be to consider the composition of the large equipment category, number 4 under the 6 category (do nothing) option. The large equipment category includes LDA and PV panels, along with other products as mapped out in the Tables 6 and 8 above. PV panels cost approximately £93/t to treat whereas LDA costs £51/t, according to Table 7. Currently, differentiated pricing is possible between LDA and PV as these are two separate categories. However, under the large equipment category LDA producers and possibly others could have to pay a higher cost of treatment than previously, due to the range of products now included within one category which may be collected together. Therefore WEEE with cheaper treatment such as LDA could be funding the treatment of products that are higher cost, such as PV panels.

Option 2: maintain the UK's current 14 categories

51. Based on correspondence with the Commission on legal matters, we have assumed that this option would not incur a risk of infraction from the EU. However, there is a risk that a future proposal by the Commission to introduce harmonised registration and reporting could prevent producers in the UK from continuing to report under the current 14 categories if it was introduced prior to finalising the UK's exiting the EU. A draft

[3] These values are zero due to small tonnages and rounding

implementing regulation currently requires producers to report in the six revised categories, but also allows Member States to require additional information elements, including reporting against sub-categories.

52. Relative to the "do nothing" option, maintaining the UK's system of 14 categories is a deregulatory measure and incurs relative savings.

Costs: monetised

53. The main effects of this option would be due to familiarisation costs. Firms placing household EEE on the UK market, AATFs, DCFs and Waste Management Companies will not incur large additional costs under this option as it represents the status quo in the UK WEEE market from 1 January 2019. Based on the survey responses from PCSs, this option would be acceptable to businesses placing EEE on the market in the UK.

54. Costs to firms placing household EEE on the UK market would be of understanding that the UK's 14 categories would continue to operate. However businesses would still need to get up to speed on the fact that the previously designated "open scope" proposal would no longer be implemented. This familiarisation cost would be much less than for the alternative options and accordingly is estimated to be approximately 30 minutes per affected business, PCS and AATF valued at £26/hour, with a total one off cost to business of approximately £40,000 in year 1 given there are approximately 3050 affected businesses. The £26/hr figure is based on the same methodology in paragraph 37.

55. Defra and the regulator would bear the cost of developing the new reporting protocol in conjunction with industry. The new reporting protocol would be no more burdensome than the current system of reporting in 14 categories, which explains the zero expected cost from years 2 – 10. This is estimated based on the process of receiving and collating the industry surveys used in this IA, as a similar sampling process albeit on a larger scale would be carried out in order to map from 14 to 6 categories for reporting. This has been approximated at 0.25 hours to business of filling out the survey, 5 hours per PCS for collating and anonymising survey responses, and 40 hours for Defra to collate the results and set up the mapping process. This is valued at £26/hour, with a total one off cost in year 1 of approximately £44,000.

Table 6: costs (constant prices) of Option 2

Cost	Year 1	Year 2 – 10	Included in NPV
Administrative burden to businesses	£40,000	0	Yes
Sampling Exercise (cost to business & PCS)	£43,000	0	Yes
Protocol Mapping (Defra)	£1,000	0	Yes
Total	£84,000	0	

Costs: non-monetised

56. A protocol or methodology would need to be established so that the 14 categories could be converted into the 6 categories for EU reporting of EEE, if required post EU exit. Defra would bear the responsibility of developing this protocol in conjunction with industry and the regulators. Either Defra or the regulators would bear the cost of converting EEE and WEEE from 14 to 6 categories once the protocol is in place. This cost would be approximately £1000 to Defra for the 40 hours of collating results and setting up the automated mapping process within the current system for reporting. This option incurs the risk that data reported to the EU would be less robust than if producers themselves report their EEE placed on the market in 6 categories. But it would have no impact on the

overall tonnages that are reported and on which the UK would be assessed against the overall collection targets imposed by the Directive on Member States

Benefits: monetised

57. Relative to the baseline, this option is deregulatory for businesses as it would remove the burden to switch reporting systems to 6 categories. Thus, this system has the benefit of avoiding the costs of changing reporting systems for producers, AATFs and DCFs. This benefit is estimated at approximately £540,000 one off to businesses in year 1, as explained in paragraph 38.

58. The regulators avoid the £150,000 cost needed to change IT systems for the baseline option and Option 3. Therefore this is also included as a benefit of this option.

Benefits: non-monetised

59. By maintaining the more specific 14 categories compared to an amalgamated 6 or 9 category system, firms placing more than 5 tonnes of EEE on the market face the benefit of having more precise targets for their specific EEE categories. This could mean that firms face costs of collection and treatment that are directly related to their products rather than a mix of products.

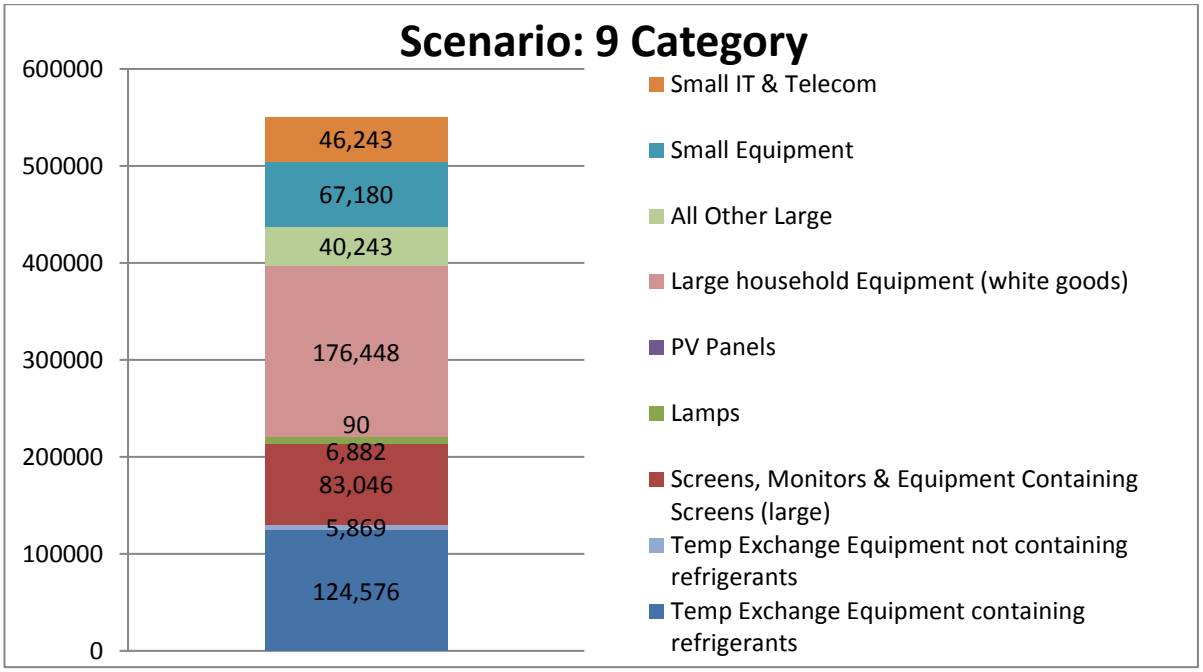
Option 3: shift to 9 categories

60. This option also involves a sizeable shift to a new categorisation and is essentially a variation of Option 1 but entails including a few subcategories, so there would be a typology of 9 rather than 6 categories. The table and graph below illustrate the expected tonnes for each category under the 9 category scenario. The table emphasises the new category classifications and subcategories and tonnages, and the graph illustrates the representative sizes of each of the new categories. These estimates are calculated using the 2016 WEEE targets and the PCS survey responses, which are for 2016 EEE PoM.

Table 7: category types and WEEE tonnages for the 9 category scenario based on 2016 WEEE targets

Temperature Exchange Equipment		Screens, Monitors & Equipment	Lamps	Large Equipment			Small Equipment	Small IT & Telecom
1 Those containing refrigerants	**2** Those not containing refrigerants	**3** Containing Screens Surface area >100cm2	**4**	**5** PV Panels	**6** Large household Equipment (LDA)	**7** All Other	**8** No External Dimension > 50cm	**9** No External Dimension > 50cm
124576	5869	83046	6882	90	176448	40243	67180	46243

Figure 3: category types and WEEE tonnages for the 9 category scenario



Costs: monetised

61. All firms placing household EEE on the UK market would need to report in 9 categories. As this option essentially involves a variation of Option 1, i.e. the baseline, the cost aspects are treated largely similarly. Although this option should not require additional costs of the reporting process to shift from the baseline, and might reduce time spent on reporting activities, firms would face the administrative burden of familiarisation costs of understanding how the UK's 14 categories would map to the new 9 categories. This is estimated to be approximately 5 hours per affected business which is valued at £26/hour, with a total one off cost to business of approximately £371,000 in year 1 given there are 2850 producers. The £26/hr figure is based on the same methodology in paragraph 37. This is included as an additional cost to the baseline, as the system would be different both to the current 14 category system and the legal baseline 6 category system. Implementation costs are not estimated as the data is not available, furthermore these would occur as a legal requirement of adopting open scope, given that it involves the 6 categories plus the specified subcategories, and so would not be included in the NPV as in the baseline option.

62. PCSs, DCFs and AATFs would face similar costs as in the 'do nothing' option due to collecting data and reporting evidence according to 9 categories, which would require new collection protocols. This would mean maintaining collection systems in line with the status quo but developing protocols to report under the 9 due to infeasibility of changing systems. Familiarisation and implementation is estimated to take approximately 10 hours per affected AATF, DCF and PCS which is valued at £26/hour as above, with a total one off cost to business of approximately £540,000 in year 1.Time spent on familiarisation and implementation is an estimate which will be refined during the consultation. Implementation costs of 6 categories would occur as a legal requirement of adopting open scope and are not included in the NPV of this option, given that it involves the 6 categories plus the specified subcategories (see Table 11).

63. There would be costs to the regulators who would have to amend their IT systems which are currently set up for reporting of EEE and WEEE based on the current 14 categories. The breakdown of these costs is not possible to quantify as the data is not available, with total costs of changing the system to 6 categories under the "do nothing" option expected

to be in the region of £150,000 according to the EA. However, this cost is likely to be an overestimation as the 9 category scenario maps more closely to the 14 category system which the IT currently reports on, therefore this has been estimated at £100,000. A corresponding countervailing benefit of £50,000 has been included (see paragraph 70).

Table 8: costs (constant prices) of Option 3

Cost	Year 1	Year 2 – 10	Included in NPV
Administrative burden to businesses	£371,000	0	Yes
Producer reporting costs	£7,000	0	No
AATF reporting costs	£45,000	0	No
DCF collection protocols	£488,000	0	No
Regulator IT change	£100,000	0	No
Defra	£0	0	N/A
Total	£1,011,400	0	

Costs: non-monetised

64. This option would require amending the UK WEEE Regulations. Therefore Defra and the Environment Agencies would require internal resources to amend these. However, the scale of the amendments is uncertain and currently not possible to monetise. In addition there will be distributional impacts which may incur costs, as outlined below.

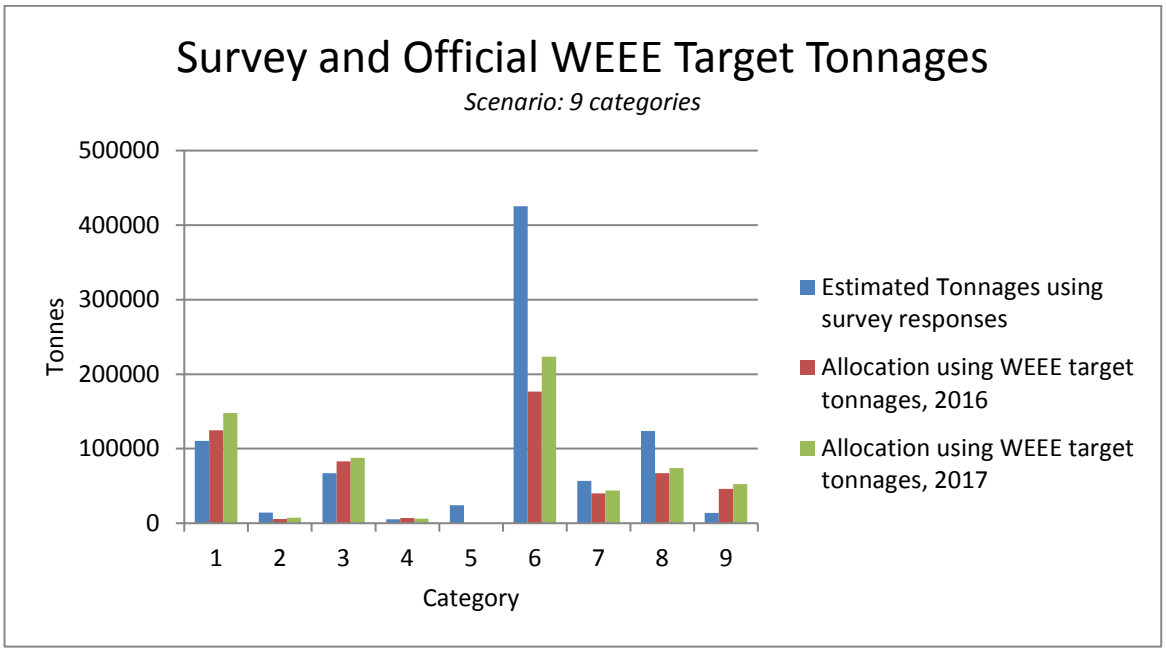
Distributional impacts

65. Due to the commercially sensitive nature of the data, it is not possible for us to fully monetise the distributional impacts on businesses. The best alternative for this analysis is to illustrate the scale of the potential impacts of adopting 9 categories and how these will change as a result of re-classification. Firms placing EEE on the market may face increased obligations under PCSs, if their market shares of the category increases when transitioning from 14 to 9 categories. This occurs in 9 cases, as illustrated in the table below. The significant increase in market share would fall to approximately 176,500 tonnes of large household appliances which would map directly to the large household equipment category as these are white goods. In this case the market share has changed from 93.2% under the previous category to 100% of the new category under the 9 category system. This also occurs in the case of 5,900 tonnes of category 1 which would map from large household to temperature exchange equipment not containing refrigerants. In this case the market share has changed from 3.1% under the previous category to 100% of the new category under the 9 category system. Cooling appliances, lamps and PV panels map directly to make up 100% of their respective new categories under the 9, although these previously already made up 100% of their categories so there is no change in market shares. These distributions could have significant implications for exertion of market power, an issue with the WEEE target system which has been addressed in IA BIS 0393. Another category which faces an increasing market share are 40,500 tonnes of IT and telecoms which maps directly to the new small IT and telecom category, as in the 6 category scenario. The three other product groups that would face increased market shares represent 6300 ± 500 tonnes each, as in Option 1:
    - Large household appliances classified as temperature exchange equipment that do not contain refrigerants
    - IT and telecoms which fall under the catchall category all other large
    - Display equipment which moves to new small IT and telecom category

Table 9: categories facing increased market shares under open scope with subcategories

Current UK Category Description	Current UK Category Number	Increased category share under the 9 Categories, compared to 14	Tonnage shifting	Increased category share under the 9 Categories, compared to 6	Tonnage shifting
Large Household Appliances	1	3.1% moves to category 2 93.2% moves to category 6 3.6% moves to category 8	5869 176448	3.1% moves to category 2 93.2% moves to category 6	5869 176448
Small Household Appliances	2			20.2% moves to category 7	7470
IT and Telecoms Equipment	3	10.5% moves to category 7 71.3% moves to category 9	5960 40471	10.5% moves to category 7	5960
Consumer Equipment	4			28.9% moves to category 7	11395
Electrical and Electronic Tools	6			61.5% moves to category 7	11751
Toys, Leisure and Sports Equipment	7			45.8% moves to category 7	1048
Medical Devices	8			3% moves to category 7	2
Monitoring and Control Instruments	9			0.9% moves to category 7	2
Automatic Dispensers	10			100% move to cat 7	18
Display Equipment	11	8.4% move to cat 9	5771		
Cooling Appliances Containing Refrigerants	12	100% moves to category 1	124576	100% moves to category 1	124576
Gas Discharge Lamps and LED Light Sources	13	100% moves to category 4	6882	100% moves to category 4	6882
Photovoltaic Panels	14	100% moves to category 5	90	100% moves to category 5	90
Total	-	-	366067	-	351511

Figure 4: comparing target WEEE for 2016 and 2017 with the survey responses received by Defra in 9 categories



66. Comparing the results between 6 and 9 category systems highlights the differences between the 'do nothing' option and option 3. Market shares increase in 12 cases when moving from 6 to 9 categories. This occurs in the two cases of large household appliances discussed in the previous paragraph, and in the cases of cooling appliances and PV panels discussed above. All other increases in market shares in the context occur when mapping to the all other large equipment category, as this is designed to be a catch-all category.

67. Compared to a 6 category scenario, under the 9 category scenario we estimate that producers responsible for 220,000 tonnes of household WEEE will face increased market shares and therefore increased obligations, equal to approximately 40% of total target household WEEE in 2016. 132,000 tonnes will face no change in market shares. This is counterbalanced by producers responsible for 193,000 tonnes of household WEEE facing decreased market shares and therefore decreased obligations, equal to approximately 36% of total target household WEEE in 2016.

68. Compared to a 14 category scenario, under the 9 category scenario we estimate that producers responsible for 214,000 tonnes of household WEEE will face increased market shares and therefore increased obligations, equal to approximately 39% of total target household WEEE in 2016. 132,000 tonnes will face no change in market shares. This is counterbalanced by producers responsible for 171,000 tonnes of household WEEE will facing decreased market shares and therefore decreased obligations, equal to approximately 31% of total target household WEEE in 2016.

69. As producers are required to finance the cost of household WEEE arising based on their market share of EEE placed on the market by category, these cases of greater market shares will face increased obligations under open scope. This could be exacerbated by the increased cost of treating 9 rather than 14 classifications of WEEE as the cost per tonne of treating WEEE would be split by category, for the same reasons as explained in the 'do nothing' option regarding treatment cost differentiation. However, due to the greater differentiation of products made possible by 9 rather than 6 categories, this

option would reduce the possibility for cross-subsidies of treatment costs due to amalgamated product categories (see paragraph 18).

Benefits: monetised

70. There should be a small avoided IT costs compared to Option 1, as the subcategories map more directly with the current 14 category system. This avoided cost has been estimated at £50,000.

Benefits: non-monetised

71. There are benefits to producers and AATFs of this option due to increased simplicity from a reduced number of reporting categories compared to the 14 category scenario. Reporting in fewer categories could offer time savings from reduced time spent on reporting, and could reduce cases of incorrect reporting. However, the extent of incorrect reporting is not certain and therefore this benefit is non-monetised. The benefits of this simplicity may not offset the costs of having to change from the current reporting system.

72. Firms placing EEE on the market may face decreased obligations under their compliance schemes, if their market shares of the category decreases when transitioning from 14 to 9 categories. This occurs in 18 cases, as illustrated in the table below.

Table 10: categories facing decreased market shares under open scope with subcategories

Current UK Category Description	Current UK Category Number	Decreased category share under the 9 Categories, compared to 14	Tonnage shifting	Decreased category share under the 9 Categories, compared to 6	Tonnage shifting
Large Household Appliances	1			3.6% moves to category 8	6816
Small Household Appliances	2	20.2% moves to category 7 79.8% moves to category 8	7470 29511	79.8% moves to category 8	29511
IT and Telecoms Equipment	3	18.2% moves to category 3	10331	71.3% moves to category 9 18.2% moves to category 3	40471 10331
Consumer Equipment	4	24.8% moves to category 3 28.9% moves to category 7 46.3% moves to category 8	9778 11395 18256	24.8% moves to category 3 46.3% moves to category 8	9778 11395 18256
Lighting Equipment	5	8.3% moves to category 7 91.7 % moves to category 8	0 0	8.3% moves to category 7 91.7 % moves to category 8	0 0
Electrical and Electronic Tools	6	61.5% moves to category 7 38.4 % moves to category 8	11751 7337	38.4 % moves to category 8	7337
Toys, Leisure and Sports	7	45.8% moves to category 7	1048 1241	54.2 % moves to category 8	1241

Equipment		54.2 % moves to category 8			
Medical Devices	8	3% moves to category 7 91.2 % moves to category 8	2 64	91.2 % moves to category 8	64
Monitoring and Control Instruments	9	0.9% moves to category 7 99.1 % moves to category 8	2 195	99.1 % moves to category 8	195
Automatic Dispensers	10	100% move to cat 7	18		
Display Equipment	11	91.6% moves to category 3	62937	91.6% moves to category 3 8.4% move to cat 9	62937
Totals	-	-	171336	-	198332

73. Although decreasing market shares mean that producer's obligations reduce in many cases, the cost of treatment may actually increase due the cost of treating WEEE could be classified in 9 rather than 14 categories. This would be consistent with the explanation for the 'do nothing' option, paragraphs 43 - 46.

74. The rationale for Option 3 is that reporting costs are kept low and the increase in costs that producers face under the 6 categories of open scope will be reduced. However, as this benefit of simplicity and alignment of reporting categories is non-monetised due to lack of available evidence, the NPV is underestimated and is relatively low; comparable with Option 1. In comparison to Option 2, this option would be less desirable as it is not deregulatory and still places some costs on businesses, although these are reduced compared to Option 1.

Risks and assumptions

75. Some assumptions have been necessary to make regarding where WEEE in the current 14 category UK system would fall in 6 category or 9 category systems. These are based on the survey responses and the current categorisation of WEEE. Tonnage assumptions are based on 2016 reported categories and target tonnages, and 2017 target tonnages for comparison.

76. It has been necessary to make the assumption that the PCSs that returned surveys are a representative sample of all producer schemes. Given the identities of those which responded, this assumption is considered reasonable. This enables estimation of total tonnages for the proposed category systems, which would otherwise not be possible.

77. This IA assumes that a UK Infraction of EU regulation is not an option, and the UK will continue to meet reporting requirements. The scenarios analysed in this IA reflect this assumption.

78. This IA assumes 100% compliance by all stakeholders with the new regulations, given current WEEE compliance rates based on data from the Environment Agency.

79. Industry has raised concerns regarding adopting open scope, specifically that the adoption of 6 categories would not adequately reflect existing treatment technologies. More detailed industry responses will be obtained during the consultation, to better understand how fewer categories will affect industry. Monetising how categories reflect

current technology for this RTA would require strong assumptions about current use of technologies and future advancements. As such this has not been possible to include in this stage of the analysis but will be possible to address post-consultation.

Summary and preferred option with description of implementation plan

80. Producers are likely to lose from the 6 and 9 category options relative to the preferred. Affected businesses are estimated to incur costs of £745,000 (PV), owing to administrative burden including familiarisation and implementation costs. The regulator would incur a cost in the region of £150,000 to update their IT systems accordingly. These implementation costs, being essentially inherent in the base case situation, are not calculated in the NPV of Options 1 and for Option 3, these costs, being largely similar, when compared directly with the base case they work out as approximately zero. However they are taken into account as avoided costs, i.e. savings or benefits, in Option 2 and in Option 3 (to the small extent that they apply there). This approach helps to avoid double counting.

Table 11: comparison of NPVs

	Option 1	Option 2	Option 3
NPV	-£0.37m	£0.61m	-£0.32m

81. Based on the above analysis, our preferred option is to maintain the UK's current 14 categories, which constitutes a deregulatory option compared to the 'do nothing' scenario. Under the preferred option, no changes from the current practical conditions regarding net costs are estimated for PCSs or firms placing any quantity of EEE on the market and hence the status quo is maintained for SMEs. The only costs to business would be of familiarisation and participation in the sampling exercise to develop the protocol to map from 14 to 6 categories. Small impacts are expected for the regulators due to reporting the 14 categories operating in the UK as the 6 new categories to the EU. Waste management companies and DCFs would not be affected. Therefore this is the preferred option due to (i) a more favourable NPV of £0.61m compared to £-0.37 and £-0.32 for Options 1 and 3, (ii) the reduced impacts on SMEs and (iii) the more precise reporting categories

82. As Option 2 will maintain our current categories and reporting processes, only limited implementation will be required. Defra will need to amend the UK WEEE Regulations to allow the continued use of the 14 categories from 1 January 2019. Following consultation, Defra aims to lay amending Regulations by April 2018, with a coming into force date of 1 January 2019. The reason for laying the amending Regulations early is to provide certainty to business in how 'open scope' will be implemented in the UK.

83. Defra will also work with industry to develop robust protocols in order to report to the Commission against the revised 6 categories. This will not be required until July 2020 (if at all), but Defra will commence development of these protocols with industry from early 2018 so that they are in by 2020.

Annex 1 – further description of policy options & general methodology

Baseline – "do nothing" scenario. Allow the WEEE Regulations to take effect, with the requirement to categorise and report EEE and WEEE in the six revised categories.

84. In order to assess the costs of each option, a "do nothing" case needs to be established. In this IA the "do nothing" option is considered to be that which follows UK regulation as it stands. This would involve maintaining the UK WEEE Regulations as they currently are, which states that from 1st January 2019, the Regulations will apply to the new 6 categories of EEE set out in the Directive (and replicated in the table below). Producers would need to start declaring any EEE put on the market in line with the revised 6 categories. Approved Authorised Treatment Facilities (AATFs) would also need to report evidence according to those 6 categories (and so new WEEE collection protocols – e.g. for small mixed WEEE – would need to be established).

Table 12: the 6 category scenario

Temperature Exchange Equipment	Screens, Monitors & Equipment Containing Screens Surface area >100cm2	Lamps	Large Equipment Any External Dimension > 50cm	Small Equipment No External Dimension > 50cm	Small IT & Telecom No External Dimension > 50cm
1	**2**	**3**	**4**	**5**	**6**

85. This would place us in a compliant position with the EU WEEE Directive, but with significant additional burdens on some UK business at a point when the UK is likely to have exited the EU.

86. This option is not considered attractive as it would place unnecessary burdens on some UK businesses and further work would be needed to enable industry compliance with the changes from 1 January 2019. Although the overall amount and cost of WEEE to be collected and recycled will not change, any new adoption of categories will result in winners and losers with regards to target setting and the resulting payments placed on producers. This is because a change in categories will result in changes to the market share a producer is required to pay. In particular, industry have raised concerns that adoption of the revised 6 categories would not adequately reflect existing treatment technologies (resulting in cross-funding by producers of collection and recycling costs across different types of EEE falling in the revised categories).

87. Implications for producers / PCSs:
- Change to current reporting categories, resulting in burdens on producers due to re-categorisation and widening the scope to new products. For some producers the re-classification of EEE products under the new 6 categories will be particularly challenging in relation to splitting products that used to be classified under the same category into separate categories (e.g. small and large).
- Products coming into scope will bear costs of disposal but these are included in the baseline costs, as they will occur in all options. This will only have additional implications for entirely new producers joining a PCS as existing producers will simply include extra tonnages when reporting their other WEEE tonnages.
- 6 categories could make things simpler for producers to apportion data to the correct category.
- Individual producers will see their market share change which will result in either an increase or decrease in the amount of WEEE they are required to finance annually

with potentially significant changes to their compliance costs. Overall the cost to producers will remain neutral, but there will be winners and losers in terms of the amount a producer is required to pay, based on their market share, for the cost of collection and treatment of WEEE arising each year. This will particularly affect producers who are placing EEE on the market which fall under categories 1-9 and 14.

88. Implications for Approved Authorised Treatment Facilities (AATFs):
    - Current protocols that are used to convert WEEE collected into the current 14 categories would be redundant (e.g. Categories 2-10 are collected together at DCFs, constituting all small mixed WEEE, and a protocol is then used to split the total tonnage into the separate categories).
    - New protocols would need to be established to reflect WEEE collection and treatment streams because it will not be practicable to collect WEEE in the new 6 categories.
    - One-off impacts for AATFs because their systems for data capture and reporting will need to be changed

89. Implications for Defra and the Environment Agencies:
    - No amendment required to the UK WEEE Regulations so less internal resources would be required than alternative options.
    - There would be a cost associated with developing any new protocol.
    - The UK would clearly be in line with the Directive requirements which would mean we're on safe ground if legally challenged.
    - Requirement to amend / update the EA's Producer Responsibility database system introduced from the beginning of 2016.
    - New burdens on business would need to be justified to Ministers against a background of deregulation and cutting red tape.

Option 2 – Amend the UK WEEE Regulations to retain the current system of 14 categories with new flexibility to allocate products previously out of scope to one of the 14 categories. Develop protocols that will allow the UK to report – if necessary – to the EU under the 6 categories.

90. This is the preferred option.

91. Under this option, the UK WEEE Regulations would be amended to maintain the current UK position of 10 categories, plus 4 subcategories, without any operational changes to the UK WEEE system, but will allow a move to open scope from 1 January 2019. As it would maintain the status quo as far as possible for producers, PCSs, AATFs and DCFs, it would result in no additional costs to business relative to the baseline. This option is therefore deregulatory in comparison to the do nothing option. There is no long run impact on recycling rates for the UK not adopting the 6 categories as outlined in Option 1. The difference for this option is simply about how data is presented and in the case of the UK WEEE system, how the costs of that WEEE that comes through the producer responsibility system is allocated between individual businesses. How open scope is introduced will not have an impact on international trade in WEEE, as this option is simply how we record data and apportion cost of what is collected.

92. In order to avoid infraction and allow the UK to report in line with the new categories, a protocol or methodology would need to be established so that the 14 categories could be converted into the 6 categories for reporting purposes (if required post EU exit). Such a protocol could be quite complex to establish, as the 14 categories do not map easily onto the new 6 categories, with a lot of overlap between categories (e.g. a producer of toys or kitchen utensils could produce in both large and small categories). As Producer Compliance Schemes have already completed a questionnaire on the split of EEE products between the UK's 14 categories and the 6 revised categories, we assume that industry will be willing to submit similar data to enable the mapping process, and this will

be confirmed in the consultation. The industry survey used in this RTA is a good basis on which to understand how to build such a protocol. The mapping from 14 to 6 categories is explained in more detail on pages 17 - 21. However, reporting to the Commission is done with an 18 month delay so, potentially the UK will not be required to report to the Commission given the timetable for exiting the EU.

93. Implications for producers:
    - This would maintain the current status quo as there would be no new reporting burden or changes to producers' market share relative to the baseline.
    - Industry has already indicated that this would be their preferred option and have indicated their support to establish a robust methodology which will allow the 14 categories to be converted to the 6 categories.
    - Any such methodology would need to be routinely updated given new technologies and products coming on to the market.

94. Implications for AATFs:
    - This would maintain the current status quo, with AATFs continuing to report in 14 categories, though a new protocol would be needed to convert the 6 WEEE collection streams into the new 6 categories for reporting to the Commission.

95. Implications for Defra and the Environment Agencies:

    - The 2013 WEEE Regulations would need to be amended so the 14 reporting categories are maintained.
    - Defra would be responsible for working with industry to develop a robust methodology to allow the UK to report to the Commission in the 6 revised categories.
    - Risk that data reported would be less robust than if producers themselves report their EEE placed on the market in the 6 categories. The protocol/methodology established would likely need to be updated regularly in recognition of new EEE products being placed on the market.
    - Risk that the Commission's recent draft implementing regulation establishing the format for registration and reporting and the frequency of reporting to the register will mandate reporting in the revised 6 categories. The draft currently allows for member states to require additional information elements, including reporting against sub-categories and we understand that other Member States also require this additional flexibility). However, there is a risk this could prevent producers in the UK from continuing to report under the current 14 categories, which could put us on the back foot by delaying the move to the new 6 categories

Option 3 – Amend the UK WEEE Regulations to move to the 6 categories, but utilising additional sub-categories, while still ensuring compliance with the EU Directive requirements

96. Defra has begun to develop an alternative way to categorise EEE under the six categories that will provide the facility to capture and report in the 6 categories, but - by utilising sub-categories - will also enable an approach to apportion costs based on treatment technologies and to better apportion direct costs back to the relevant producers i.e. the more costly/hazardous WEEE treatment costs would in principle be reflected back on the producers placing that EEE on the market.

Table 13: the 9 category scenario

Temperature Exchange Equipment		Screens, Monitors & Equipment Containing Screens Surface area >100cm2	Lamps	Large Equipment Any External Dimension > 50cm			Small Equipment No External Dimension > 50cm	Small IT & Telecom No External Dimension > 50cm
1 Those containing refrigerants	**2** Those not containing refrigerants	**3**	**4**	**5** PV	**6** Large household Equipment (LDA)	**7** All Other	**8**	**9**

97. For example, the new category of temperature exchange would be split into two categories to reflect the fact that temperature exchange equipment with refrigerants have higher treatment costs than temperature exchange with non-refrigerants, which are typically treated through current 'Small Mixed WEEE' treatment operations and as such have a lower treatment cost.

98. Industry has indicated that this option would be less burdensome on AATFs. However, it will require a means to convert WEEE collected data into the 6 categories. For example, a new protocol will be required to replace the existing Small Mixed WEEE protocol for use by operators treating small mixed WEEE to convert back to 'Other large', 'Small' and 'Small IT' categories.

99. This option, however, will impose additional costs on some businesses. Our consultation will explore this option further with industry to allow a better estimate of the potential costs to producers (i.e. who the winners and losers would be and by how much).

100. Implications are as Option 1, but the impact would be further minimised.

General methodology: rationale and evidence

101. The current system in the UK of 14 categories is subject to change in January 2019 to align with EU legislation on open scope, which will move to a system of 6 categories. This is the situation that will occur legally by default if there is no further intervention. As such it represents the benchmarking base case. Whilst there would be costs for PCSs, ATFs, DCFs and the Regulator in implementing this scenario, because this is the base case comparator, it is deemed preferable to apply the corollary of these prospective expenses as being avoided cost savings, i.e. relative benefits, for the other options scenarios when determining relative NPVs. They can be included in the direct options comparison of NPVs, etc. only once in order to avoid double counting. Therefore, the total costs outlined in the following sections cannot be compared between options as this would result in double counting. However, the NPVs have been calculated in such a way to avoid double counting and therefore the NPVs can be compared between options.

102. There is no transition period considered in this IA, as the results of the consultation and post-consultation IA are expected to be completed in sufficient time before this date that one would not be necessary. Moreover any non-compliance with EU open scope requirements after January 2019 would be open to infraction.

103. The data underpinning the analysis in this IA is from an industry survey circulated by Defra, which received responses from a range of PCSs. The analysis maps EEE PoM under the current system into scenarios reflecting the Do nothing option (Option 1; 6 categories) and Option 3 (using sub-categories for a total of 9 categories). Figure 2 shows the survey responses for the 14 and 6 category scenarios and can be used to estimate impacts of open scope at the industry level. Targets are the published targets for the current 14 categories and are calculated as a proportion of the previous year's EEE PoM, so the 2016 targets are confirmed and the 2017 targets are not yet confirmed and therefore "proposed". These are compared to the 2016 total EEE PoM to show the approximate proportions of targets. Survey responses are included to show comparative tonnages used in this RTA's analysis to the targets and total EEE. Figure 3 shows how the tonnages in Figure 2 would map from 14 to 6 categories.

Figure 5: comparing reported EEE and target WEEE with the survey responses received by Defra in 14 categories[4]

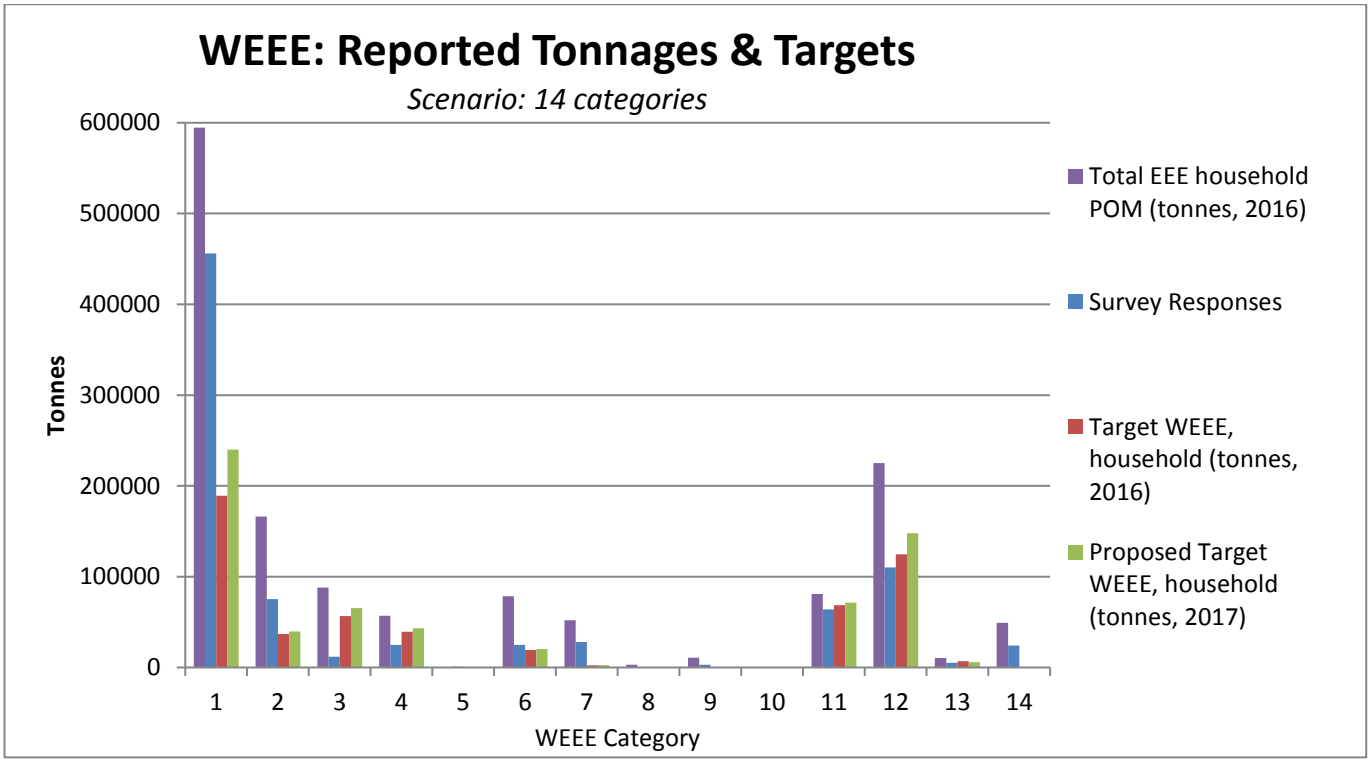
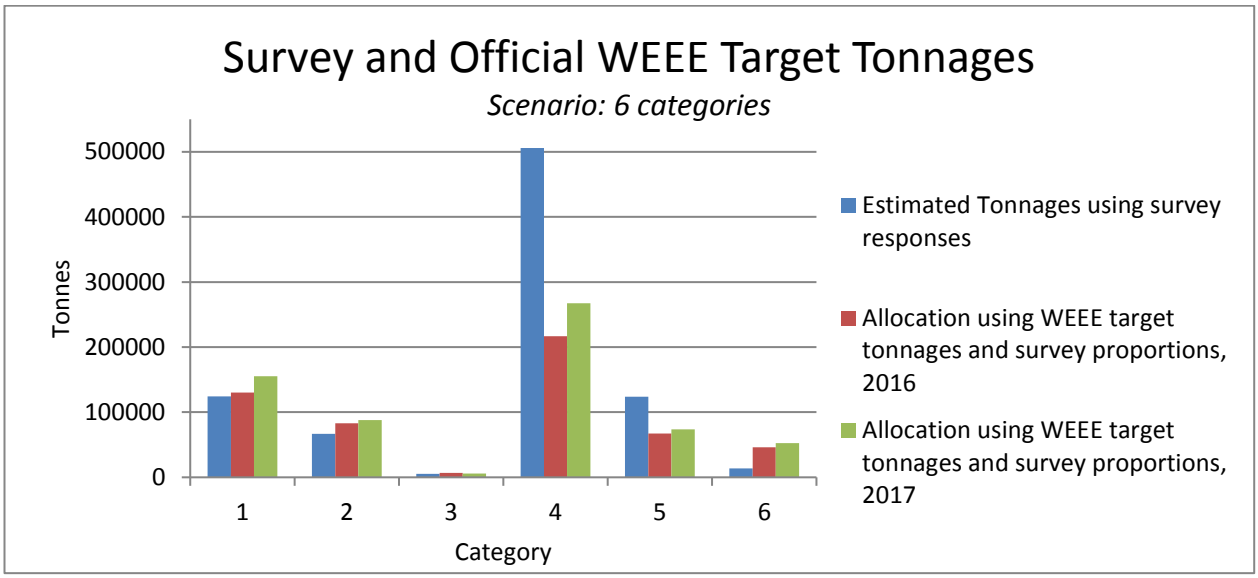


Figure 6: comparing target WEEE for 2016 and 2017 with the survey responses received by Defra in 6 categories[5]

[4] For categories 12, 13 and 14 where no survey questions were asked, this is assumed to be a proportional 49% of reported tonnages

[5] For categories 12, 13 and 14 where no survey questions were asked, this is assumed to be a proportional 49% of reported tonnages



104. There are currently 26 approved producer compliance schemes (PCSs) in the UK. We received responses from 8 PCSs, with the tonnages reported in the survey accounting for 49% of the total reported EEE placed on the market in 2016. See Figure 2 below for a breakdown of survey responses by WEEE category. Although there may be tendencies for different firms to sign up for specific PCSs (e.g. due to EEE type, producers size, or region) our responses consist of some large schemes with mixed membership, as well as some specialised PCSs in various areas.

105. These 26 schemes represent 6007 businesses placing EEE on the market as of July 2017. Of these businesses 2720 to 2851 are responsible for either B2C or both B2C and B2B, which means they would be affected by open scope. The reason for the range in businesses affected is due to new producers recently joining a scheme with unknown data at the time of registration.

Table 14: EA data on EEE POM by members of Producer Compliance Schemes and Target WEEE, UK 2016

	Category	Household EEE (tonnes)	% of Household Totals	Target Household WEEE (tonnes)
1	Large Household Appliances	594,750.8	42.0	189,322
2	Small Household Appliances	166,357.0	11.7	36,981
3	IT and Telecoms Equipment	87,877.4	6.2	56,762
4	Consumer Equipment	56,807.5	4.0	39,429
5	Lighting Equipment	0.0	0.0	0
6	Electrical and Electronic Tools	78,650.2	5.6	19,108
7	Toys Leisure and Sports	52,202.4	3.7	2,289
8	Medical Devices	3,201.5	0.2	70
9	Monitoring and Control Instruments	10,934.5	0.8	197
10	Automatic Dispensers	20.4	0.0	18
11	Display Equipment	80,782.6	5.7	68,708
12	Cooling Appliances Containing Refrigerants	225,032.2	15.9	124,576
13	Gas Discharge Lamps and LED Light Sources	10,447.7	0.7	6,882
14	Photovoltaic Panels	49,224.9	3.5	90
	Totals	**1,416,289.2**	**100.0**	**544,432**

106. As explained in previous sections, the policy options that are being considered in this IA would affect how WEEE targets are met as a result of changing the categories that currently exist in the UK. A change from the UK's current 14 category system to a 6 or a 9 category system would mean market shares would be calculated according to amalgamated category groups. The distribution from the 14 to the 6 or 9 category scenarios is made based on the survey responses which Defra received from a range of PCSs. This is used to inform how the 6 category and 9 category scenarios would be formed from the current 14 categories, which are mapped in the option appraisal sections below.

107. In terms of widening the scope of reporting categories to include new WEEE products, the regulators would face small costs of increased regulatory activity for entirely new producers entering the system as a result of open scope. Existing producers that would now place new products on the market would not increase the costs of regulation. However, open scope will lead to increased products coming into scope and WRAP have estimated this to result in up to 99kt of equipment, mainly household luminaires, that are currently exempt from scope and would be coming into scope. As we are already introducing open scope in the existing regulations, the wider impacts of new product falling into scope needs to be considered; this has already been considered in the previous IA, BIS 0393. Introducing household luminaires is unavoidable even in the base case and are included in the analysis for all scenarios, hence do not enter into the comparative assessment of costs. PV panels have already been included within the product categories under open scope, and household luminaires coming into scope would be allocated as follows:

Product	Category number in 6 scenario	Category number in 9 scenario	Category number in 14 scenario
Household Luminaires	Large and Small, category 4 & 5	Other Large and Small, category 7 & 8	Not currently in scope

108. We will use the consultation document to gather more information on other types of EEE that will fall under the scope of the WEEE Regulations from 1 January 2019.

109. It should be noted that the PV base year has been set as 2018 due to the WEEE Directive's requirement to move to open scope from 15/08/2018 (see paragraph 11 - 12). Therefore any one off familiarisation costs would occur in year 1, i.e. the 12 month period starting on 15/08/2018. Furthermore, rounding of decimal places within the explanation of calculations below may lead to some very minor inconsistencies within the calculations, graphs, tables and NPVs in the sections below, as we have rounded to the nearest integer and costs rounded to the nearest £1000. Thus, the tables and calculations may not sum exactly. In addition, it may be noted that only best estimates are provided for the calculations in this RTA. This is considered proportionate to the level of analysis required, as upper and lower estimates are optional for RTAs.

Annex 2 – wider impacts

Wider impacts: SaMBA & Distributional Impacts

110. Impacts on SMEs would be determined on the basis of the tonnage of EEE a producer places on the UK market. Producers placing more than 5 tonnes of EEE onto the UK market must join a PCS and therefore will be affected by the options considered. Producers placing 5 tonnes or less onto the UK market register directly with the Environment Agency and are not obligated to join a PCS. Therefore, businesses placing less than 5 tonnes on the market will not be directly affected by the impacts of new reporting categories on market share based obligations under PCSs.

111. Both sizes of firms are required to complete annual data submissions detailing the amount of EEE placed onto the UK market. Both would be affected by new reporting requirements should the UK categories change from 14 to 6 or 9. Both sizes of firms pay annual agency fees to the EA and an annual membership fee to cover administrative costs. These are not expected to change as a result of the proposed options.

112. Based on data from the EA on producers (2011) used in the IA on WEEE Systems (2013) IA No: BIS 0393, the following definitions are used to split producers by size:
- Small producers (less than 100 tonnes PoM) – 87% of producers
- Medium sized producers (between 100-1000 tonnes PoM) – 10% of producers
- Large producers (over 1000 tonnes PoM) – 3% of producers

113. Therefore according to a broader definition, producers placing more than 5 tonnes on the market and less than 100 tonnes will likely be affected by the 'do nothing' option or option 3 of this IA, and would be deemed small producers. However, a small EEE producer is not by definition an SME; some "small producers" of EEE are actually large firms which only produce small volumes of EEE. As data for EEE producers is not available to us regarding number of employees, it is not possible to make this distinction and so the 5 tonne limit is used in this case.

114. At the industry level, changes in the reporting systems are considered to be widely cost neutral in this IA as the overall quantity of WEEE does not change. However, small and large businesses may be disproportionately impacted as a result of the change in reporting under open scope due to changing market shares. This would occur as the burden of obligations depends on specific businesses' relative market shares of the existing and proposed WEEE categories. The distributional impacts of these changing market shares and obligations are illustrated in the case study examples below. To describe the impacts of a 6 or 9 category scenario, the following illustrative case studies are developed using EA data and the industry survey.

115. Example 1: consider a high street retailer placing 170 tonnes of toasters on the market in 2016. These would fall into the current category 2, with a market share of 0.1% of household EEE and an obligation of 36 tonnes. Under a 6 category scenario these toasters would now fall into the small equipment category, with a market share of 0.3% and an obligation of 69 tonnes, an increase of 84%. In this case, under a 9 category scenario these obligations would not change from the 6 categories and the producer bears costs of moving to open scope.

116. Example 2: a large firm placing 8,500 tonnes of printers on the market in 2016. These would fall into the current category 3, with a market share of 9.7% of household EEE and an obligation of 5043 tonnes. Under a 6 category scenario these printers would now fall into category 6 for small IT & telecom, with a market share of 18.4% and an obligation of 4500 tonnes, a decrease in WEEE obligations of 11.3%. In this case, under a 9 category

scenario these obligations would not change from the 6 categories and the EEE producer benefits from the shift to open scope.

117. Example 3: a large firm placing 3850 tonnes of TVs on the market in 2016. These would fall into the current category 4, with a market share of 6.8% of household EEE and an obligation of 2770 tonnes. Under a 6 category scenario these TVs would now fall into the screens and monitors category, with a market share of 4.6% and an obligation of 5630 tonnes, an increase in WEEE obligations of 103%. In this case, under a 9 category scenario these obligations would not change from the 6 categories and the producer bears costs of moving to open scope.

118. Example 4: a medium size firm placing 825 tonnes of drills on the market in 2016. These would fall into the current category 6, with a market share of 1.05% of household EEE and an obligation of 215 tonnes. Under a 6 category scenario these drills would now fall into the small equipment category, with a market share of 1.2% and an obligation of 705 tonnes, and an increase in WEEE obligations of 230%. In this case, under a 9 category scenario these obligations would not change from the 6 categories and the producer bears costs of moving to open scope.

119. Example 5: a medium size firm placing 675 tonnes of toys on the market in 2016. These would fall into the current category 7, with a market share of 1.3% of household EEE and an obligation of 33 tonnes. Under a 6 category scenario these toys would now fall into the small equipment category, with a market share of 1% and an obligation of 870 tonnes, and an increase in WEEE obligations of 2525%. Evidently, the calculations according to the small equipment target WEEE tonnages are not an appropriate category for toys to fall into as this example firm are obligated for more tonnes of WEEE than the tonnes of toys they place on the market. This highlights the need for a more thorough sampling exercise and careful development of the mapping protocol. If the 14 category option is selected, a thorough sampling exercise for mapping the 14 categories into the 6 will be needed, as this large change in obligations may be due to the survey responses incorrectly mapping their toys into large equipment rather than a more appropriate category. Under a 9 category scenario these toys could fall into the small equipment category of the other large category, with a market share of 1.3% and obligations of 870 tonnes or 1.7% and 520 tonnes respectively.

120. In sum, these examples show how different sizes of firms place varying quantities on the market will be affected by a change in categories. Depending on the product type, firms' market shares will increase or decrease under a 6 category system. If their market share increases, they will bear a greater responsibility towards meeting the annual WEEE targets, despite not changing the quantity of EEE that they place on the market.