Title:
Waste Electrical and Electronic Equipment (WEEE) system
IA No: BIS 0393

Lead department or agency:
BIS

Other departments or agencies:
Defra, Environment Agency (for England and Wales)
Scottish Environment Protection Agency
Northern Ireland Department of the Environment

Impact Assessment (IA)

Date: 11/10/2013

Stage: Final

Source of intervention: EU

Type of measure: Secondary legislation

Contact for enquiries: Daniel Coleman, Graeme Vickery

Summary: Intervention and Options

RPC Opinion: GREEN

Cost of largest NPV Option				
Total Net Present Value	**Business Net Present Value**	**Net cost to business per year** (EANCB on 2009 prices)	**In scope of One-In, One-Out?**	**Measure qualifies as**
£119m	£20m	-£2.3m	No	NA

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

Market failures borne by regulatory failures include: Monopoly behaviour by some PCSs who are able to take advantage of a guaranteed buyer, low rates of producer members switching between schemes and the low impact producer membership is likely to have on their profitability. Price discrimination on larger producers is more likely as their ability to switch is lower. Moral hazard arises as the PCS acting on behalf of the producer will have asymmetric information on costs incurred/revenues obtained as a result of contracts between various agents. Given inelastic and guaranteed producer demand as a result of obligations being aligned to market share for 100% of DCF WEEE, excessive charging occurs.

What are the policy objectives and the intended effects?

Following the Environmental Red Tape Challenge, The Department for Business, Innovation and Skills committed to the below in the Budget 2012: "The Government will rationalise environmental regulation, including by….consulting on preventing excessive compliance costs for business from the Waste Electrical and Electronic Equipment Regulations." The objective is to address concerns from producers of EEE that the actual cost of compliance with their financial obligations set out in the existing WEEE Regulations is significantly higher than the true cost of collection, treatment, recovery, re-use, recycling, and environmentally sound disposal of WEEE that they are required to finance.

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

This IA compares a baseline scenario:
Option 0: 'Do nothing' with Option 1: A target and Compliance fee.
An alternative to regulation is not viable because it is unlikely to meet the Directive's requirement for enforcement across the single market and will lead to an uneven playing field between producers, whereby those who do not comply would 'free ride' and not incur cost of collecting and treating WEEE. Failure to ensure appropriate enforcement of the Directive requirements could lead to infraction proceedings. Please see WEEE recast IA number 0382 for more detail on alternative to regulations.
In the consultation stage IA 4 Options were considered: Option 1: Do Nothing. Option 2: National Compliance Scheme. Option 3 : Target and Compliance fee option. Option 4: Matching process option. Following a consultation with stakeholders, Option 3 (referred to as Option 1 in this IA) emerged as the preferred option.

Will the policy be reviewed? It will be reviewed. **If applicable, set review date:** 01/2019

Does implementation go beyond minimum EU requirements?			No		
Are any of these organisations in scope? If Micros not exempted set out reason in Evidence Base.	**Micro** Yes	**< 20** Yes	**Small** Yes	**Medium** Yes	**Large** Yes
What is the CO_2 equivalent change in greenhouse gas emissions? (Million tonnes CO_2 equivalent)			**Traded:** 0	**Non-traded:** 0	

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

Signed by the responsible SELECT SIGNATORY: Michael Fallon Date: 8/10/13

Summary: Analysis & Evidence Policy Option 1

Description: Target and Compliance Fee

FULL ECONOMIC ASSESSMENT

Price Base Year 2011	PV Base Year 2014	Time Period Years 10	Net Benefit (Present Value (PV)) (£m)		
			Low: 119	**High:** 135	**Best Estimate:** 119

COSTS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	0.1		-52	**-427**
High	0.1	1	-24	**-202**
Best Estimate	0.1		-43	**-356**

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

Cost to producers to establish and implement a compliance fee and a take back scheme
Cost to collectors of WEEE from managing value WEEE streams. Resultant lower cost to PCSs/Producers.
Cost to producers (PCSs) for paying compliance fee if collection target not achieved.

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

Agencies re-prioritisation of regulatory activity e.g. collect data on WEEE directly treated by collectors (could also increase AATF/DCF data requirement)

BENEFITS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	Optional		-37	-308
High	Optional		-7	-66
Best Estimate			-29	**-238**

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

De-minimis threshold for producers of EEE with volumes under 5 tonnes - reducing their regulatory requirements. Gate fee revenues to collectors of WEEE from managing value streams.

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

Agencies re-prioritisation of regulatory activity e.g. no longer requires Operational Plans.
Reduction in price charged for evidence as a result of more competitive dynamic engendered through the introduction of a compliance fee.

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

Central scenario assumed 10% of WEEE for GDL, displays and cooling is funded through the compliance fee which is set at double the cost of evidence relative to when a PCS has direct involvement.
The key risk/sensitivity is around volumes of WEEE collected, which will be contingent on the target and the compliance fee. Several scenarios have been constructed around this. See sensitivity analysis at Section 7.

BUSINESS ASSESSMENT (Option 1)

Direct impact on business (Equivalent Annual) £m:			In scope of OIOO?	Measure qualifies as
Costs: -46.1	**Benefits:** -43.8	**Net:** 2.3	No	NA

Table 1: Option 1 - Summary of agent level net average annual (benefits minus costs) and net present value, from 2014-2023 relative to the baseline

(£M)	Net Average annual (constant prices)	Net Present Value
Producers	33	274
EA	0	0
Government	0	1
PCS	-17	-137
DCF	12	98
WMC	-13	-110
Distributors	-1	-8
AATF	0	0
Recast	0	0
Society	0	0
Total	**14**	**119**

NPV	119
Business NPV	20

* The costs and benefits are expressed relative to the baseline and are split by agent to show distributional impacts.

- Under the preferred option, no net changes are estimated for Approved Authorised Treatment Facilities (AATFs) or Environmental Agencies (EAs). Minimal impacts are expected for the government and distributors. The impacts of the recast are not expected to be different to in the baseline scenario.

- Producers are expected to gain from the Target and Compliance Fee system. Over 10 years, producers are estimated to make savings of around £274m in present value terms, owing to lower administrative costs as a result of the de-minimis threshold and lower evidence costs from no longer having to finance value streams.

- Over 10 years, Producer Compliance Schemes (PCSs) face a net cost of around £137m in present value terms relative to the baseline. This is a result of lower membership fees owing to the de-minimis threshold, lower gate fee revenues (DCF self-management) and lower revenues from evidence as savings are assumed to be transferred to producers. PCSs are expected to also make relatively minor cost savings as a result of lower administration and evidence costs.

- The net change for Waste Management Companies (WMCs) over 10 years, relative to the baseline is estimated at -£110m in present value terms as a result of no longer being able to sell evidence for value streams.

- An overall gain is estimated for Designated Collection Facilities (DCFs). A net benefit of around £100m in present value terms over 10 years is estimated due to revenues from materials from self run sites and compliance fee transfers. Their costs are expected to increase slightly as a result of managing streams of WEEE.

Evidence Base (for summary sheets)
Contents

IMPACT ASSESSMENT OF SYSTEM CHANGES TO THE UK WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT (WEEE) REGULATIONS

Executive Summary

1. This IA considers the reform of the existing WEEE system in response to the Red Tape Challenge initiative which aims to reduce the burden of regulation on business. An option of introducing a Target and Compliance fee (Option 1) is compared to the baseline of 'do nothing' (Option 0).
2. This IA updates a consultation stage IA which considered three very different approaches to deal with the concerns of the existing system. After a formal consultation with stakeholders, two of these options were rejected. The preferred option, Option 1, (referred to as Option 3 in the consultation stage IA) was arrived at after careful consideration of the preferences and views across the main stakeholder groups.
3. All options considered, including the recommended option, are de-regulatory and lead to an overall cost saving. Two features which are present in all 3 of the options include;

- the introduction of a de-minimis threshold for low volume producers of EEE whereby those producers who place less than 5 tonnes on the market (50% of all WEEE producers) have reduced obligations and are not required to join a producer compliance scheme.
- giving collectors of WEEE the option to manage own WEEE streams, which allows collectors to receive the net revenues from materials where they exist and retracts obligation on producers where market forces would work to treat WEEE in the absence of regulations.

4. The calculations in the Impact Assessment do not reflect the complexity of the market given the long 'chain' of waste management, with rigidities in contracts.

Section 1: Background and objectives

1. 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. 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.

2. The original WEEE Directive committed the European Commission to undertake a review within 5 years and submit a report to the European Parliament and the European Council based on the application of the Directive. A proposal was submitted to both institutions in December 2008. A Recast WEEE Directive was adopted in January 2012 and published in the Official Journal of the EU on 24 July 2012. Its provisions must be implemented in national legislation by 14 February 2014. The details are the subject of a separate Impact Assessment, (WEEE Recast IA number 0382).

3. The Red Tape Challenge (RTC) was launched by the Government in April 2010. It gave business and the public the chance to have their say on the regulations that impact on their businesses. The RTC is split into themes and the Environment Theme was launched in September 2011 and the outcome announced on 19 March 2012.

4. Large Producers of electrical and electronic equipment (EEE) raised concerns that the amount they have to pay for the collection[1], treatment, recovery and recycling of their market share of Waste Electrical and Electronic Equipment (WEEE) through producer compliance schemes is often much higher than the true costs of processing WEEE. Smaller producers complained about the disproportionate administrative costs associated with complying with WEEE Regulations.

5. A Call for Evidence was launched on 28 May 2012 following the Red Tape Challenge commitment to address producers' concerns about the cost of compliance. Responses were supplemented by additional stakeholder engagement through September and October 2012.

6. The Government committed to consider regulatory changes to address these concerns by 2014. Options for change would form part of the proposed consultation necessary as part of the process for introducing the requirements of the revised WEEE Directive in the UK.

7. This Impact Assessment is intended to appraise the preferred option to deliver change in response to the Red Tape Challenge. A separate Impact Assessment will be published in

[1] Collection has the meaning given by Article 3 of , Directive 2008/98/EC of the European Parliament and of the Council on waste ("the Waste Directive")

parallel in relation to necessary changes to the UK WEEE Regulations as a consequence of the recast WEEE Directive (IA no. 0382).

Policy Objectives/ Problem under consideration

8. To address concerns from producers of EEE that the actual cost of compliance with their financial obligations set out in the *existing* WEEE Regulations is significantly higher than the true cost of collection, treatment, recovery, re-use, recycling, and environmentally sound disposal of WEEE that they are required to finance. To keep administrative burdens to a minimum – particularly for small volume producers.

Section 2: Operation of the current WEEE system

Actors in the WEEE system:

9. The existing system involves 37 Producer Compliance Schemes (PCSs) [2], 5945 producers of EEE, Distributors of EEE (retailers and distance sellers), 202 Approved Authorised Treatment Facilities (AATFs)[3], approx 1500 Designated Collection Facilities (DCFs) and a number of Waste Management Companies (WMCs) of which some have access to WEEE through PFI long term contacts with local authorities.

10. The number of intermediaries, variable operating models and lack of transparency between agents, heightens complexity and opaqueness as well as increasing overall administrative costs. As a consequence, there are a number of market failures borne as a result of regulatory failures.

WEEE Flows - profile and volumes:

11. The majority of obligated household WEEE (76%) comes from Designated Collection Facilities (DCFs) and 24% from regulation 32/39 (e.g. retail take back). All other WEEE which is not counted in the official WEEE system is labelled 'non obligated WEEE' – the treatment of this WEEE is not funded by producers. Collection rates of obligated household WEEE have been fairly stable at around 7-8kg per head since 2007.

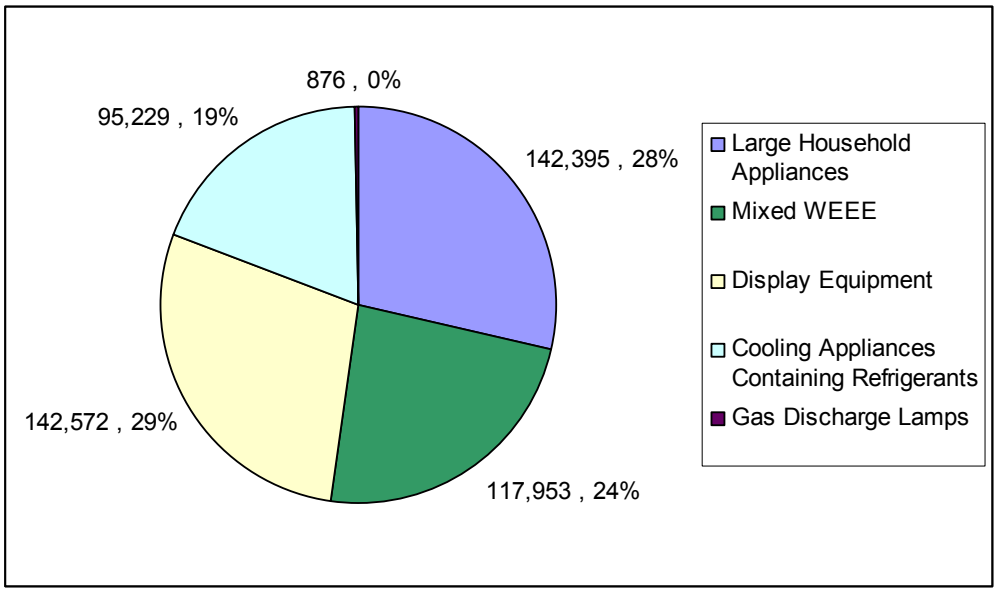
12. The material value and treatment process required varies across WEEE categories. Large Domestic Appliance (LDA) and Mixed WEEE are generally considered to be net revenue streams (AATFs will often pay to receive these). Gas Discharge Lamps (GDL) are the most costly WEEE stream (AATFs will receive payment to treat net cost streams). Costs/revenues (known as gate-fees) offered by AATFs will vary depending on local competition, volume of WEEE, material values and specifics in contractual agreements.

13. The WEEE Directive requires WEEE arisings and EEE placed on the market to be reported in 10 product categories (large domestic appliances, small domestic appliances, IT & Telecommunications equipment, consumer equipment, lighting equipment, electrical and electronic tools, toys leisure and sports equipment, medical devices, monitoring and control instruments and automatic dispensers). The UK regulations introduce 3 additional subcategories for refrigeration equipment, display equipment and gas discharge lamps. This ensures that producers of other equipment do not cross subsidise the cost of treatment of these hazardous waste streams. Collection is typically split into 5 collection streams as indicated below

[2] 2012 data. 36 PCS in 2011

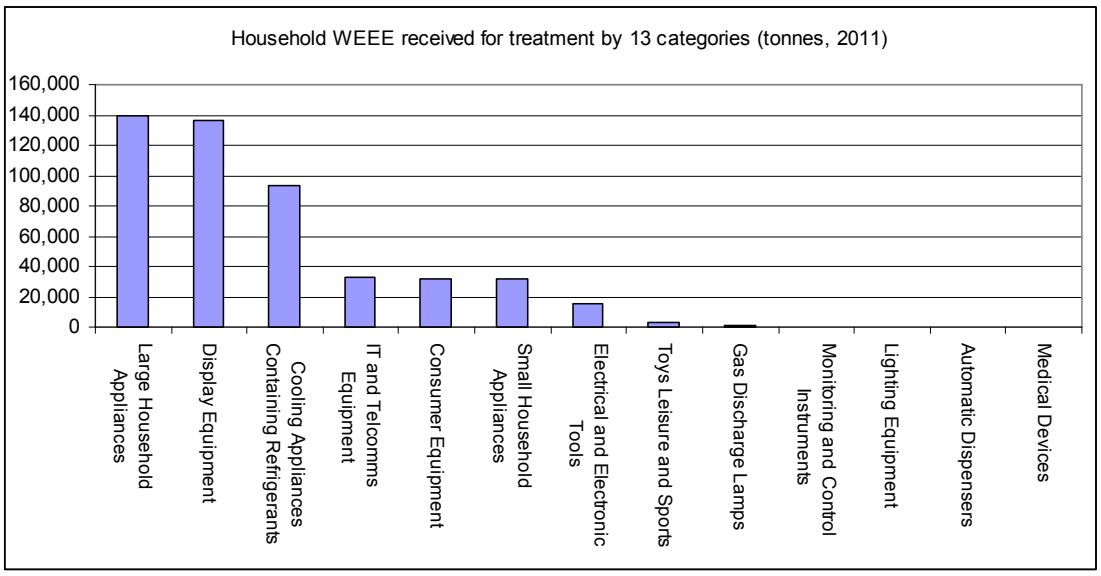
[3] 2012 data. 197 AAFTs in 2011 and 240 in 2010

Fig 1: Total separately collected household WEEE in tonnes and as a percentage of total WEEE by 5 collection streams (2011)



Source: Data from EA
* WEEE is split into 5 collection streams as this is how it's often separated for treatment

Fig 2: Tonnes of household WEEE received for treatment in 2011 by 13 WEEE categories.



Source: Data from EA

14. Producers of B2B EEE have financial obligations for financing the cost of B2B WEEE in the following circumstances:
    - Where the producer puts EEE onto the UK market for non household use after 13 August 2005 and when this EEE is subsequently discarded as waste
    - Where the producer puts EEE on the market to replace EEE for non household use prior to 13 August 2005 (by him or any other producer)

15. The regulations do not prevent producers or business end users from making their own contractual arrangements to ensure WEEE is correctly treated and recovered. B2B producers

are therefore not exposed to the same concerns expressed by B2C producers about the impact the current system has on the cost of compliance

16. The WEEE Regulations require Producer Compliance Schemes (PCSs) to finance the collection and treatment of 100% of separately collected household WEEE returned by distributors under Reg 32 and deposited at Designated Collection Facilities (typically Local Authority Household Recycling Centers). This responsibility is shared according to the UK market share of the producer members in each PCS and split between the 10 categories and 3 sub-categories of EEE laid down in the Regulations.

17. Regulation 22 states the financing obligations placed on PCSs in relation to WEEE from private households:

Regulation 22 – Financing: WEEE from Private Households

(1) Where regulation 10(5) applies in relation to a scheme the operator of that scheme shall be responsible for financing the costs referred to in regulation (8) for which each scheme member is responsible under regulation 8 in the compliance period for any part of the compliance period during which his membership of that scheme subsists.

(2) It shall be the duty of the appropriate authority to determine the amount of relevant WEEE for which each operator of a scheme shall be responsible under paragraph (1) by applying the calculation set out in paragraph (3)

(3) The amount of relevant WEEE for which each operator of a scheme shall be responsible under paragraph 2 shall be calculated in relation to each of the categories of EEE as follows –

$$(A / B) \times C$$

Where-

"A" is the total amount in tones of EEE intended for use by private household and falling within one of the categories of EEE ("the relevant category") that has been put on the market in the United Kingdom by all of the members of a particular scheme in a particular compliance period, or part of a particular compliance period ("the relevant compliance period ") during which their membership of that scheme subsists;

"B" is the total amount in tones of EEE intended for use by private households and falling within the relevant category that has been put on the market in the United Kingdom by all producers in the same compliance period used in "A" and

"C" is the total amount in tones of the relevant WEEE which is waste from electrical or electronic products and fall within the relevant category that

(a) is deposited at a designated collection facility; or

(b) is returned under regulation 32 or 40A but is not deposited at a designated collection facility in the same relevant compliance period used in "A".

18. Tonnages of WEEE collected and treated by PCS are entered onto a central IT system called the "Settlement Centre". Data submitted is used as "evidence" of the amount of tonnage that a PCS has financed in each of the categories.

19. Each PCS is required to produce and maintain a "viable plan" to show how it will meet its expected obligations across the 10 categories and 3 sub-categories. These must be approved by the relevant environment agency. Financial obligations can be met either through a PCS making direct arrangements to access separately collected household WEEE or by contracting with others (including other PCSs) to have WEEE collected on its behalf.

20. Because the UK WEEE Regulations do not allocate a fixed obligation at the beginning of a compliance period, PCSs do not know their actual obligation (i.e. the actual tonnage they are required to finance) until after the compliance period has ended and the total amount of WEEE that has been actually financed is known. This makes it difficult for any PCS to accurately plan

to meet its true obligations. The Regulations recognise that it will be inevitable, even where all PCSs have viable plans and follow them, that PCSs will have collected too much WEEE in some categories and too little in others at the end of a compliance period. Following the end of each compliance period, there is a settlement period in which PCSs make arrangements to transfer amounts of evidence to resolve these imbalances using the Settlement Centre funded and managed by BIS. However, no PCS is entitled to rely on this trading mechanism to meet more than a 'marginal' proportion of its obligation.

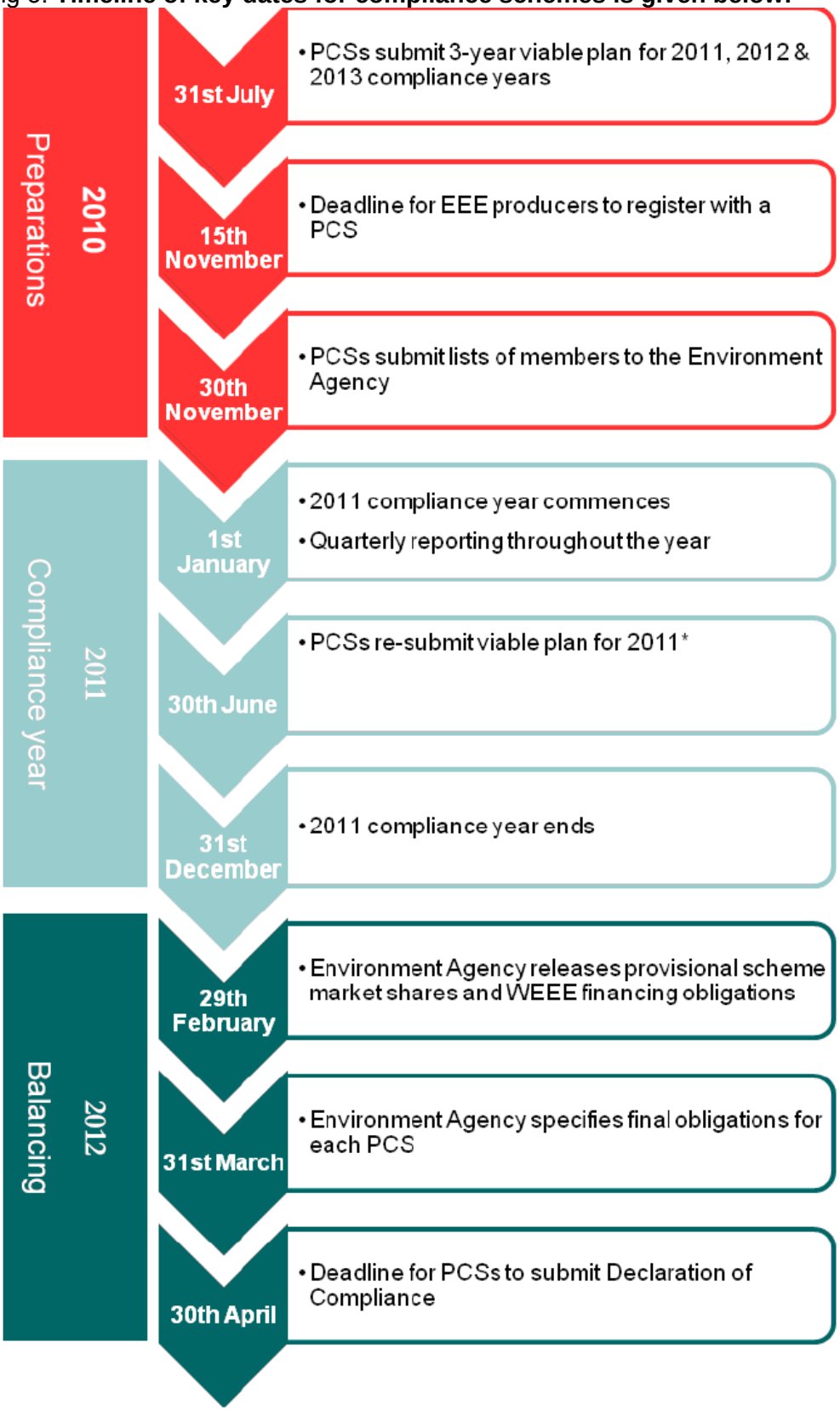
21. Because the WEEE regime operates with a 100% market (i.e. every kg of WEEE collected from private households under Regulation 8 must be financed by a PCS) there is an economic benefit to be gained from having access to WEEE in excess of forecast obligation because there is a guarantee that another PCS will require that surplus WEEE in order to meet its financial obligations. This leaves a PCS potentially vulnerable to excess charging – at any point in the year.

22. Viable Plans form part of a rolling 3-year Operational Plan that PCSs are required to update and submit to the Agency for approval by 31 July each year. It is specifically intended to demonstrate that a PCS has arrangements in place to collect an amount of WEEE that is 'equivalent' to the amount of WEEE for which it is responsible for financing. These plans are reviewed by the Agency and schemes notified of EA approval by 30 September in the year before the relevant compliance year. Agency decisions are open to appeal which if unsuccessful would result in withdrawal of the Scheme's approval for the forthcoming compliance period.

23. Producers of EEE (i.e. UK manufacturers, importers and re-branders) irrespective of company size and amounts placed on the UK market are required to:

    - Join a Producer Compliance Scheme (PCS)
    - Register as a producer with the relevant environment agency (via their PCS)
    - Provide data to their PCS on tonnages of EEE placed on the UK Market
    - Mark EEE placed on the UK market with the "crossed out wheeled bin" symbol
    - Provide information on reuse and environmentally sound treatment of new products
    - Provide a producer registration number to distributors.

Fig 3: **Timeline of key dates for compliance schemes is given below:**



Source: Frontier

Mid-Year changes to Viable Plans

24. Where a PCS makes a significant change to its viable plan, they must notify the relevant environment agency within 28 days and demonstrating that it remains in balance. This will often trigger a need for other PCSs to alter their plans and notify the relevant agency due to the inter-dependency between schemes in maintaining viable plans.

25. One material change in a scheme's viable plan can result in a relentless cycle of notifications, with most changes triggering the need for changes in other PCS plans. These significant changes typically arise due to changes by local authorities to their appointed PCS but could also include changes to membership, collection sites or changes to arrangements with other PCSs that result in a viable plan being significantly out of balance. It's worth noting that these changes are against a background of PCSs predicting their likely obligations rather than having a set target to plan against.

Re-tendering of Local Authority contracts

26. PCSs can bid to win new contracts to clear local authority DCFs without any clear need for that additional evidence in order to maintain their viable plan. If successful this can often result in some (if not all) of that evidence being offered to the PCS that lost the contract. The outgoing PCS will invariably be compelled to purchase evidence from the new incumbent in order to maintain their viable plan. Other PCSs may be affected where the previous incumbent had an arrangement to supply evidence for certain WEEE streams which included forecast tonnages arising from that contract.

27. In establishing the current system the regulations always anticipated these arrangements between PCSs and local authorities would be non-financial without transfer of funds to either party. However local authorities and their waste management partners have increasingly recognised the value of these arrangements to PCSs who will invariably financially incentivise their bid in order to win the contract. This is typically in the form of a return to the local authority of the scrap metal value of WEEE arisings and funding towards awareness raising of the importance of WEEE recycling. Typically the contract is awarded to the scheme that makes the most attractive financial offer. Schemes that do not need the WEEE for their own obligation bid in the knowledge that those costs with profit can be recovered through the guaranteed sale of that evidence to a scheme required to purchase their evidence.

28. Waste management companies are increasingly managing the selection and management of PCS's on behalf of the local authority. Their model typically is to enter arrangements for transport and treatment with AATFs and then simply enter an arrangement with a PCS for the supply of evidence.[4] The 100% system in which all WEEE must be financed by a PCS encourages this type of operation which is conducive to excessive charging.

29. Taking overall control for transport and treatment of WEEE can in theory bring advantages and incentivises higher collection levels – by charging schemes an agreed price per tonne the WMC clearly benefits from higher volumes and the likely reduction in waste to landfill will also bring financial reward to the WMC as a consequence of incentives built into their local authority contract.

[4] The contractual framework between WMCs and PCSs specifies that WEEE is treated properly and that the DCF is cleared, for which the WMC is paid.

30. In summary it is this trading of WEEE evidence and the “must buy” requirement on schemes in order to meet their financial obligations that have created the excess costs that larger producers are pressing the Government to address.

Movement of Producers between Schemes

31. There is no evidence to suggest that, as a general rule, costs to producers are markedly different between schemes, even though it’s likely that costs are. This indicates those that enter direct arrangements with WEEE collectors to meet obligations are simply making a higher margin than those that rely on evidence from others in order to maintain a balanced plan. So shopping around would not bring significant savings to producers. There has been very little movement between schemes particularly by large producers since the regulations entered force in 2007.

32. Additionally some schemes reportedly have onerous exit clauses. The regulations only permit a producer to change schemes before the start of a compliance period. Some schemes will be reluctant to accept new members if it will result in their viable plans being out of balance and given they may become reliant on evidence from other schemes in order to maintain a balanced plan. Equally, it is difficult for them to provide the producer with a firm price since they would have no guarantee of the cost of evidence they would be required to purchase. Those schemes that sell evidence in order to maintain a balanced plan may have a business model that is reliant on this activity in order to maximise revenue and profitability. An increased membership may not be compatible with their business model.

33. The new system should seek to ensure greater competition between schemes for members and consider any unintended consequences that are likely to inhibit the movement of producers between schemes

Breakdown of costs to producers to discharge individual obligations:

34. As discussed, producers of household EEE must finance the collection, transport, treatment and recycling of WEEE collected with the volumes they are obligated to finance reflecting their market share of EEE placed on the market (pom). The cost incurred to discharge producers of their obligations is referred to as the ‘price of evidence’. Key factors which affect this cost (passed onto producers) have been highlighted as:
    - Transport cost (vary depending on geographical location)
    - Treatment and recycling (varies by category of WEEE, some are net revenue)
    - Material values (vary depending on category)
    - Access to WEEE costs from DCF
    - Environment agencies fees
    - PCS fees and administrative costs
    - Producer admin costs data monitoring and reporting requirements

35. The price of evidence is thought to be higher than costs because of:
    - Productive inefficiencies borne by guaranteed demand of evidence due to 100% clearance of WEEE requirement.
    - Trading of evidence by PCS holding surplus WEEE to balance obligations between PCSs.

- Number of intermediaries like WMC, distributors and PCS who have the opportunity to inflate prices
- Lack of transparency on costs
- Relative bargaining power of agents creating an uneven playing field and allowing for inflated costs to pass through to producers.

Section 3: Rationale for intervention

Market failures borne from regulatory failures:

Monopoly Behaviour:

36. There is no incentive for a PCS to offer a lower price to attract new members even where it has surplus WEEE, since it can always sell surplus evidence to deficit PCSs who must buy at the given price to meet obligations or face criminal sanctions.

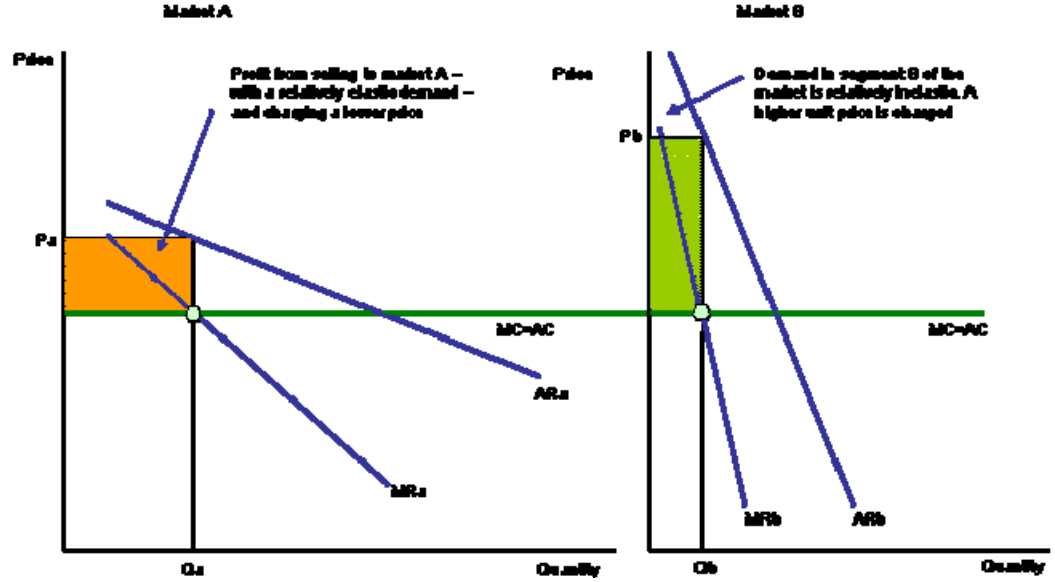
37. Furthermore, there is little incentive/ability for producers to switch between PCSs. A producer will not switch if the switching costs in terms of monetary cost, effort, time, uncertainty, and other reasons, outweigh the price differential between the two suppliers.[5] With prohibitively high switching costs, the producer is said to be locked-in to the supplier. If a supplier manages to lock-in consumers, the supplier can raise prices to a certain point without fear of losing customers because the additional effects of lock-in (time, effort, etc.) prevent the consumer from switching. Where switching costs for a producer are prohibitively high, the situation can be modeled as a **monopoly** – where there is increased risk of price discrimination.

38. **Price discrimination:** Producers, especially those with large proportions of EEE pom will be prevented from "switching" to other PCS because other PCSs may not have the means of accessing additional WEEE to cover a larger obligation (i.e. lock – in). Furthermore, a PCS will not be able to tell the producer it's charges as a result of them switching to them, given they won't know the cost of accessing the additional WEEE evidence required. This gives a PCS more leverage and could allow for third degree discrimination – this type of discrimination means that the prices charged may bear little or no relation to the actual costs. EA data from 2010 -11 shows that 3% of producers switched, on average those that didn't switch had over two times as much tonnage in obligation relative to those that did switch – i.e. smaller volume producers switch more.

39. To illustrate the point a large tonnage producer may want to switch from PCS1 to PCS2 – in order to access additional WEEE required to meet a higher obligation PCS2 may need to obtain additional WEEE from PCS1. With this knowledge, PCS1 can transfer that WEEE evidence to PCS2 at a higher rate, if passed through to producer at the same rate, switching will only increase the price paid by that producer.

[5] Types of switching costs include exit fees, search costs, learning costs, cognitive effort, emotional costs, equipment costs, installation and start-up costs, financial risk, psychological risk, and social risk. Exit fees include contractual obligations that must be paid to the current supplier and compensatory damages that may be awarded for breach of contract.

Fig 4: Price Discrimination



40. A PCS may want to retain some level of membership for reputational reasons (e.g. having a household name producer as a scheme member) and also financial, as it can raise revenues through membership fees. For producers that can switch easily (e.g. smaller producers) the PCS could fund WEEE up to where MRa = MC and charge price Pa, where producers are unable to switch easily the PCS could fund WEEE up to where MRb = MC and charge price Pb. Given the relatively inelastic demand (see para 43) for WEEE evidence (high willingness to pay), producers that are unable to move will pay a higher price (Pb) than those who can switch more readily (paying price Pa). However, some small producers are more likely to experience inertia and resource constraints with respect to switching, as they will have less resource to put towards investigating the market for a lower price.[6] There is also a risk of first degree price discrimination, where irrespective of the deficit PCS and the make up of it's membership, a surplus PCS can charge up to the maximum amount a deficit PCS would be willing to pay for the WEEE it needs to meet it's obligation – there is a greater risk of this towards the end of the compliance period where options for alternative sources of WEEE for the deficit PCS may be limited/zero.

41. **Asymmetric information** due to lack of transparency in the market on prices and the number of intermediaries that may provide a service to supply WEEE evidence. This leaves producers in a weaker position to move to a PCS that offers the best deal without going out to tender (incurring switching costs). Furthermore the PCS will have asymmetric information on costs incurred/revenues obtained as a result of contracts between PCSs acting on their behalf and LAs, WMC, and AATFs – given all agents can pass full cost onto producers without there being any requirement on them to be transparent about their costs there is scope for inefficiencies, profiteering and moral hazard. The extent to which this can take place may be influenced by the governance

[6] For producers who are also concerned about the quality of treatment of their WEEE they will also be limiting their search to PCSs with a credible reputation.

structure of the PCS for instance producer owned schemes with producer appointed directors may require transparency on pricing e.g. Repic, ERP and Recolight. Operators that are vertically integrated to AATFs and WMC will have the advantage of direct access to WEEE, treating it at their AATFs and then selling the evidence, potentially to the highest bidding PCS. Although costs may be lower for such operating models there are limited incentives to pass on these cost savings due to moral hazard.

42. **Moral hazard arises in a principal–agent problem**, where one party, called an agent (PCS), acts on behalf of another party (producer), called the principal. The agent usually has more information about his or her actions or intentions than the principal does, because the principal usually cannot completely monitor the agent. The agent may have an incentive to act inappropriately (from the viewpoint of the principal) if the interests of the agent and the principal are not aligned. The PCS, LA and AATF all work to make arrangements for the collection, transportation and treatment of WEEE on behalf of the producer who funds these activities. There are limited incentives for them to pass through cost savings/revenues but limited barriers to prevent passing on exorbitant costs.

Regulatory Failures:

43. **Guaranteed demand/inelastic demand.** The regulatory requirement for producers to finance the collection and treatment of 100% of WEEE from DCF and that made available via distributors (Reg 32, Reg 39, 40A), in line with their market share means there is a guaranteed demand for every tonne of WEEE. Demand is price inelastic given the penalty for non-compliance is criminal sanctions with implications on reputation. The resultant high willingness to pay of producers means they are vulnerable to excessive charging. There will also be higher costs incurred as a result of productive inefficiencies in the knowledge all costs can be transferred to producers (see para 62). Producers and deficit PCSs are all price takers and suppliers (LAs, some AATFs and surplus PCSs) are price makers.

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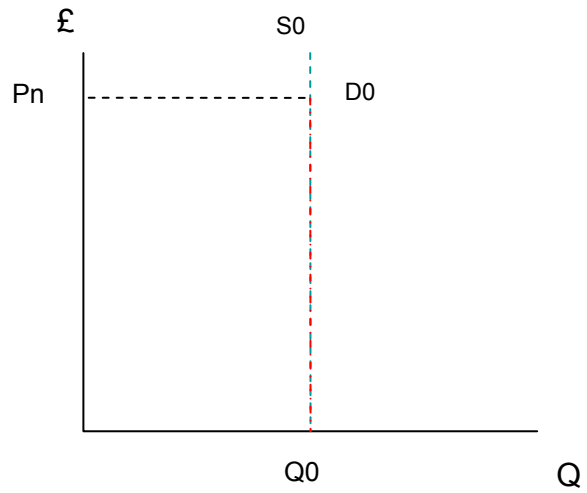
Fig 5: Inelastic demand and supply for WEEE



Pn – notional penalty; criminal sanction

44. The supply of evidence, S_0, is fixed (or perfectly inelastic) as there will be a given total quantity of WEEE, Q_0, in each compliance period. Q_0 is equal to the quantity of obligated WEEE collected/evidence notes produced in each compliance period.

45. At Q_0 the demand for evidence, D_0, is also perfectly inelastic as producers have an obligation to finance the collection, treatment and recovery of all DCF/Reg 39 obligated WEEE in each compliance period through a PCS. For the market overall the total available supply of evidence matches the total requirement for evidence i.e. supply can never be greater than demand and demand can never be greater than supply.

46. The demand curve, D_0 can be said to be perfectly inelastic up until the price of the penalty for non-compliance, P_n, as this is the maximum price buyers (ultimately producers but purchased through the PCSs acting as their agents) would be willing to pay for evidence. Where the cost of compliance and non-compliance are equal it can be assumed producers/PCSs will choose to comply, but will choose not to comply if the cost of compliance is greater than the cost of non-compliance.

47. Sellers of WEEE evidence are able to set the market price at any level up to a maximum price of P_n – this is above the marginal cost of evidence, MC_1, allowing suppliers to generate 'abnormal' profit.

48. Producers are locked into this market through their obligation and, even if they suspect irregularity in the market, cannot leave it. Not having an explicit penalty for non-compliance means that producers/PCSs face criminal enforcement proceedings for non-compliance and a fine of indeterminate, but potentially substantial value means there is effectively a 'sellers market' for WEEE evidence. Furthermore, the reputational damage from non-compliance for large producers in particular would heighten their willingness to pay for evidence.

49. The prices set by suppliers should theoretically be constrained by the penalty for non-compliance as no purchaser would pay more for evidence than the penalty price. However as the price of the penalty is unknown, it functions simply as a threat where the prices set by the suppliers of WEEE are in fact constrained by:

- Suppliers' perceptions of the producers/PCSs' price ceiling which will reflect how each individually values the threat of non-compliance and so allows sellers to price discriminate; and
- The possibility of Government intervention in the market (for example through sanctions) which might affect suppliers' level of profits and so leads them not to set too excessive a price for WEEE evidence.

50. Given the inelastic demand there is no incentive to pass on these savings in the price of evidence as suppliers can still set the market price.

51. Although the fact that suppliers and producers might both be fined should lead them to trade with each other to reduce their aggregate exposure to fines, this is offset by the specific possibility of price discrimination within what are relatively thinly traded markets. A seller may be able to reduce their own risk of a fine (by agreeing a trade and reducing their potential unmatched volume) and also make money from selling to a buyer who is unaware of other possibilities in the market. This 'double benefit' is attractive to sellers especially where their loss of reputational risk may be low while the buyers' is high.

52. In this market structure and with these types of participants the market price comes to be set by suppliers of evidence at the price they believe the market will accept rather than at the costs of creating the evidence. An obvious reference point for this price is the price achieved in the previous compliance period as this represents a level the purchasers of evidence are willing to pay and, as the price is no higher than in previous compliance periods, a level which is unlikely to attract the attention of the regulators. Although prices are sticky downwards they are not necessarily sticky upwards. If total evidence costs increase, prices are likely to increase and potentially by the same amount in order to maintain levels of profit.

53. Therefore, the structure of the current market for evidence means the price of evidence is unlikely to decrease below a level perceived as acceptable to the market by suppliers but is likely to increase whenever costs increase.

54. In this market **trading** is necessary because the supply structure doesn't lend itself to specialisation i.e. the PCS has to clear all WEEE streams at DCF site irrespective of what WEEE streams it requires as per its obligation. The trading of evidence and consequent presence of a secondary market inflates prices by encouraging over collection as a result of the guaranteed demand, which allows surplus PCSs to transfer WEEE evidence to deficit PCSs at a premium.

55. There is no limit on over collection[7] a PCS just need to demonstrate how it will balance it's obligation through agreed transfers to other PCS. Some PCSs claim the phenomenon of excessive charging is heightened at year end. This may be because a PCS is more likely to find itself in a monopoly position with the last surplus tonnage in any given category resulting in up to 13 monopolies (i.e. for 13 categories). This is exacerbated by PCSs not knowing how much they need to meet their obligations until the end of the compliance period. Some PCSs argue that price transparency in the existing system would be unwelcome as it would lead to a rise in prices towards the maximum charge.[8] Especially given 5 PCSs account for ~75% of the total obligation for WEEE (2011).

56. The settlement centre data (2011) shows that WEEE evidence was purchased by a PCS in a scenario where that PCS didn't need it - i.e. it had already met it's obligation at category level. This was the case for 29% of GDL, 13% for Toys, leisure & sports equipment and 7% of WEEE evidence for both IT & telecommunications equipment and Consumer equipment. This suggests the WEEE may have been purchased for the sole purpose of re-sale, for commercial reasons only, rather than to balance obligations.

Competition Assessment: Porter five forces analysis

57. **Porter's five forces analysis** is a framework to derive five forces that determine the competitive intensity and therefore attractiveness of a market. Attractiveness in this context refers to the overall industry profitability. An "unattractive" industry is one in which the combination of these five forces acts to drive down overall profitability. This framework is used to explain some of the behaviors within the existing WEEE system.

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[7] The settlement centre is a trading platform for WEEE to assist PCSs in balancing their obligations – funded by BIS.

[8] Note that "over collection" does not imply higher levels of collection across the UK it simply means a PCS is collecting a higher share of the 100% that has been collected than they require to meet their obligation. That must therefore leave another scheme as an "under collector".

Fig 6: Porter's five forces

58. Porter's five forces include - three forces from 'horizontal' competition: threat of substitute products, the threat of established rivals, and the threat of new entrants; and two forces from 'vertical' competition: the bargaining power of suppliers and the bargaining power of customers.

59. **Threat of new competition**. Access to DCF WEEE (supply) by PCSs may be established for lengthy periods as per contractual agreements, making it harder for new entrants to access WEEE at any given point. Furthermore, a large percentage of DCFs are in the hands of WMCs. However, new entrants can still enter the market by accessing WEEE via the secondary market (trading) at a higher price if not directly. Evidence from PCSs suggests that costs are on average 1.6 times higher when obtained via the secondary market. In a normal market it may be expected that PCSs with higher costs would be squeezed out by more competitive counterparts but the existing system means producers have limited options with respect to switching and prices charged by PCSs tend towards the maximum as there is little incentive to keep prices down.

60. **Threat of substitute products or services** is non existent, in the broader sense. ‘Evidence’ of any tonne of WEEE is directly substitutable with another tonne of WEEE within the same category. However, producers cannot substitute to ‘alternatives’ (e.g. non-WEEE waste) and given legal obligations on producers there is a guaranteed demand for WEEE evidence.

61. **The bargaining power of buyers (producer and deficit PCS).** If the producer carries large obligations, the degree of dependency upon a PCS may be high given alternative ‘better’ options are unlikely to transpire – especially given switching costs. Conversely smaller producers may have more bargaining power as they can switch between PCSs more easily. However, smaller producers may be more resource constrained with respect to search costs. Overall producer bargaining power is low. Likewise bargaining power of deficit PCS (as buyers) will be low as the market will be aware they must fulfill their obligation and alternatives are not available.
62. **Bargaining power of suppliers (local authorities, surplus PCSs)** is strong. LAs are aware PCSs need to access their WEEE in order to meet obligations, furthermore they are aware that costs will be covered by producers, ultimately.

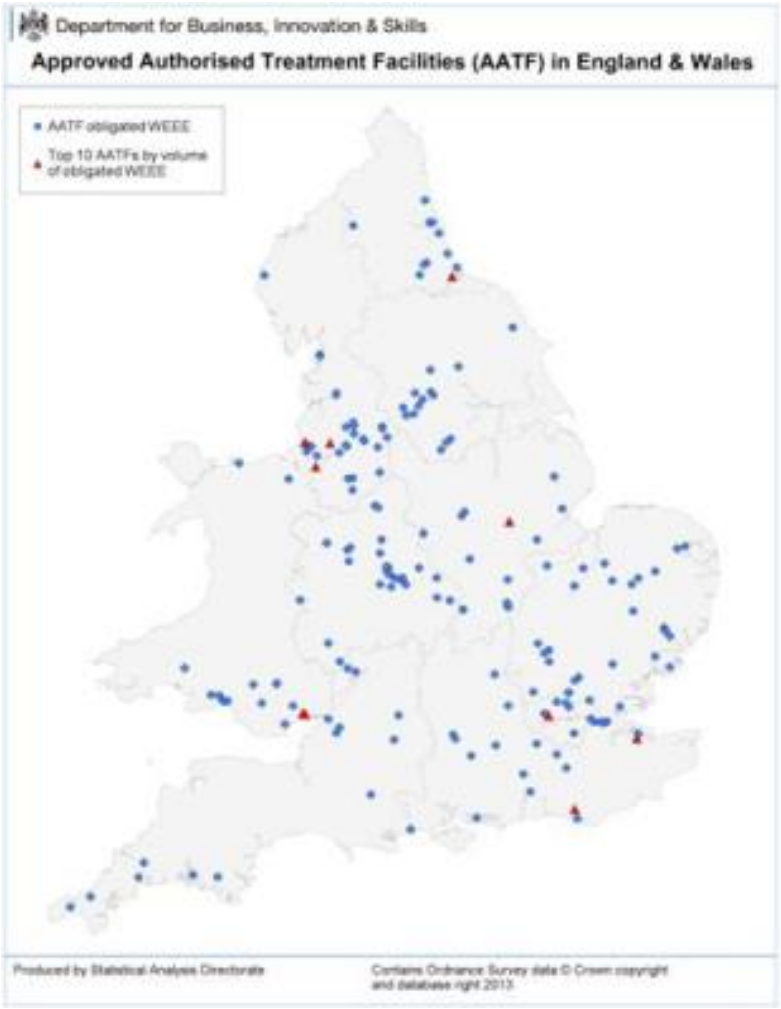
This allows LAs to release contracts to the highest bidder. There are approx 1500 DCF sites in the country, their attractiveness and consequent bargaining power will vary depending on their proximity to AATFs (to minimise transport costs) and volume of collection (to obtain EOS). A disproportionate amount of bargaining power rests with the supplier of WEEE leading to *productive inefficiencies* as WEEE collectors can move to increasingly expensive methods of collection as they are guaranteed a buyer for any WEEE irrespective of category.[9] The same situation arises with surplus PCSs who are in effect suppliers of WEEE for deficit PCSs, productive inefficiency arises here as PCSs are willing to tender LA/WMC contracts that contain onerous financial and operational clauses in the knowledge they will be able to sell the evidence obtained to other PCS, potentially with a commercial margin. Also, PCS can charge a premium for WEEE sold on the secondary market. The deficit PCS who purchases WEEE on the secondary market can pass costs onto their producers who won't want to risk not fulfilling their obligation.

63. **Intensity of competitive rivalry** with respect to PCSs in this system doesn't drive down the prices because of the guaranteed / price inelastic demand and 100% cost pass through to producers. The number of PCS competitors would not restrict abuse of the market or reduce prices as demand will remain inelastic and over collectors will always be guaranteed a buyer by definition as a result of obligations being borne from the 100% market share requirement.

64. AATFs can pass on all costs to PCSs who pass on full costs to producers. The treatment sector is generally seen as a competitive market with over capacity - although an AATFs competitive position will vary depending on where the site is located (e.g. close to other AATFs) and what categories of WEEE it treats. Incentives to pass on savings from efficiencies in logistics, technological progress etc will depend on the level of competition for any one site. See fig 7 for site map showing the geographical spread of AATFs.

[9] The theoretical upper bound being the level of collection where the marginal cost of collecting an additional tonne of WEEE reaching the maximum price the EEE producers are willing to pay for the additional tonne of WEEE,

Fig 7: Site map of AATFs in England and Wales



Data source: EA , 201

Section 4: Description of Policy Option 1

65. This section provides the details of Target and Compliance fee option and an assessment of its likely impacts.

Option 1: Collection Target/Compliance Fee

Detail

66. This option combines a number of features of the existing WEEE system with some features derived from the Batteries Regulations related to portable batteries combined with an option to pay a "compliance fee" by PCSs in the event that they do not achieve their collection target. Key features of the existing producer compliance system that are retained are:
    - DCF operators free to appoint a PCS of their choice (if on the same basis as the existing system this would be after conducting a tendering process[10]),
    - PCSs free to appoint contractors to undertake collection treatment and recovery of WEEE in line with legislative requirements,
    - Distributors free to enter arrangements with a PCS of their choice to return WEEE under Regulation 32,
    - Provision for PCSs to establish collection routes under Regulation 39,
    - PCSs free to enter commercial contracts for subcontracting of collections on behalf of another PCS,
    - Producers free to join a compliance scheme of their choice and to remain with that scheme for a compliance period,
    - B2B producer obligations remain unchanged,
    - The Settlement Centre is the mechanism in place to demonstrate evidence of the amount of WEEE tonnage financed by each PCS.

67. Key features derived from the Batteries Regulations:
    - Provision of an annual collection target expressed in tonnes for each PCS at the start of the compliance year and split by WEEE collection stream,
    - A requirement for PCSs to provide free uplift of WEEE if requested to do so from a DCF operator. In the Batteries Regulations a similar guarantee is provided to distributors,
    - No provision to trade evidence once it has been accredited to a PCS,
    - Producers below the de minimus threshold can register directly with the environment agency and do not need to join a PCS

68. New features to be applied to the WEEE Regulations:
    - Provision for establishing a compliance fee as a means of compliance for PCSs that do not achieve their collection target,

[10] A DCF is free to appoint any PCS it wishes, providing that the process of selection is legal. Therefore it is assumed that a formal tendering process will be used to appoint a PCS. However in practice, running a formal competitive tender is costly and time consuming and therefore a DCF may opt not to go through this process.

- Provision to establish a PCS run body to develop a mechanism designed to remove/reduce the potential risk that an individual PCS may be asked by DCF operators to finance WEEE collections at levels beyond its target amount,
- Provision to establish a "Producer Balancing System" (PBS) to develop a mechanism for equitably sharing costs excess collections in the scenario in which all PCS members exceed their collection target in any given WEEE stream,
- DCFs can choose to take control of arranging collection and treatment of value streams without the need to engage with PCSs thereby ensuring all value is retained by the collector.

Setting the Collection Target

69. Until 2016 the collection target would be derived from the member state collection target based on historic annual average over the previous three years. PCSs would therefore be required to broadly maintain current collection rates for B2C WEEE based on existing market shares of EEE placed on the market in each of the 5 collection streams and adjusted to take account of any movement in PCS membership of producers. The requirement to finance the collection and treatment of all WEEE that arises via the collection network would still be in place (see para 76-78 on producer balancing system).

70. From 2016 the Member State collection target is based on 45% of EEE placed on the market as an average over the preceding three years. It is proposed that the UK achieves that target by combining data from up to 5 sources:
    - "Substantiated estimates" of WEEE likely to be collected and treated outside of the producer compliance system in any given compliance year (B2C+B2B), (see IA no. 0382).
    - Reported tonnages go non obligated WEEE arising at AATFs
    - B2B WEEE financed by producers,
    - B2C WEEE financed by producers arising from DCFs, Distributors and collected under Regulation 39.
    - B2C WEEE financed by collectors directly e.g. DCFs

71. The target established for B2C PCSs aim to capture sufficient WEEE to achieve the member state target having first taken into account estimates of WEEE being collected and treated outside of the system and via B2B producers. It would be split by collection stream and apportioned according to market share to each PCS. Due account would need to be taken of the need to ensure fair allocation across the categories that comprise the small mixed WEEE collection stream.

Establishing the Compliance Fee

72. The compliance fee would be set at a level that ensured undertaking physical collection was the most price competitive means of compliance. This would encourage and reward physical collection thus optimising the prospect of achieving the member state target each year.

73. The mechanism and pricing should be established in such a way that would minimise any risks that it could set a ceiling price for access to WEEE or pricing of subcontracting arrangements between schemes.

74. It is proposed that the regulations simply provide enabling legislation for such a system to be established subject to approval of the Secretary of State. In that sense the approach is similar to the provision in the existing WEEE Regulations that allow for the establishment of the Distributor Take-back Scheme (DTS).

75. It is envisaged that producers working with PCSs would formulate proposals setting out who would run the compliance fee scheme, the mechanism for setting the price, management of the scheme including calculating and verifying the amount to be paid by PCSs, management of the dispersal of funds and liaison as necessary with the regulators and Government.

Establishing a Producer Balancing System (PBS)

76. The regulations would provide enabling legislation that allowed for such a system to be established subject to approval by the Secretary of State. The overriding objective would be to establish a mechanism under which PCSs that choose to join the System would be able to minimise commercial risks of being forced to collect WEEE in excess of their target amount.

77. In a scenario in which a PCS was asked to collect WEEE from a DCF that was in excess of its target, the PBS would develop a method to ensure that WEEE was assigned to a member that was in shortfall. If all PCSs exceeded their targets in any WEEE stream, the System would design a mechanism to ensure the costs of collecting that excess were fairly apportioned across the PCS membership.

78. There is an argument to allow more than one PBS to be established. The System(s) could also be responsible for management of the compliance fee however the methodology for its operation would have to be common to all in the event that multiple PBSs were established.

DCF self treatment of WEEE

79. The regulations would enable DCFs to choose to take control of collection and treatment of value streams. Revenues from LDA and mixed WEEE where DCFs have opted to self-treat are received from AATFs as gate fees. In practice DCFs may also receive revenues from the WMC who are servicing their sites for the streams they have opted to self treat.

80. The LAs may/may not choose to opt for self treatment depending on whether the financial support for these streams are greater than the revenue they are able to receive from self treatment. Given the assumed £/tonne received through 'financial support payments' is less than that received from treating the WEEE, it's assumed LAs opt to self treat over handing all streams to PCSs.

81. Self treatment of WEEE by DCFs would require advance planning and an element of risk taking. A fluctuation in material values during the course of a compliance period may result, leaving the LA to fund the treatment of WEEE that has moved from a positive value to a negative value.

Assessment of option 1

Addressing regulatory failures and market failures resulting from regulatory failures:

82. Encouraging **switching** and reducing the risk of **price discrimination**. This option should reduce the risk of surplus collecting by weakening the guaranteed demand that exists within the existing system. This would lead to PCSs limiting their surplus (and deficit) collections and could improve competitive pressures between PCSs as membership affects obligations and the level of access the PCS bids for to meet its obligation. Surplus PCSs would have a greater incentive to attract new members in order to finance any surplus since sale to another PCS would no longer be guaranteed. This option however may not eliminate the 'lock in' for larger producers as deficit PCSs may not be able to guarantee (lower cost) access to additional WEEE required with the entry of new larger producers in their membership. In this scenario the PCS may still be reliant on WEEE subcontracted from other PCSs or use the compliance fee and may be unable to guarantee lower prices for the producer.

83. Since PCSs will no longer be forced to purchase evidence (and any evidence issued by an AAFT to a PCSs cannot subsequently be traded) it should enable PCSs to ensure proper audit trails for all WEEE that they are financing for WEEE treatment that therefore drive up treatment standards.

84. Unlikely to address risk of **moral hazard/principal agent problem** between PCS and producer or reduce **information asymmetry**. There will still be the same number of intermediaries acting on behalf of producers – but their ability to pass on excessive costs above a certain level will be dampened.

Impact on guaranteed demand and trading;

85. Trading of evidence ex-post, would no longer take place as evidence posted on to the settlement centre[11] would have no value from that point. However, bilateral contracts between schemes, in place before WEEE is treated would allow the transfer of WEEE from surplus PCSs to deficit PCSs. Allowing transfer agreements to occur before treatment will stop secondary trading that is apparent in the existing system e.g. PCS purchase evidence despite having already met obligation i.e. for the sole purpose of selling.

86. A portion of the Directive targets of 45% EEE pom (and later 65%, subject to Commission review) would be devolved down to PCSs (e.g. 5 WEEE streams). The targets would be adjusted to take account of substantiated estimates on non-obligated WEEE and LA opts out streams. Irrespective of targets there must be a guarantee that 100% of WEEE at DCFs will be collected and treated (if PCS has already met it's 45% EEE POM target it can share additional costs of having to clear a DCF with other PCSs through a balancing system, see para 76-78).

[11] Settlement centre is an online trading platform used to trade WEEE evidence in the existing system

87. Where demand (driven by targets) is close to or greater than supply of WEEE, requiring all or nearly all WEEE to be cleared at DCFs – the guaranteed demand will still exist to some extent – given the compliance fee may be set a price which is higher than the market price, and by definition be less attractive. In this scenario, there is a risk that the level of the compliance fee will set the price of all WEEE i.e. WEEE could be priced at a fraction below the expected compliance fee cost. However the removal of ex post trading increases the financial risk to the surplus PCS in entering contracts beyond their collection target.

88. Where supply is greater than demand i.e. the targets allow for slack in the system (not as ambitious as requiring all DCF WEEE to be treated) then for surplus WEEE there may not be a guaranteed buyer and there will be downward price pressures fostering competition.

89. Pre-2011 data on EEE pom and WEEE collected suggest the 45% EEE pom targets are ambitious relative to supply (without any adjustment for provisions made in para 68). Based on 2011 data the UK falls short of the target by 1%. In 2011, 45% EEE pom equated to 512k tonnes whilst all WEEE treated at AATFs (including B2B) equated to 505k tonnes[12].

90. To summarise, the guaranteed demand will exist to a lesser extent **if** there is slack in the system (supply> demand), this could occur if

    a) targets are met without requiring all DCF WEEE to be collected i.e. low 'ambition' relative to collection rates. This means a PCS could meet its obligation relatively easily given availability of WEEE. This would increase competition between surplus PCSs who may need to lower prices to attract buyers.

91. In addition by offering an alternative option through the compliance fee, the risk of guaranteed demand is reduced.

    b) PCS buyer does not agree with price and conditions of the PCS transfers available and opts for the compliance fee – the attractiveness of this option will depend on what the expected fee is.

92. In this scenario, where there is no guaranteed demand, over collecting WEEE could be risky as:

- Surplus PCSs will be liable for the financing of collection and treatment of excess WEEE. This would be over and above their obligation increasing costs for their producer members.
- Surplus PCSs currently rely on payments for evidence through the year from other PCSs in order to pay treatment facilities. For excess tonnage on sale, a PCS will have to incur the costs of treating WEEE if it can't find a buyer, at least temporarily. Even if a PCS requests the AATFs doesn't issue evidence for extra tonnage until the end of the year (in expectation that a deal could be done with another PCS) that AATF will still require payment. In this scenario it would have to be financially viable for the PCS to hold a liability on its books for a period of time.

93. If the target meant demand was greater than (or close to) supply this could raise prices possibly towards the level set out by the compliance fee, depending on

[12] £485k tonnes of which are B2C.

how it is implemented and the extent to which PCSs could reasonably calculate the charges that would be payable by PCSs who fell short of the target.

Impact on competition:

94. **This option could drive competition by** improving the bargaining position of a deficit PCS by providing it with an alternative option which is to pay a compliance fee per tonne (at category or collection stream level) in to a fund. However, the extent to which this leads to price competition will depend on factors other than the compliance fee e.g. target and supply of WEEE.[13]

95. **Competition and lower cost of compliance is more likely.** Bargaining power of the surplus PCS is reduced but still potentially strong. If the 45% EEE pom targets are ambitious relative to WEEE collection rates, there is reduced incentive to limit surplus-collection, in fact there may be an advantage in doing so as a surplus-collector may still be able to transfer any surplus WEEE via contractual agreements to deficit PCS. The compliance fee could reduce risk of excessive pricing depending on how it's structured/agreed.

96. There is the possibility that a deficit PCS may choose to wait out the majority of the compliance period and source its requirement near the end via the compliance fee option. This will effectively leave others to finance the system in the short run, having a negative impact on the cash flow of stakeholders. If this trend persists over time, firms will be forced to go out of business, reducing the overall level of competition in the market. However, there is no reason why the deficit PCS will have an incentive to behave this way rather than to seek the least costly way of meeting their requirements and therefore this risk is minimal.

Impact on price:

97. If the market is tight (e.g. where targets are ambitious relative to supply) – depending on how it is constructed the compliance fee could set the price for all WEEE that is subcontracted from one PCS to another, as a surplus PCS will be aware that the deficit PCS has a choice to pay a compliance fee if it doesn't buy evidence from them. If there was total transparency of the fee payable by a deficit PCS in each WEEE stream or category the surplus PCS would be able to charge up to a fraction below (at an extreme) the compliance fee price. This could lead to inflated costs of compliance. Given the volume of WEEE (including non obligated) is unlikely to vary much from year to year PCSs will develop a sense of how achievable targets are after year one. They may be able to develop estimations of demand and supply in the market at any point in time to assess bargaining power – where demand is greater than supply deficit PCSs will have less bargaining power and prices could be inflated (up to the compliance fee). Where supply is greater than demand there will be more price competition for WEEE. In both scenarios however, without a contractual arrangement with another PCS, a surplus PCS will not be assured a buyer for surplus WEEE when entering a contract with a collector and AATF.

98. If the compliance fee is higher than existing costs this could nevertheless allow surplus PCSs to profiteer. In the long run, you might expect that those PCSs who

[13] Currently 70% of WEEE within the system is sourced from DCFs

do not have direct access to the WEEE and face higher costs as a consequence, to leave the market as they will pass on higher costs to the producers. However, prices could tend towards the maximum, surplus PCSs being aware that producers are being charged a higher price elsewhere will raise their prices (to producers) to the level of deficit PCSs, as happens in the existing system. This would allow for further profiteering for those PCSs who are able to access WEEE directly.

99. Bargaining power of deficit PCS is higher as the existence of a 'compliance fee' provides an alternative option. The extent to which there is slack in the system will influence their bargaining power. Nevertheless, deficit PCSs may be forced to either contract with a PCS at a higher price (close to expected compliance fee) or to pay the compliance fee. This risk could be mitigated if surplus-collection was limited.

Are risks manageable?

100. Theoretically, one way to address issues of overpriced transfers of WEEE is to minimise deficit and surplus collection in order to limit the need for sub-contracting, for instance allowing surplus and deficit collection by 5-10% only. This would minimise the need to sub-contract. Some existing PCSs would be required to be released from existing LA contracts whilst others will be required to take over in order for level of access to WEEE to reflect PCS obligations. However, this would be difficult in practice, unless a mechanism is in place to allow for contractual arrangements between PCSs and LAs to shift as obligations increase/decrease. It would prevent producers from switching unless the PCS they wanted to move to was able to acquire new contracts to allow it. In effect it would require a central matching system that allowed flexibility in movement between LAs for PCSs to obtain access to the WEEE.

101. Rather than introducing a compliance fee with an explicit/implicit price PCSs could opt to enter arbitration arrangements, where it cannot come to an agreement with another PCS to sub-contract WEEE at a given price. A process that allows parties to submit evidence and an independent body to make a decision would need to be set up. In order to prevent blockages in the system this would need to occur possibly twice in one compliance period. Such an approach however would not provide an alternative to remove the "must buy" scenario that currently exists.

102. To reduce the risk of the compliance fee setting the price for all WEEE, one option is that it is not announced until/unless the need for it was triggered by a scheme that was short of its target. It would need to be established in a way that reduced the risks of players in the market being able to reasonably establish the amount any deficit PCS would be required to pay in each of the collection streams. Much rests on how the compliance fee is set and the how surplus PCSs judge the financial risk of maintaining contracts to collect WEEE beyond their collection target. In summary a fee that embodied the following principles would minimise risks:

- Valid form of compliance if administered effectively but could not be abused by a scheme that may choose to pay a fee rather than attempt to collect.
- Incentivise schemes to make real collections and/or come to realistic agreements with other schemes wherever possible.
- Regulations should not be too prescriptive but more enabling thereby allowing flexibility in arriving at a suitable methodology that could be changed year to year
- Operated in a way that sought to minimise market distortions

103. The system should encourage investment in partnerships between schemes and collectors by allowing them to develop long term working relationships which will lead to increased collections, helping the UK to meet increasingly challenging member state targets over the next few years. Collection and treatment of WEEE arising at local authority sites and financed by producers is assured.

Ensuring Directive requirements are met:

Development of a 'Producer Balancing System" established to remove risk of individual PCS being asked by DCF operators to finance WEEE collections at a level in excess of PCSs own collection targets. This idea is based on the premise that some DCF collection points could be left unfinanced, if all PCSs could meet their target through accessing less than total tonnage from less than all DCF sites. However, this would remain unlikely, as direct access would remain the least expensive way of obtaining evidence (i.e. relative to accessing via other PCSs or the compliance fee). The PBS would provide a safety net to ensure all WEEE is dealt with. However, its construction would have to be carefully considered so as not to eliminate risks of holding surplus WEEE as all costs for surplus WEEE could be shared by members of the PBS.

Compatibility with the WEEE Recast

104. This system contains inbuilt incentives for collectors to increase collections of WEEE where they retain the value. Furthermore, incentives exist for PCSs to ensure WEEE collections of all streams in line with the target requirement through sanctions for over/under collecting. The compliance fee could be used as a regulatory lever to stimulate collection, particularly for hazardous WEEE which according to the Directive should be given priority.

105. Each PCS has the freedom to choose transport, treatment and reuse partners, and can therefore influence environmental objectives. Price competition is likely to remain the key determinant in winning contracts – which could be at the detriment of the quality of treatment. PCSs will have variable commitments to wider environmental objectives and treatment standards.

Section 5: Consultation with stakeholders

106. This section provides details of the consultation process of the IA of the system changes to the UK WEEE regulations and an assessment of its results. This section also contains descriptions of the policy options considered in the consultation, including those that have subsequently been rejected.

107. In the consultation stage IA, three options to reform the existing WEEE system were compared to the baseline of doing nothing;

Consultation Stage Option 1: Do Nothing. This is the business as usual case of not amending the current WEEE Directive. **(Option 0 in this IA)**

Consultation Stage Option 2: National Compliance Scheme

Consultation Stage Option 3: Target and Compliance fee option **(Option 1 in this IA)**

Consultation Stage Option 4: Matching process option

The formal consultation invited comments and collected views from approximately 250 stakeholders interested in the WEEE system. These included all key groups including EEE producers, PCSs, trade organisations, local government and WEEE treatment Facilities. The 9 week consultation closed on 21 June 2013.

Description of Policy Options

108. This section provides outlines of the two rejected policy options for change; Consultation Stage Option 2 and Consultation Stage Option 4.

Consultation Stage Option 2: National PCS

Detail

109. This approach involves one PCS which is responsible for establishing contracts with collectors and treatment facilities for WEEE returned to the system.

110. New features to be applied to the WEEE Regulations:
- A single, national compliance scheme
- Producers above a specified size given choice of direct registration
- National PCS to be the sole collector of WEEE from DCFs, Distributors wanting the return WEEE to the system
- DCFs can choose to control for arranging collection and treatment of value streams without the need to engage with PCSs thereby ensuring all value is retained by the collector.

111. Large producers that register directly with the relevant environment agency would not be required to join the producer compliance scheme. They would be responsible for setting up their own, individual collection system with the option to join and finance additional evidence from the National Compliance Scheme to make up any shortfall that accrued in any compliance period.

112. For more details see para 68-70 of:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/186972/bis-13-764-waste-electrical-and-electronic-equipment-weee-system-impact.pdf

Assessment of option

Addressing market failures resulting from regulatory failures:

113. Risk of **moral hazard/principal agent problem** between PCS and producer reduced

- Reduce **information asymmetry** between PCS and producers is possible e.g. by requiring PCS to publish accounts and or with governance arrangements agreed by producer community.
- Board of representative producers given a role in overseeing its activity.

114. Impact of **switching**, **price discrimination**, **guaranteed demand and trading:**

- This option would eliminate requirement to switch. But there is a risk that because of the inability to switch the PCS has no incentive to run efficiently / at low cost.
- Price discrimination would be eliminated through agreement of PCS methodology for distributing costs fairly across producers. However, this won't necessarily lead to a reduction in the cost of compliance for producers but would ensure all competitor producers paid equitable price per tonne for compliance.
- The problems of inflated costs as a result of the guaranteed demand and trading are eliminated as there is only one PCS.

Impact on competition and costs:

115. **Improving the bargaining power of buyers (producer and deficit PCS).** The 'deficit' PCS no longer exists. A governance structure of the PCS which allows producers to have direct control over its operation would give producers greater leverage. The PCS will be able to access WEEE at lower costs due to greater bargaining power.
116. Giving producers over a certain size the option to directly register would maximise their bargaining power as it would have freedom to choose own collection and treatment routes.
117. **Reducing bargaining power of the supplier**. Currently LAs have access to WEEE and can negotiate with PCSs to maximise the benefits arising from the contract. PCSs will no longer be in competition for LA contracts and bid up the price. Where access is on a foc / standard basis, LAs still have the opportunity to raise revenue through self treatment and recycling of WEEE. The 'surplus' PCS will also be eliminated.
118. **Reducing bargaining power of AATF:** This option could leave AATFs with limited bargaining power as the single scheme controls all its obligated WEEE feedstock. However, the requirement for a geographic spread of AATFs to minimise transport costs could limit risks. In order to ensure that treatment

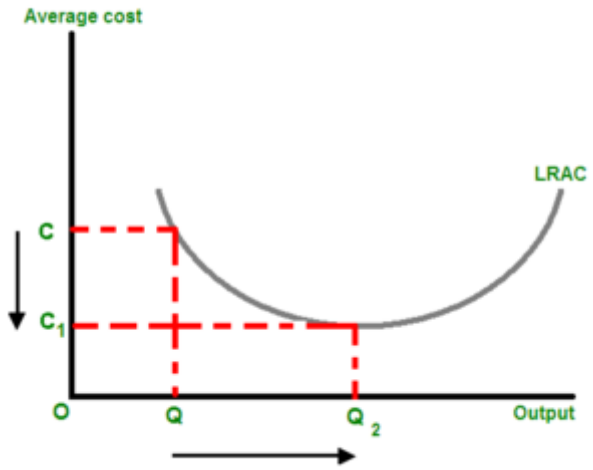
facilities were competing on a level playing field the PCS would require clear and transparent tendering process. (See fig 7 for map of AATFs).

119. **Generating economies of sale (EOS):** Limiting the number of PCSs or having one PCS could generate for economies of scale, represented by a movement along the long run average cost curve (c to c1, fig 8) where there are reductions in unit cost as the size of a facility and the usage levels of other inputs increase.

120. Administrative costs per PCS which are passed onto producers appear to vary widely, reflecting in part scale efficiencies and the different levels of service a PCS may provide.

121. Managerial or administrative economies arise because the same people can usually manage with bigger output, so average administrative cost decreases when production increases. Large firms can employ specialists, which leads to the increase in efficiency. Limiting the number of PCSs would allow administrative burden of the PCS to be spread over a greater number of producers – keeping costs down.

Fig 8: Economies of Scale



122. Conversely the key risk with this option is that limiting the number of PCSs could lead to inefficiency borne by lack of competition and consequent hike in cost of compliance for producers. Options to manage risks:

- PCS governance arrangements include transparency on costings and methodology and board of representative producers given a role in overseeing its activity.
- Introduction of competition through a Government Franchise governance structure.
- Price discrimination and excessive rents can be avoided if the PCS is obligated to share costs via agreed methodology.

Penalty of not meeting target

123. This would depend on governance arrangements e.g. a franchise could be removed. Levers to impose penalty for other arrangements could be limited, for

instance, a fine from the enforcement agency may have little impact if the PCS lacks commercial interest and costs can be spread over the bulk of producers with minimal impact.

Standards of treatment

124. The standard of treatment is more likely to improve with this model as price will no longer be the key determinant of choosing between suppliers.
125. One PCS allows for tendering of contracts on a level playing field in this regard. If the PCS reduces the number of AATFs it operates with based on open tender competition process this could affect AATF industry – increasing economies of scale for those who receive extra diverted tonnage.
126. If long term contracts are no longer guaranteed it may adversely affect levels of long term investment e.g. innovative technologies.

Impact on collection

127. Incentives to increase collection rates could be engineered through utilising revenues received by PCS on a £/tonne basis in order to incentivise the PCS to maintain/increase collections.

Consultation Stage Option 4: PCS-DCF Matching Process for Cost Streams

Detail

128. New features to be applied to the WEEE Regulations:
    - A mechanism to be established to match PCSs to DCFs, distributors and other economic operators choosing to return one or more WEEE streams to the PCS system.
    - DCFs can choose to control for arranging collection and treatment of value streams without the need to engage with PCSs thereby ensuring all value is retained by the collector.
    - Code of Practice to be strengthened to include guaranteed minimum service levels that PCSs must meet in servicing DCF, distributor and other economic operator needs

129. This option could not be based on the adoption of targets for PCSs. The risk would be that if allocations were less than targets, PCSs would be required to find additional WEEE outside of the allocation system to meet their targets in which case there is a risk of excess charging etc. The allocation system would therefore require obligations based on proportion collected relative to market share.

130. For more details see para 119-127 of: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/186972/bis-13-764-waste-electrical-and-electronic-equipment-weee-system-impact.pdf

Assessment

Addressing market failures resulting from regulatory failures:

131. **Moral hazard/principal agent problem** between PCS and producer could still exist to some extent as the PCS will be acting on behalf of the producer and contracting on transport and treatment of WEEE. However, competition in the PCS market through allowing for producer switching having a direct impact on access to WEEE for PCS should lead to price competition.

132. The algorithm could be based on matching of costs based on obligations or tonnage. The former would allow for an allocation of tonnage equivalent to those costs for discharging obligation but not necessarily reflecting the exact tonnage obligations at a category level. However, this would be difficult to implement as it would require making assumptions about costs. Matching by tonnage could lead to inefficiencies as an LA may be required to make a number of arrangements with different PCSs over the course of a compliance period to ensure evidence treated matched obligations for individual schemes.

Impact on switching, price discrimination, guaranteed demand and trading:

133. Switching in this model would become a real option. Switching will directly affect how much WEEE a PCS has access to. Therefore could lead to price competition.
134. Price discrimination is less likely as switching is easier for producers with material implications for PCS.
135. The problem of inflated costs as a result of the guaranteed demand and trading is eliminated as there is no trading and demand is matched to supply.
136. Any over or under allocation which may result from higher / lower collection than expected would be passed over to the following year as a credit or debit in obligation terms.

This option could drive competition by:

137. **Improving the bargaining power of buyers (producer and deficit PCS)** as producers can switch more easily between PCS as bidding for access to WEEE and trading is no longer a feature of the system. PCSs will have an incentive to offer competitive prices to increase producer membership.

138. **Information asymmetry** between PCSs and producers may be addressed as producers have more bargaining power, given their ability to switch between PCSs and that to have an impact on PCS business will become a reality. There will therefore be more pressure on PCSs for transparency and accountability.

139. **Reducing bargaining power of the supplier**: DCF will no longer be able to charge PCSs variable fees to access the WEEE. It can be argued that these additional services aren't as necessary as DCFs can opt to self treat, providing them with an inbuilt incentive for them to collect more, at least for those streams. There will be a greater need to ensure PCS meet minimum requirements to ensure they are credible, reliable partners for DCFs so they are reassured that their containers will be emptied e.g. In Italy clearance house produces KPIs for PCSs.

Summary of costs and benefits (PV) profile for all options

	Option 1 - Do nothing	**Option 2 - National Compliance Scheme**	**Option 3 - Target and Compliance Fee**	**Option 4 - Matching Process**
	from 2014-2023 (£/m)	**relative to baseline from 2014-2023 (£/m)**		
Total PV costs	**2,784**	**-1,013**	**-356**	**-1,069**
Total PV benefits	**2,595**	**-910**	**-238**	**-934**

NPV	-188	103	119	135
Business NPV	-352	106	20	137

Results of Consultation

140. As part of the consultation, respondents were asked to rank the four options in order of preference.

Table 3: Respondents' rankings of preferences of the 4 proposed options

	1 – Most preferred	**2**	**3**	**4 – Least Preferred**	**Rating Average**	**Rating Count**
Option 1 – Do nothing	27.4% (62)	8.8% (20)	4.9% (11)	58.8% (133)	2.95	226
Option 2 – National Compliance Scheme	1.4% (3)	6.2% (13)	69.7% (147)	22.7% (48)	3.14	211
Option 3 – Target and Compliance Fee	22.7% (50)	71.8% (158)	3.6% (8)	1.8% (3)	1.85	220
Option 4 – PCS/DCF matching system	54.7% (117)	12.1% (26)	20.1% (43)	13.1% (28)	1.92	214

141. Preferences vary quite considerably across the different types of organisations consulted, demonstrating the differences in interests amongst the various affected parties:

- The response from **producers** shows a strong preference for Option 4, with most supporting Option 3 as a second preference.
- Responses from individual **PCSs** are largely determined by whether they support the views expressed by producers about the cost of compliance. Those supporting the need to address those costs largely favour option 4 and those that do not support the producer views support option 1. Option 3 was strongly supported as the second choice by those that responded.
- The majority of **Local Authorities** select Option 3 as their preferred choice. Many recognise that whilst retaining the current system brought some benefits, there are advantages of Option 3 for the overall system.
- **Waste Management Companies** are content with the current system and therefore they are supportive of Option 1. Option 4 is strongly opposed as the loss of control over PCS partnerships will prevent them from choosing who collects their WEEE and would result in a loss in revenue. Some recognise the need for change and would be content with Option 3.
- **charities and social enterprises** involved in WEEE re-use are in favour of Option 1, with Option 3 as a clear second choice. A major representative body for the sector favours option 4 with option 3 as second choice

- **Retailers** generally preferred option 4 with support for Option 3 as their second choice. A major retail representative body expressed a strong preference for Option 1.

142. Overall, whist Option 4 is most frequently stated as the first preferred option (54.7%, 117 respondents), when the second preferred option is also taken into consideration, 95% (208) of respondents prefer Option 3 compared to only 67% (143) for Option 4. This demonstrates that Option 3 is the least opposed option with barely any respondents ranking it in third or fourth place.

143. With 92% (195) of respondents ranking Option 2 as either their least preferred or second least preferred option, there is virtually no support for a National Compliance Scheme. Objections to the National Compliance Scheme, disclosed in the consultation responses, include;

- Concern that a single national compliance system will in effect create a monopoly, preventing producers from having any choice in which organisation they join to demonstrate their compliance. The in-built lack of competition in this system could lead to higher recycling costs and a worsening in the quality of service.
- Service providers, such as treatment companies, would effectively have only one potential customer, introducing competition law and other issues which would require safeguards.
- Some LAs are concerned that this option poses a risk to their revenues as contracts with PCSs currently add value. This may lead to a reduction in support for WEEE education and awareness schemes.

144. Whilst there is evidence of support in favour of Option 4 amongst several groups of respondents, others show strong resistance towards the PCS-DCF matching process, citing a number of both practical and economic issues that could arise. These include;

- The possibility of widespread under-collection. Under Option 4, since Designated Collection Facilities (DCFs) will be automatically allocated to Producer Compliance Schemes (PCSs) according to their members' market share of EEE, they will not be required to compete with each other to attract WEEE, reducing the incentive for PCSs to invest in measures to increase their collection. A further risk is that councils could have multiple PCSs responsible for collecting different materials if allocation is determined by site or by waste stream. Thus this system could result in differing service levels, a lack of continuity, multiple contact points and reduced overall accountability.
- Disruption could arise from the potential frequent switches in partners under this system.
- A risk of a reduced or no rebate for local authorities within this option, reducing funding for WEEE education and awareness schemes.

145. The matching process model is used in a number of Member States with mixed evidence of impacts on stakeholders. In Germany for example, although there appears to be transparency with respect to the data used in the process, there are several elements that rely on potentially complex calculations and methodologies. These could introduce minor barriers with regards to producers/schemes establishing ex ante what their obligations will be. In Italy, whilst producer obligations are always known, it is uncertain whether the system

leads to an efficient price of collection and treatment paid by producers i.e. whether fees paid (directly or indirectly) are strongly linked to the true cost of treatment.

146. The Impact Assessment forecasts a net positive impact on business relative to the existing system and overall positive estimated net present value of around £120m for Option 3 compared with around £135m for option 4 (both over 10 years). Option 4 might deliver slightly more in the way of savings, but it will be met with significant resistance from key stakeholder groups. This resistance would make successful introduction of Option 4 extremely challenging and will lead to increased confrontation between those involved in the WEEE system.

Many respondents recognise that retaining the current WEEE system, as specified under Option 1, will fail to correct any of the features which have prevented the proper functioning of a market (e.g. "must-buy", monopoly behaviour etc). Therefore this option continues bring high costs of regulatory compliance which the Red Tape Challenge seeks to address.

147. Option 3, in contrast to Option 1, is identified by many respondents across the different stakeholder groups as directly addressing the market inefficiencies and regulatory failures that are inherent in the current system, removing guaranteed demand for WEEE and improving competitive pressures between PCSs. Furthermore, unlike Option 4, the majority of respondents are content with the proposal for Option 3, making it a less divisive option to pursue. Arguments in favour of Option 3 put forward by respondents include;

- It will encourage investment in partnerships between schemes and collectors by allowing them to develop long term working relationships which will lead to increased collections, helping the UK to meet increasingly challenging member state targets over the next few years.
- Collection and treatment of WEEE arising at local authority sites and financed by producers is assured
- It is the "lightest touch" of the options for change and retains many of the features of the current WEEE system
- It includes targets, which would provide greater certainty on the progress towards meeting the new WEEE Member State targets in the WEEE Directive
- Revenue from the compliance fee could be made available to support WEEE related projects

148. Some respondents acknowledge areas of Option 3 where further development is required. For example, how the compliance fee system would work to ensure that WEEE collection is best incentivised. It is important to ensure that the fee is not so low that producers will be tempted to pay the fee rather than to collect but not be so high that it sets a threshold for the cost of treating WEEE (see para 97-99).

149. Under Option 3 it is proposed to include a "Producer Balancing System" as a method to re-allocate WEEE from producers with excess WEEE to those that have under-collected. Some respondents had concerns around how this scheme will function to equitably share costs and how exactly the system will work to drive up the amount of WEEE collected.

150. Some beneficiaries of funds provided by PCSs under the existing system (some local authorities, waste management companies and other collectors e.g. Re-use

organisations) are concerned that if option 3 is adopted, this stream of income will cease.

151. A small number of treatment facilities (predominantly those treating hazardous lamps) argue that Option 3 will not give sufficient priority to hazardous WEEE and that all hazardous WEEE arising in the UK, irrespective of source, must be financed by producers. The latter would go well beyond the requirements of the recast WEEE Directive. Option 3 ensures all holders of WEEE have the choice to return items to the producer funded system or seek alternative routes for recycling or reuse. The setting of collection targets (by the SoS) as proposed in Option 3 would enable the Government to prioritise hazardous WEEE.

152. Each of these concerns will be taken carefully into consideration in the design of the system to limit any adverse outcomes from occurring.

Summary

153. The Target and Compliance fee option is recognised as a clear improvement over the current system, with all stakeholder groups appearing to be either supportive or content with this option. Although the cost/benefit analysis in this IA suggests Option 4 offers the greatest savings[14], there is strong opposition to this option from some of the key stakeholders and stakeholder groups with associated risks for its implementation. Therefore it is believed Option 3 offers the most workable solution to implement.

[14] Option 4 has estimated Net Present Value of £135m compared to £119m for Option 3

Section 6: Policy Options Impact Assessment

154. This impact assessment considers

- **Option 0**: Do Nothing. This is the business as usual case of not amending the current WEEE Directive. This forms the baseline to which all other options are compared.
- **Option 1** : Target and Compliance fee option

155. An **alternative to regulation** is not viable because it is unlikely to meet the Directive's requirement for enforcement across the single market and will lead to an uneven playing field between manufacturers, whereby those who do not comply would 'free ride' and not incur cost of collecting and treating WEEE. In addition, it would limit the environmental and health benefits that would otherwise materialise through meeting targets. Failure to ensure appropriate enforcement of the Directive requirements could lead to infraction proceedings. Please see WEEE recast IA number 0382 for more detail on alternative to regulations.

SUMMARY

156. A summary of all impacts is set out in the below table. Costs, benefits and revenues are based on estimates of volumes and unit costs. It should be noted that when looking at the costs and benefits separately there will be an element of double counting. For instance costs to PCSs are passed on to producers, so it is noted as a cost to PCS and a cost to producers – it has been necessary to include both to illustrate the distributional implications between agents as changes to the system effect the size of transfers and consequent end cost for producers. Further, the extent to which gross costs are passed on isn't always clear. Including all cost and benefits along the supply chain means we avoid missing out final impacts where they may sit with agents other than those at the ends of the supply chain (e.g. producers and AATFs).

157. Producer costs constitute costs (or at least net costs) incurred by all agents along the supply chain. The impact on AATFs, PCSs, WMC, Distributors, LAs and Environment Agency are estimated to get a sense of distributional implications. The IA looks at costs and benefits incurred over 10 years from 2014 to 2023. It is assumed that impacts from changes take place from 2014 onwards. In practice this will depend on the length of the transitional period required to implement necessary changes.

158. There is currently no official data on the costs of collecting, treating, re-using, recycling, recovering and disposing of separately collected WEEE in accordance with the UK's WEEE Regulations. There is also no uniform cost of dealing with separately collected WEEE and differences can arise between the actual cost of treating WEEE collected, which is covered by the AATFs, and the cost to the producers under the various schemes. Diversity in prices and costs (for example by size and geographical location) cannot be incorporated into the analysis due to the data limitations mentioned above. All price and costs assumptions made are simplifying assumptions which in practice will depend on precise contractual negotiations between agents.

Table 4: Option 1 - Summary of agent level net average annual benefits and net present value, from 2014-2023 relative to the baseline

(£M)	Average Annual (Constant Prices) from 2014-2023	Present Value from 2014-2023	Net Present Value
Costs			
Producers	-33	-274	274
EA	-1	-9	0
Government	0	-1	1
PCS	-15	-123	-137
DCF	6	50	98
WMC	0	0	-110
Distributors	0	0	-8
AATFs	0	0	0
Recast	0	0	0
Total	**-43**	**-356**	**119**

Benefits		
Producers	0	0
Agencies	-1	-9
Government	0	0
PCS	-32	-260
DCF	18	148
WMC	-13	-110
Distributors	-1	-8
AATF	0	0
Recast	0	0
Society	0	0
Total	**-29**	**-238**

NPV	119
Business NPV	20

* The costs and benefits are expressed relative to the baseline and are split by agent to show distributional impacts.

159. Table 4 shows the estimated NPV for Option 1 split by individual agent. The costings are based on estimates and assumptions derived from the call for evidence and subsequent discussions with industry. However, as much of the data is commercially sensitive and was provided on a confidential basis, the totals are included without detail on the underlying data.

160. All changes to benefits and costs as a result of the preferred option for implementing the recast (the use of a protocol to arrive at substantiated estimates of unobligated WEEE to meet higher targets) are included in the baseline and are not expected to change for Option 1.See WEEE recast IA 0382 for more details.

161. The de-minimis threshold is set a 5 tonnes of EEE for both options.

162. All data is based on 2011 prices up-rated by HMT GDP deflator. Forecasts for EEE pom and WEEE arising are based on projections provided by Axion Consulting. See annex A for detail on methodology.

Consultation response on Impact Assessment

The consultation demonstrated that stakeholders are largely content with the methodology and assumptions used to carry out this IA. Many stated that they consider the impact assessment to offer a fair and reasonable reflection of the costs and benefits for the proposed changes and that it provides clear evidence for the need to change the current system. Whilst some inevitably challenged the robustness of some of the specific estimates, most understood the constraints of the evidence available and felt that overall the assessment was trustworthy.

Option 0: Baseline Scenario- Do Nothing

Environment Agencies and Government

163. Environment agencies (EA) registering and monitoring costs are incurred on a cost recovery basis through the fees they charge PCSs, AATFs and producers.

164. Free rider enforcement and prosecution costs are funded by the Government at £250k for 4 years (this doesn't include arrangements with SEPA and DONI). An additional cost incurred by the government to the EA is for the maintenance of the settlement centre at 100k per annum (2011 price). It's assumed that the same charges are levied by enforcement agencies SEPA in Scotland and DONI in Northern Ireland.

Table 5: Environment Agency fees and assumed splits (2011)

EA registration fees, per producer	£/ producer	% of producers in each bracket
small (< under vat)	30	4%
medium (vat-£1m)	210	26%
large (>£1m)	445	70%

EA registration fees, per AATF	£/AATF	% of AATFs in each bracket
Small(under 400 tonnes)	500	59%
large (over 400 tonnes)	2,570.00	42%

165. PCSs incur a one off fee of £12,150 on application – it's assumed the number of PCSs does not increase for option 1, so there are no additional costs. Due to underlying assumptions on producer/AATF numbers and fees per annum –these are projected estimates rather than actual costs and revenues.

166. The total costs over 10 years (present value prices) to EA are estimated at £24m - that includes £3m to AATFs and £21m to producers. Total costs for government are estimated at £1.5m.

Approved Authorised Treatment Facilities (AATFs)

AATFs costs include:

167. EA fees as noted in table 5 above.

168. Administrative costs which include cost of independent audit of data, cost of EA audit visit and uploading "evidence" to Settlement Centre are estimated at 5p per tonne (2011 prices). This is derived from a cost estimate provided by an AATF.

169. The gate fees AATFs pay to PCSs, WMC, distributors and producers that supply them with value streams (assumed to be LDA and Mixed WEEE) for treatment

will vary by AATF. For the purposes of this IA it's assumed that gate-fees are £100 per tonne of LDA and £80 per tonne of Mixed WEEE (2011 prices), this is based on (limited) data provided by industry – in practice prices would vary by site and volume of WEEE received. Furthermore, changes in material values and technological advancement are not reflected in prices.

170. AATFs gross treatment costs of WEEE are split by 5 WEEE streams, for the purposes of the IA– these costs are based on estimates of direct costs - labour, power, maintenance, rent etc for treatment site, provided by Axion Consulting based on their knowledge of processes taking place[15].

Table 6: Treatment Costs per tonne (2011 prices)

	£/tonne
LDA	50
Mixed	75
Display	100
Cooling	150
GDL	900

171. The total costs over 10 years to AATFs are estimated at £726m (PV prices); this includes administration costs (£0.3m), gate fees (£262m) and treatment costs (£460m).

AATF revenues include:

172. Gate fees are paid to AATFs by PCS, WMC, producers and retailers, for some streams to incentivise treatment where treatment costs are high or material revenues after treatment are low. It's assumed that gate-fees are received for cooling and GDL–in practice this will vary by AATF, volume received, over time depending on material value fluctuations and technological advancement in treatment process. Assumptions used are from Axion Consulting – gate-fees are assumed to be £30 per tonne for cooling and £500 per tonne for GDL. For the IA it's assumed these revenues are flat in real terms over time.

173. Revenues from the material after treatment of WEEE were provided by Axion Consulting, constructed based on historical data from quoted and measured mass balances for common WEEE items and average commodity prices paid for raw materials post treatment, except GDL, where estimates were not available - but industry have indicated some revenues may exist for materials from treated GDL as technologies in Europe have developed to remove the rare earths from lamp powder, the de-mercurised lamp powder has some value to specialist treatment facilities. Due to data limitations this is not included.

Table 7: Revenues from materials after treatment.

	£/tonne
LDA	150

[15] Axion Consulting, AMEC and 360 Environmental provided some technical support for this Impact Assessment.

Mixed	180
Display	125
Cooling	253
GDL	0

174. The total revenues over 10 years to AATFs are estimated at £884m (PV prices).

Producer Compliance Schemes (PCSs)

PCS costs include:

175. Based on data provided by a PCS, it's assumed that administrative/reporting costs which include overheads, staff and reporting costs for PCSs amount to £6.8 per tonne of WEEE managed (2011 prices). In practice this would vary depending on the PCS in question, given the differing scale economies and levels of service provided.

176. The cost a PCS pays to discharge its obligation (this is referred to as 'evidence cost' from this point on) will vary depending on who the WEEE evidence is accessed through. This includes costs to collect and treat WEEE (including gate-fees to AATFs). The WEEE tonnages, by category have been split by 5 operating models which differentiate between the source of the WEEE of the PCS:

    1. PCS has full or partial involvement

    PCS has direct access to WEEE from DCF and makes own arrangements / arrangements through AATF for the transport and treatment of WEEE

    2. Acquiring evidence from waste management company acting on behalf of DCF where treatment arrangements are determined

    WMC manages DCF sites on their behalf and makes all necessary arrangements to get WEEE treated – after which evidence is sold to PCSs.

    3. Acquiring evidence through transfers from other PCSs (trading)

    PCS that has more WEEE than in requires as per obligation transfers WEEE to PCS that has less than its obligation

    4. Other (e.g. kerb-side, other Reg 39, 40A and 32 collection routes)

    The existing WEEE Regulations (Regulations 39) provide for PCSs to establish their own take-back system for WEEE from private households other than via DCFs provided it is consistent with the WEEE Directive. These might include for example doorstep collections or use of "bring banks". PCSs will also have their own take back systems in place for the return of WEEE arising from distributors (Regulation 31) and other final holders of household WEEE (Regulation 40A).

5. Producer own take back

Producer own take-back refers to systems set up directly by producers to take back WEEE from private households (for example on delivery of a new product). Producers reporting this tonnage are able to use this to offset their tonnage obligation charged to them by their PCS.

177. The split of WEEE tonnes assigned to the above operating models has been derived from PCS joint response to the call for evidence as per table 8. It's important to note that the splits effectively reflect an illustrative case for a PCS – in practice the impacts for any one PCS will differ dramatically depending on how they acquire the bulk of their WEEE. The IA doesn't account for distributional implications within groups of actors - for instance the high cost of acquiring evidence from another PCS will be a cost for the PCS having to purchase the WEEE and a benefit for those PCSs receiving the revenue.

Table 8: WEEE tonnes split by operating model and WEEE stream for the baseline

	PCS has full or partial involvement	Acquiring evidence from WMC	Acquiring evidence through transfers from other PCSs	Other (e.g. kerb-side, other Reg 39, 40A and 32 collection routes)	Producer own take back
LDA	12%	4%	53%	28%	4%
Mixed	54%	9%	33%	1%	2%
Display	29%	11%	58%	1%	0%
Cooling	26%	1%	55%	16%	3%
GDL	12%	0%	88%	0%	0%

* Numbers may not add to 100% due to rounding.

178. The splits are based on the final transaction - e.g. evidence may be from a WMC and sold to PCS A but if PCS A sells to PCS B the evidence is noted as a transfer between PCSs in the IA, as per the tonnage splits in table 8 - this is to avoid double counting the same WEEE. However, to understand the distributional implications between agents, the IA has accounted for WEEE at its original source when calculating the impact on individual players, for example, in the case of WMCs all tonnage which WMC manage on behalf of local authorities is accounted for irrespective of what shape the final transaction for that WEEE takes. This means the percentage splits are different when looking at individual players, as opposed to the cost of evidence to PCS.

179. Stakeholder consultations and responses from the call for evidence have suggested the cost of evidence varies depending on the source of the WEEE. The PCS joint response from the call for evidence suggests that the evidence cost per tonne on average is twice the price when it's acquired from WMC or other PCSs compared to when a PCS has direct / partial involvement through direct access to DCF WEEE. Any cost data provided are commercially sensitive and therefore not explicitly reported here.

180. PCSs bid for LA contracts within which they may offer financial support to LAs (e.g. PR activities, consulting etc). These £/tonne costs are inferred from indexed data that was provided by the PCS joint response to the call for evidence. This is not reported as it's commercially sensitive.

181. Total costs to PCS over 10 years considered is estimated at £712m. This consists of admin costs (£36m) + evidence costs (£665m) + LA financial support costs (£10m). These are transfer costs (passed on to producers).

PCS revenues include:

182. PCS membership fees are charged to producers and vary depending on the PCS (and possibly the producer member) in question. A simplifying assumption is made that membership fees vary by size of producer; this is based on data from 2 PCSs.

Table 9: PCS membership Fees

PCS membership fees	£/member
small (< under vat)	200
medium (vat-£1m)	325
large (>£1m)	675

183. PCS revenues from evidence reflect what is charged to producers, this is higher than the costs incurred, reflecting a mark up on costs (see table 11). The estimate of evidence price charged to producers is based on producer responses from the call for evidence.

184. Following the call for evidence, It is assumed that gate fees for LDA and mixed WEEE (paid by AATF) are received by the PCS who has direct access to WEEE via DCFs. It's assumed that material values stay constant and AATFs offer the same rate per tonne over 10 years (adjusted for inflation). In practice, gate fees may instead be returned to LAs and material values may fluctuate considerably during the compliance period.

185. Total revenues to PCS over 10 years considered is estimated at £874m (PV prices). This consists of membership fees (£32m) + evidence (£716m) + gate fees (£125m).

DCFs

DCF costs include:

186. Through consultation with a LA DCF it's estimated that operational cost to LAs equate to approximately £8.95/tonne of WEEE. This includes:

- Administration costs (procurement and managing contract with PCS)
- On site running costs (staff, training staff, signage)
- Proportion of site overhead costs relative to collection of WEEE streams (provision and maintenance of space).

187. Based on EA data the following splits are assumed with respect to self run DCFs and WMC run DCFs. The administration costs at £8.95/tonne apply to DCF run sites. Container costs are covered by PCSs, as per Directive requirements and are reflected in their charges to producers.

Table 10: percentage of WEEE arising at DCFs which is managed by WMC / self-managed.

	% of WEEE that comes from DCF	% of DCF WEEE managed by DCF	% of DCF WEEE managed by WMC
LDA	68%	18%	50%
Mixed	80%	25%	55%
Display	86%	21%	65%
Cooling	67%	17%	50%
GDL	80%	23%	57%

* based on 2011 internal EA data sources

Total costs over 10 years are estimated at £10m (PV prices).

DCF revenues include:

188. Financial support is provided to DCFs from PCSs (see para 180) in order for PCSs to win contracts, this could include supporting local recycling campaigns or material value derived from WEEE streams that are net income streams; the terms will differ across contracts. It's assumed the financial support, estimated on a £/tonne basis, goes to DCF operator, irrespective of whether a WMC manages the site.

189. Distributors have the choice to meet their obligations either by joining the distributor take back scheme (DTS)[16] and pay a fee which is passed onto LAs *or* to offer in store take back. Based on negotiated settlement from Jan 2010 to Dec 2012, i.e. 3 years total cost to distributors under the DTS and consequent revenue to LAs has been extrapolated forwards.

[16] The DTS income is dispersed to local authorities to support the costs of establishing new DCFs and for activity to increase recycling and re-use levels. The justification is that if a store is not offering in-store take back it will be advising customers to dispose of items at a local authority DCF.

Total revenues to DCFs over 10 years are estimated at £18m (PV prices).

Waste Management Companies (WMCs)

WMC costs include:

190. Administrative and reporting costs – it is assumed this is approximately a half of DCF administrative costs as it excludes cost of land (rent or equivalent) - this assumption is derived from estimates provided by a LA site. The £/tonne for administrative and reporting costs is estimated at £4.2/tonne.

191. The cost of collection and treatment of evidence for a WMC is assumed to be equivalent to the cost of collection and treatment when a PCS has full or partial involvement. The proportion of tonnage managed by a WMC is assumed to stay constant over the 10 years (see table 8).

192. Total costs for WMC over 10 years including the above are estimated at £317m (PV prices). This includes administrative and reporting costs (£9m) and the cost of collecting and treating evidence (£308m).

WMCs revenues include:

193. It is assumed WMC retain 100% of the gate fees for LDA and Mixed WEEE (paid by AATF) from DCF sites which they manage. In practice this may depend on contractual negotiations between the DCF and WMC. The WMC will typically retain control of selection of treatment and logistics providers and negotiate associated gate fees (charged or paid by AATF). The revenue per tonne offered by AATFs is assumed to be the same for all agents.

194. WMC also receive revenues from evidence sold to PCSs, this is assumed to be the most costly way for a PCS to acquire evidence.

195. Total revenues for WMC over 10 years including the above are estimated at £559m (PV prices). This includes revenues from gate-fees (£137m) and revenues from evidence (£422m).

Distributors

Distributor costs include:

196. DTS Fees Paid. See para 189 (transfer cost).

197. In store take-back costs - given limited data available on the cost of in-store take back, it is estimated that the cost incurred by distributors per tonne of WEEE by category is equivalent to the cost incurred by a PCS where they have direct access to the WEEE. The percentage of WEEE apportioned to in-store take back

is noted in table 8 ('other'). Based on this it is assumed that most of the tonnage accounted for via take back is for LDA and cooling, this is in line with industry views.

198. Total costs to distributors over 10 years including the above are estimated at £50m, PV prices. This includes DTS fees (£8m) and take-back scheme costs (£42m).

Distributor revenues include:

199. Gate-fees for LDA and Mixed WEEE (paid by AATF) are assumed to be received by distributors who choose to offer a 'take back' service. The proportion of tonnage from mixed and LDA WEEE, assumed to be received by distributors are noted in table 8.

200. Large distributors who offer in store take back also receive revenues from selling 'evidence' to PCSs. It is assumed that distributors charge the same amount for evidence as WMCs which is sold to PCSs. Distributors doing in store take back who are also classified as producers can use the collection of WEEE in-store to offset their financial obligations as a producer, this is categorised as producer take back in the impact on producers section.

201. Total revenues to distributors over 10 years are estimated at £67m. This includes gate-fees (£40m) and revenues from selling evidence to PCSs (£27m).

Producers

Producer costs include:

202. EA registration fees (table 5) and PCS fees (table 9)

203. Producer administrative costs – this includes collecting and collating data on EEE sales, submission of data to PCS, invoicing, time taken if PCS audit them, attending meetings and dealing with queries on scope etc. Based on a small sample of industry responses, costs are assumed to be £4000 for small, £6000 for medium and £1500 for large B2C producers.[17] For B2B producer costs are assumed to be half of the B2C costs, as annual reporting rather than quarterly required. This is based on an estimate provided by a B2B producer.

204. Based on data from the EA on producers (2011), 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

[17] This sampling was undertaken by Axion Consulting as a gap filling exercise after the call for evidence.

- Large producers (over 1000 tonnes pom) – 3% of producers

205. The proportion of producers that are B2B only equate to 66% of producers whilst B2C is 32% of producers and both B2B and B2C are 3% of producers (doesn't add to 100 due to rounding).

206. Based on producer responses from the call for evidence a multiplier is calculated to estimate the uplift from the costs incurred by PCSs to arrive at the charges made to producers. A weighted average of the costs to PCSs, depending on operating model, as per table 11 is estimated and a multiplier is applied to this to arrive at the 2011 price charged to producers (commercially confidential information). This is extrapolated to 2023.

Table 11:

Uplift applied to PCS costs	**£/tonne**
LDA	7.60
Mixed	1.73
Display	1.05
Cooling	1.28
GDL	1.19

207. Total costs to producers over the 10 year period being considered amount to £936m (PV prices). This includes EA fees (£21m), PCS fees (£32m), administrative costs (£166m) and cost of evidence to discharge obligations (£716m).

Producer revenues include:

208. Producer own take back allows producers to receive gate fees from AATFs for LDAs and Mixed WEEE. The amount of producer own take back undertaken to offset against obligations is noted in table 8.

209. Total revenues to producers over the 10 year period being considered amount to £8m (PV prices). This includes gate-fees from AATFs.

Social benefits of dealing with WEEE under the current system

210. The environmental benefits include carbon emissions reductions through diversion of WEEE from landfill. It's assumed that 50% of WEEE is diverted from landfill as a result of the directive, given LDA and mixed WEEE make up about half of all WEEE collected, and being net revenue streams are likely to be treated in the absence of regulations. Carbon values are based on DECC projections and it's assumed that for every tonne of WEEE treated 1.3 tonnes of carbon are avoided.[18]The total savings made as a result of avoided carbon over 10 years are estimated at £146m.

[18] The UNU WEEE report estimates that of *"...the estimated 36 million tonnes of avoided CO2 emissions, 34 million tonnes results from removing CFC based cooling agents."* (Page vii, the UNU Report). It estimates that 2.3 million

211. The costs savings to UK producers from use of recovered materials in production processes are also estimated for WEEE which is diverted from landfill. This is based on estimates of the material composition of WEEE by category (ferrous, plastic, copper, aluminium) and the 2011 values of these materials – it is assumed recycled material amounts to 73% of the value of virgin material (based on industry estimates) to arrive at an estimate of material revenues captured as a result of the regulations. Based on an Axion Consulting estimate it is assumed that 3% of the value stays within the UK and is re-used by UK manufacturers. However, there is no data on how much stays within the UK. These monetised social benefits do not include other environmental benefits of treating WEEE, which are set out in paragraph 216...

212. The total benefits due to material cost savings from recyclates (£38m) and carbon savings (£120m) over the 10 years considered in the IA equates to £158m.

Recast WEEE IA

213. The baseline includes costs and benefits from changes required to meet recast requirements (see IA 0382). The costs and benefits associated with the recast IA are not expected to change for any of the options. The total costs and benefits (PV) over 10 years is estimated at £7m and £3m, respectively.

Non-Monetised Costs

214. Transport emissions from moving WEEE from DCF to AATF are not monetised. The cost of repairing and maintenance of AATF sites are not included, although these would not necessarily be expected to change with any of the options.

215. Material revenues from GDL

Non-Monetised Benefits

216. The benefits are principally direct environmental benefits and benefits to human health and animal health, and benefits in terms of contributions to sustainable development and resource productivity in the UK more generally. The potential for hazardous substances to leach from landfill and contaminate soil and groundwater with consequent negative impacts on the environment and human health and animal health is one of the main causes of the European Commission's concerns about the historic means of disposal of WEEE outlined in its EM to the WEEE Directive. In addition, there may be 'knock-on' benefits in

tonnes of CO2 savings result from an additional estimated 3.1 million tonnes of WEEE being separately collected. Of this total WEEE it is estimated that 45 per cent is cooling equipment and large household appliances. Subtracting this from the 3.1 million tonnes gives 1.7 million tonnes of WEEE accounting for 2.3 million tonnes of CO2 savings. This implies that the separate collection of one tonne of WEEE (excluding cooling appliances and large household appliances), and its subsequent treatment, re-use, recycling and recovery produces CO2 benefits in the region of 1.3 tonnes of CO2. This estimate is broadly consistent with those given in *The Waste Strategy for England 2007*, which provides estimates of CO2 benefits from recycling plastics, ferrous metals, and glass (the major materials of EEE) of 1 tonne of CO2, 1.4 tonnes of CO2, and 0.7 tonnes of CO2 respectively for each tonne of material. (Waste Strategy 2007, Page 54).

terms of raising awareness of other forms of waste amongst consumers and other stakeholders in the UK, and in raising awareness of environmental issues more widely amongst a range of UK stakeholders. Furthermore, there is the avoided cost of landfill of WEEE from the gate-fee (assumed to be equal to negative externalities from land-filling WEEE).

217. The reuse, recycling and recovery of materials from WEEE will contribute towards sustainable development and resource productivity goals. There is a greater level of recyclates available for use as they are not land-filled and there will be less need to mine/produce primary/virgin materials – which will also necessitate a reduction in energy use from production processes.

Option 1: Compliance fee and target option

Table 4 summarises the costs and benefits of Option 1.

Impact on Environment Agencies and Government

218. This option imposes an annual household WEEE collection target on PCSs at the start of the compliance period. The target will be set to achieve the member state target in the recast Directive after taking into account substantiated estimates of WEEE properly treated outside the system, non obligated WEEE reported by AATFs, B2B WEEE financed by producers, and any WEEE collection which is now managed by the collector. The substantiated estimates will be derived from establishing a protocol (see recast IA 0382 for more details). The cost of establishing the targets are assumed to fall within existing EA costs. In practice this would depend on the level of complexity and validation required.

219. There would be a reduction in regulatory effort required to monitor each schemes arrangements as there would no longer be a requirement for PCSs to submit Operation Plans and balanced Viable Plans. It would provide the option for schemes to meet compliance through a mechanism other than the collection of WEEE. All other compliance monitoring of schemes would remain the same. A reduction in agency fees / costs is not measured in the IA as it is assumed potential savings could fund greater compliance/monitoring activity.

220. It is assumed the compliance fee and fund would be administered by an administrator and would not be centrally regulated.

221. It is assumed there is an exemption for small producers defined by tonnage pom and there is a DCF 'opt out' (for net revenue streams) – this would also impact on compliance costs.

222. The change in total costs and benefits to the EA over 10 years, relative to the baseline are estimated at -£9m (pv prices), as a result of the de-minimis threshold. For the Government there is an estimated overall gain of £1m as settlement costs are no longer accounted for.

Impact on Approved Authorised Treatment Facilities (AATFs)

223. We assume no impact on AATFs from introducing a target and compliance fee.

Impact on Producer Compliance Schemes (PCSs)

Costs to PCSs

224. Based on data provided by a PCS, it's assumed that administrative/reporting costs which include overheads, staff and reporting costs for PCSs amount to £6.8 per tonne of WEEE managed (2011 prices) – same as the baseline. In practice this would vary depending on the PCS in question. However, as the total tonnage

of WEEE being managed by a PCS is lower as a result of LAs opting out –overall administrative/reporting costs are lower than the baseline.

225. As discussed in para 176 (baseline) evidence costs will vary depending on where the WEEE has come from. The tonnages, by category are now split by the 5 operating models as presented in the baseline as well as via the compliance fee and the DCF opt out, the latter no longer being funded by producers. See table 12 below for the splits of tonnage assumed.

226. It's assumed that DCF's opt to manage LDA and mixed WEEE streams as they are value streams. Based on data from the EA this accounts for 68% and 80% of all LDA and mixed WEEE. The streams which LAs opt to self treat are no longer financed by producers, and are captured in the data through reporting to EA by the DCF/ AATF receiving the WEEE that is self managed.

227. The total amount of WEEE funded for by producers is greater than all household WEEE tonnage (less the amount now managed by collectors directly), as it's assumed that 10% of display, cooling and GDL is funded via the compliance fee option. The compliance fee is set at a level which is double the cost of evidence when a PCS is fully or partially involved. These assumptions are for illustrative purposes as the construction, methodology and use of the compliance fee have not been agreed and the extent to which this route of compliance would be adopted by PCSs is unknown. Section 7 includes sensitivity analysis of varying compliance fee levels.

In this option evidence has no value and cannot be passed on at a cost once it is accredited to a PCS via an AATF (ex-post). WEEE can however, be 'subcontracted' between PCSs ex-ante i.e. before it is treated. It's assumed that the price of WEEE when received via 'sub-contracting' ex-ante is the same price as it was when it was transferred between PCSs, ex-post (in the baseline). However, in practice prices from sub-contracting between PCSs may be lower as a consequence of the changing incentives within the system brought about by the removal of a guaranteed customer for all surplus WEEE held by a PCS and removal of the "must buy" requirement placed on a deficit PCS, as a result of the target imposed on PCSs and compliance fee route. As LDA and mixed WEEE are primarily treated directly by LAs there is less tonnage sub-contracted than there

WEEE stream	PCS has full or partial involvement	Acquiring evidence from WMC	Acquiring evidence through sub contracting from other	Other (e.g. kerb-side, other Reg 39, 40A & 32 collection	Producer own take back	Compliance Fee	DCF / WMC self management

was transferred between PCSs, ex ante, in the baseline.

Table 12: WEEE tonnes split by operating model and WEEE stream for option 1

			PCSs, ex ante	routes)			
LDA	0%	0%	0%	28%	4%	0%	68%
Mixed	16%	0%	0%	1%	2%	0%	80%
Display	29%	11%	58%	1%	0%	10%	0%
Cooling	26%	1%	55%	16%	3%	10%	0%
GDL	12%	0%	88%	0%	0%	10%	0%

* Numbers may not add to 100% due to rounding. For mixed, display and cooling the totals add to 110% due to assumptions on 10% being purchased via the compliance fee.

228. As in the baseline, PCSs bid for LA contracts within which they may offer financial support to LAs (e.g. PR activities, consulting, return on material values etc). These £/tonne costs are inferred from indexed data that was provided by the PCS joint response to the call for evidence (same as the baseline). It's assumed financial support is retained for all DCF sites.

229. Total change in costs to PCS over 10 years relative to the baseline, is estimated at -£123m (PV prices). This consists of lower administrative costs (-£20m) and evidence costs (-£194m) from no longer managing value streams and a less financial support to LAs as value streams are no longer bid for (-£9m). There is an increase in costs from the compliance fee (£101m). See table 4 for breakdown of all costs.

Benefits to PCSs

230. It's assumed that PCS membership fees are charged to producers at the same rate as the baseline (despite a fall in administrative costs from not having to manage LDA and mixed WEEE from DCFs). See table 9.

231. PCS charges to producers for evidence are derived using the same multipliers on the cost base as the baseline (see table 11). The gate-fee's received from AATFs are restricted to LDA and mixed WEEE the PCS may have been able to access outside of the DCF network. It's assumed this amounts to 16% of mixed WEEE (see table 12 for WEEE tonnage split assumptions derived from PCS joint response to the call for evidence). In addition the compliance fee paid is passed on to producers and on top of the evidence cost. It's assumed the compliance fee costs are passed on to producers without uplift on costs paid.

232. Total change in benefits to PCS over 10 years, relative to the baseline, is estimated at -£260m (PV prices). This is a result of reduced membership fees (-£15m) as a result of the de-minimis threshold, lower revenues from evidence as savings are assumed to be passed on to producers (-£241m), less gate-fee revenues as a result of DCF self managing value streams (-£105m) + compliance fee costs passed on to producers (£101m). See table 4 for breakdown of all benefits.

Impact on DCFs

Costs to DCFs

233. It's assumed the administrative costs £/tonnes remain the same as the baseline. In practice additional costs may be incurred if contracts with PCSs and WMCs are renegotiated to review their opt in/out position. Additional cost from DCFs opting to self treat net revenue streams are estimated by assuming the DCF incurs the same costs as a PCS when it has direct access to WEEE.

234. Total change in costs, over 10 years, relative to the baseline, is estimated at £50m (PV prices). This is a result of managing value streams. See table 4 for breakdown of all costs.

Benefits to DCFs

235. Revenue from DTS paid by distributors is assumed to be the same as the baseline. The financial support to DCFs from PCSs are assumed to remain the same on a £/tonne basis, however, the tonnage having fallen as a result of LA opt out for LDA and mixed WEEE means the total amount of financial support offered has declined. In practice the LAs may/may not choose to opt for self treatment depending on whether the financial support for these streams are greater than the revenue they are able to receive from self treatment. Given the assumed £/tonne received through 'financial support payments' is less than that received from treating the WEEE it's assumed LAs opt to self treat over handing all streams to PCSs. The cost assumptions used here are derived from call for evidence response, but are considered commercially confidential so not explicitly noted.

236. Revenues from LDA and mixed WEEE where DCFs have opted to self-treat are received from AATFs as gate fees. In practice DCFs may also receive revenues from the WMC who are servicing their sites for the streams they have opted to self treat. However this would depend on contractual negotiations between LAs and WMC. For ease it's assumed DCFs do not receive any of the material revenues from these streams where a WMC is managing the site.

237. For simplicity the IA has assumed that revenue from the compliance fee (paid by PCS/producers) are distributed back to LAs – however, this is a result of the detail of the policy having not been worked up, pre-consultation - it could equally go towards investment in improving standards of treatment, enforcement activity etc.

238. Total change in benefits to DCFs over 10 years relative to the baseline is estimated at £148m (PV prices). This is a result of revenues from WEEE materials from self run sites (£57m), financial support payments from PCS (-£9m) and the compliance fee transfers (£101m) – simplifying assumption. See table 4 for breakdown of all benefits.

Impact on Waste Management Companies (WMCs)

Costs to WMCs

239. No change from baseline measured.

Benefits to WMCs

240. Its assumed gate fees from LDA and mixed WEEE remain with the WMC, in practice this will depend on contractual agreements between the WMC and LA. The revenue per tonne offered by AATFs is assumed to be the same for all agents.

241. It's assumed that WMC can't 'sell' evidence to PCS if it is a net revenue/zero cost stream as it is assumed the compliance fee is set at zero for these streams (i.e. LDA and mixed WEEE). The same rates are charged for all other WEEE streams (compared to the baseline). However in practice prices for WEEE may be lower as a consequence of the changing incentives within the system brought about by the removal of a guaranteed customer for all surplus WEEE held by a PCS and removal of the "must buy" requirement placed on a deficit PCS.

242. Total change in benefits for WMC over 10 years, relative to the baseline is estimated at -£110m (PV prices) as a result of no longer being able to sell evidence for value streams. See table 4 for breakdown of all benefits.

Impact on Distributors

Cost to Distributors

243. No change from baseline measured.

Benefits to Distributors

244. Where distributors choose 'take back' it's assumed they will receive a gate fee for revenue streams from AATFs. This is mainly as a result LDA. The proportions of WEEE tonnage from in-store take back are noted in table 12.

245. It is assumed that distributors charge the same amount for evidence as WMCs, however as the compliance fee is assumed to be set at zero for LDA and mixed WEEE – this is no longer additional revenue.

246. Total change in benefits to distributors over 10 years, relative to the baseline, is estimated at -£8m, from no longer being able to se11 evidence where the WEEE is a value stream. See table 4 for breakdown of all benefits.

Impact on Producers

Cost to Producers

247. EA registration fees and PCS fees and admin costs remain as they are in the baseline. The same category level multiplier is used to estimate cost uplift on evidence (table 11).

248. Additional costs include the cost of the compliance fee, which is originally borne by the PCS and passed through to producers.

249. The 'evidence' price charged to producers is 1.5 times lower than the baseline due to lower costs from evidence borne by PCSs which is reflected in the transfer of costs to their members. This is primarily because it's assumed that LDA and mixed WEEE evidence can no longer be sold to PCSs, given they are taken as value streams which would lead to a compliance fee set at zero.

250. Indicative estimates of the cost to set up and implement a compliance fee and a PBS (described in para 76-78) have been provided by a producer trade association.

Initial development (£/000s)	Producer Balancing System	Compliance Fee
Project management	10	10
Research costs	25	25
IT system development costs including modelling	25	5
Expenses	2	2
Pilot phase	5	5
	67	**47**

Table 13: Transition costs (in year one only)

Implementation costs include (over 9 years)

	Producer balancing system	Compliance fee
Implementation	average annual cost (£/000s)	
Staff and associated overheads	27	27
Services, consumables and expenses	6	
Research costs	10	

251. It's assumed that the compliance fee will be operated by subcontract to a third party and an annual research project will be conducted to verify/amend compliance fee level. Staff cost is a contribution towards 0.25FTE at £40K for enforcement (pension, NI, benefits etc are max 30% of base salary).

252. The Initial development will require project management - managing the research and IT tenders and contracts etc - 20 days at £500/day. Research costs - consulting with stakeholders, collating and reviewing WEEE recycling data, proposing methodology, preparing IT system requirements etc - 50 days at £500/day (from year 2) with research costs falling by 25% per annum after year one.

253. For the PBS its assumed implementation will require 0.25FTE at £40K. The initial development will require Project Management - managing the research and IT tenders and contracts etc - 20 days at £500/day.

254. Research costs - consulting with stakeholders, collating and reviewing WEEE recycling data, proposing methodology, preparing IT system requirements etc - 50 days at £500/day. Pilot phase - loading sample DCF data and PCS data, and verifying system performance

255. Total change in costs to producers over the 10 years, relative to the baseline, amount to -£274m. This is a result of lower EA fees (-£9m), lower PCS fees (-£15m), and lower administrative costs (-£111m) as a result of the de-minimis threshold, evidence costs from no longer having to finance value streams (-£240m), compliance fee costs (£101m), transitional and implementation costs (£1m). May not add to total due to rounding. See table 4 for breakdown of all costs.

Benefits to Producers

256. No change from baseline measured.

Non-Monetised Costs

257. Agencies re-prioritisation of regulatory activity e.g. collecting data on WEEE directly treated by collectors. Reduction in price charged for evidence as a result of more competitive dynamic engendered through the introduction of a compliance fee.

Non-Monetised Benefits

258. Agencies re-prioritisation of regulatory activity e.g. no longer requiring Operational Plans. Removal of must buy requirement placed on PCSs that fall short of target/financial obligation.

259. Calculation of Business Net Present Value

This is calculated by deducting the costs and benefits to the Environmental Agency and Designated Collection Facilities to the NPV.

Summary

- Under the preferred option, no net changes are estimated for AATFs or Environmental Agencies. Minimal impacts are expected for government and distributors. The impacts of the recast are not expected to be different to in the baseline scenario.

- Producers are likely to gain from the Target and Compliance Fee option. Over 10 years, producers are estimated to make savings of £274m, owing to lower administrative costs as a result of the de-minimis threshold and lower evidence costs from no longer having to finance value streams.

- PCSs are expected to also make cost savings as a result of lower administration and evidence costs. However, benefits are estimated to fall by £260m relative to the baseline, producing a net loss overall. This is a result of lower membership fees due to the de-minimis threshold, lower gate fee revenues (DCF self-management) and lower revenues from evidence as savings are assumed to be transferred to producers.

- The net change for WMCs over 10 years relative to the baseline is estimated at -£110m as a result of no longer being able to sell evidence for value streams.

- An overall gain is estimated for DCFs. Whist their costs are estimated to be £50m higher than the baseline as a result of managing value streams, even higher benefits are estimated due to revenues from materials from self run sites and compliance fee transfers.

Section 7: Sensitivity Analysis and Impact Assessment Tests

Sensitivity Analysis

Baseline

260. For simplicity the central baseline case is used which estimates costs of the existing system. However, all costs and prices incurred are estimates based on simplifying assumptions given the variation that exists in costs and prices across contractual agreements between agents and the differences in operating models pursued by individual businesses.

261. **Sensitivity Test 1:** The Impact Assessment assumes that the total volume of WEEE collected remains the same as projected in the baseline. However, it is possible that Target and Compliance fee model will lead to a change in the volumes of WEEE collected.

- In the high volume scenario, it is assumed that the volume of B2C WEEE collected remains at the baseline level for the first two years of implementation (2014 and 2015) and then increases by 10% from the baseline level from 2016 onwards to reflect the changes in the Member State collection target (see WEEE Recast IA 0382) . We do not know exactly how much collection volumes will change as a result of a higher target– the 10% increase assumed here is illustrative. Note the volumes of WEEE collected used here have not been adjusted to take into account substantiated estimates of non-obligated WEEE and LA opts out streams.
- In the low volume scenario, the volumes of B2C WEEE collected for the display, cooling and GDL streams fall 5% relative to the baseline level. This may result from a reduction in collection initiatives if the compliance fee is not set high enough to effectively incentivise collection.

249. **Sensitivity Test 2:** This test examines the distributional effects arising from changes in the level of the compliance fee. For the high compliance fee scenario it's assumed the compliance fee price is 4 times the underlying estimated costs for managing WEEE, in addition 20% of WEEE is financed via the compliance fee. The low compliance fee scenario assumes the compliance fee route is not used (i.e. zero tonnage goes through the fee). A change in the compliance fee represents a transfer cost from PCSs to producers therefore there is no change to NPVs – impact is only distributional.

Table 14: Sensitivity Test 1: Increasing and falling WEEE volumes

	High Scenario	Low Scenario
	NPV from 2014-2023 (£m)	
Producers	229	303
Agencies	0	0
Government	1	1
PCS	-133	-138
DCF	106	93
WMC	-74	-125
Distributors	-6	-8
AATF	13	-6
Recast	0	0
Society	0	0
Total	**135**	**119**

262. Sensitivity Test 1 shows that an increase in WEEE volumes across all of the 5 WEEE streams (high scenario) will result in a higher net benefit for PCSs, WMCs, distributors, and AATFs than in the normal scenario. Increases in volumes for only the 3 least profitable streams (display, cooling and GDL) were also modelled. In these scenarios, as volumes for the 3 streams rose, the NPV fell as higher costs as a result of having more WEEE to manage exceeded the higher revenues that resulted.

263. A fall in the volume of WEEE collected for the three least profitable streams (low scenario) results in an equal or higher net benefit as overall cost reductions incurred by agents are greater than falls in the benefits. However it is important to note that these calculations take no account of the wider social costs of leaving WEEE untreated (e.g. waste and pollution from discarded EEE) and therefore the NPV here is significantly overstated.

Table 15 Sensitivity Test 2: Low and High compliance fees

	High Compliance Fee	Low Compliance Fee
	NPV from 2014-2023 (£m)	
Producers	-129	375
Agencies	0	0
Government	1	1
PCS	-137	-137
DCF	500	-3
WMC	-110	-110
Distributors	-8	-8
AATF	0	0
Recast	0	0
Society	0	0
Total	**119**	**119**

*these tables show the difference between PV costs and benefits relative to the baseline, split by the agent – to show distributional impacts.

Impact assessment tests

Small Firms Impact Test

264. All manufacturers irrespective of size are expected to comply with the WEEE Directive. The changes to the Regulations are not expected to have a disproportionate impact on SME's.

265. Microbusiness Exemption Rule: Under the microbusiness exemption rule whereby regulation exempts organisations of 10 or fewer employees and start-ups, this measure is out of scope because it relates to the EU.

266. The de-minimis threshold based on EEE pom will exclude both small and large business in terms of revenue.

Impact on small volume producers (defined as producers who put a low tonnage of EEE pom, rather than low turnover)

Proposal to reduce burdens for smaller producers of EEE

267. Despite pressing hard for a de-minimis clause in the Recast Directive, this was not widely supported by other member states and was not incorporated into the final text.

268. The revision of the WEEE Regulations nevertheless presents an opportunity to consider ways in which we may be able to reduce the burdens placed on small volume producers of electrical and electronic equipment. Small volume

producers have made representations through the Red Tape Challenge, the Call for Evidence and ministerial correspondence that the cost and administrative burden imposed by the WEEE Regulations is disproportional to the actual costs of ensuring their products are properly treated when they become waste. The Government is therefore committed to exploring if and how these concerns can be addressed.

269. Key obligations imposed on individual producers by the recast Directive are:
- Mark products with the crossed out wheeled bin symbol (Article 14(4)),
- Make technical information available to treatment facilities (Article 15),
- Meet requirements necessary to fulfil obligations to take back WEEE from users other an private households (i.e. B2B WEEE) (Article 13),
- Provide necessary information to enable a national register of producers to be established (Article 16),
- Provide necessary data to enable Member State reporting requirements to be fulfilled. (Article 16).

Table 16 table showing the tonnage of WEEE accounted for by producers that will be exempt under various thresholds (<1 tonne, < 5 tonnes, <10 tonnes and < 20 tonnes)

De minimus threshold of 1 tonne placed on the market	Producers	Tonnage	Total	Cat 1	Cat 2	Cat 3	Cat 4	Cat 5	Cat 6	Cat 7	Cat 8	Cat 9	Cat 10	Cat 11	Cat 12	Cat 13
Household deminus tonnage/producers	375	123	123	1	26	20	24	4	3	20	8	11	0	0	0	6
Total Household EEE placed on the market			1,137,256	462,795	137,710	88,982	65,062	368	56,489	44,783	2,772	3,754	9	98,435	171,101	4,996
% of total household EEE below deminus threshold			0.01%	0.00%	0.02%	0.02%	0.04%	1.05%	0.01%	0.04%	0.28%	0.30%	0.05%	0.00%	0.00%	0.11%
Non Household deminimus tonnage/producers	1,329	394	394	6	4	108	13	28	36	2	45	135	5	3	4	6
Total Non Household EEE placed on the market			365,493	17,727	7,694	102,913	6,726	72,595	22,471	6,447	9,896	55,986	7,809	12,200	32,450	10,580
% of total non household EEE below deminimus threshold			0.11%	0.03%	0.05%	0.10%	0.19%	0.04%	0.16%	0.03%	0.45%	0.24%	0.06%	0.03%	0.01%	0.05%
Registered as household and non household	137	51	51	0	2	24	6	2	2	3	5	6	0	0	0	1
No Return	423	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total B2B and B2C EEE placed on the market			1,502,749	480,523	145,404	191,895	71,788	72,962	78,960	51,230	12,667	59,739	7,819	110,635	203,551	15,576
Total EEE declared below deminimus threshold	2,264	568	568	7	31	151	42	35	41	25	57	152	5	4	4	13
% of total EEE declared below the deminus threshold			**0.04%**	0.00%	0.02%	0.08%	0.06%	0.05%	0.05%	0.05%	0.45%	0.25%	0.06%	0.00%	0.00%	0.08%
De minimus threshold of 5 tonnes placed on the market																
Household deminus tonnage/producers	629	758	758	37	195	76	175	16	41	122	22	34	0	9	11	19
Total Household EEE placed on the market			1,137,256	462,795	137,710	88,982	65,062	368	56,489	44,783	2,772	3,754	9	98,435	171,101	4,996
% of total household EEE below deminus threshold			0.07%	0.01%	0.14%	0.09%	0.27%	4.22%	0.07%	0.27%	0.80%	0.91%	0.05%	0.01%	0.01%	0.37%
Non Household deminimus tonnage/producers	2,142	2,419	2,419	55	65	572	89	206	258	20	228	739	39	45	54	49
Total Non Household EEE placed on the market			365,493	17,727	7,694	102,913	6,726	72,595	22,471	6,447	9,896	55,986	7,809	12,200	32,450	10,580
% of total non household EEE below deminimus threshold			0.66%	0.31%	0.85%	0.56%	1.32%	0.28%	1.15%	0.31%	2.31%	1.32%	0.50%	0.37%	0.17%	0.47%
Registered as household and non household	226	261	261	12	15	82	27	15	10	24	29	35	0	7	2	3
No Return	423	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total B2B and B2C EEE placed on the market			1,502,749	480,523	145,404	191,895	71,788	72,962	78,960	51,230	12,667	59,739	7,819	110,635	203,551	15,576
Total EEE declared below deminimus threshold	3,420	3,438	3,438	105	276	730	291	237	308	166	280	808	39	61	66	72
% of total EEE declared below the deminus threshold			**0.2%**	0.0%	0.2%	0.4%	0.4%	0.3%	0.4%	0.3%	2.2%	1.4%	0.5%	0.1%	0.0%	0.5%
De minimus threshold of 10 tonnes placed on the market																
Household deminus tonnage/producers	753	1,654	1,654	68	547	197	275	36	122	222	40	62	9	12	34	30
Total Household EEE placed on the market			1,137,256	462,795	137,710	88,982	65,062	368	56,489	44,783	2,772	3,754	9	98,435	171,101	4,996
% of total household EEE below deminus threshold			0.15%	0.01%	0.40%	0.22%	0.42%	9.66%	0.22%	0.50%	1.46%	1.65%	100.00%	0.01%	0.02%	0.60%
Non Household deminimus tonnage/producers	2,439	4,538	4,538	120	119	1,027	184	465	503	35	424	1,243	114	99	105	99
Total Non Household EEE placed on the market			365,493	17,727	7,694	102,913	6,726	72,595	22,471	6,447	9,896	55,986	7,809	12,200	32,450	10,580
% of total non household EEE below deminimus threshold			1.24%	0.68%	1.55%	1.00%	2.73%	0.64%	2.24%	0.55%	4.29%	2.22%	1.46%	0.81%	0.32%	0.94%
Registered as household and non household	254	462	462	12	48	161	74	23	10	34	43	38	0	11	4	3
No Return	423	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total B2B and B2C EEE placed on the market			1,502,749	480,523	145,404	191,895	71,788	72,962	78,960	51,230	12,667	59,739	7,819	110,635	203,551	15,576
Total EEE declared below deminimus threshold	3,869	6,654	6,654	200	715	1,384	532	523	635	292	508	1,343	124	122	143	133
% of total EEE declared below the deminus threshold			**0.4%**	0.0%	0.5%	0.7%	0.7%	0.7%	0.8%	0.6%	4.0%	2.2%	1.6%	0.1%	0.1%	0.9%
De minimus threshold of 20 tonnes placed on the market																
Household deminus tonnage/producers	873	3,370	3,370	283	956	419	599	36	218	535	42	133	9	33	44	61
Total Household EEE placed on the market			1,137,256	462,795	137,710	88,982	65,062	368	56,489	44,783	2,772	3,754	9	98,435	171,101	4,996
% of total household EEE below deminus threshold			0.30%	0.06%	0.69%	0.47%	0.92%	9.74%	0.39%	1.19%	1.52%	3.55%	100.00%	0.03%	0.03%	1.23%
Non Household deminimus tonnage/producers	2,708	8,422	8,422	336	229	1,844	332	954	965	93	788	2,093	203	191	226	170
Total Non Household EEE placed on the market			365,493	17,727	7,694	102,913	6,726	72,595	22,471	6,447	9,896	55,986	7,809	12,200	32,450	10,580
% of total non household EEE below deminimus threshold			2.30%	1.90%	2.97%	1.79%	4.93%	1.31%	4.29%	1.44%	7.96%	3.74%	2.60%	1.56%	0.70%	1.60%
Registered as household and non household	298	1,093	1,093	38	147	280	167	78	64	59	77	102	0	15	15	52
No Return	423	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total B2B and B2C EEE placed on the market			1,502,749	480,523	145,404	191,895	71,788	72,962	78,960	51,230	12,667	59,739	7,819	110,635	203,551	15,576
Total EEE declared below deminimus threshold	4,302	12,884	12,884	657	1,331	2,544	1,097	1,067	1,247	686	907	2,327	212	239	285	283
% of total EEE declared below the deminus threshold			**0.9%**	0.1%	0.9%	1.3%	1.5%	1.5%	1.6%	1.3%	7.2%	3.9%	2.7%	0.2%	0.1%	1.8%
Note: Data is based on the 2011 compliance year.																

Additionally member states are required to ensure obligations to finance WEEE arising from private households are fulfilled by producers. The revised WEEE Regulations envisage that financial obligation being based on producer market share via their membership of a producer compliance scheme.

270. It is proposed to set a de minimis threshold below which establishes a simplified, low cost registration process is established for producers. Those companies falling below the 5 tonne threshold would not be required to finance a share of household WEEE arising in the system and would not be required to join a PCS.

271. Those producers below the threshold and supplying EEE to non household end users would continue to be required to finance the collection treatment recovery and environmentally sound disposal of their own products when discarded and those products placed on the market before 13 August 2005 if they are being replaced by their own products. However producers will continue to retain the option of making their own contractual arrangements for collection, treatment and recovery which could for example result in those responsibilities passing to the business end user. B2B producers may choose to join a PCS in order to carry out their obligations.

272. The registration process would follow the model currently used in the UK Batteries Regulations. De minimums producers would be required to follow an online registration process with the relevant environment agency providing:
- Company information,
- Annual EEE placed on the market data split by category,
- Annual WEEE tonnage collected split by product category (currently £30 under the Batteries Regulations).

273. Should a producer place an amount of EEE on the market during a compliance year in excess of the de minimis threshold they would be required to join a compliance scheme within 28 days and fund the cost of household WEEE obligations in line with their market share.

274. Table 16, based on 2011 data, illustrates the number of producers and tonnage that would fall below the de minimums requirements, split by collection category. A threshold of 5 tonnes for example would bring 3,420 producers within the de minimums threshold who account for 3,438 tonnes (0.23%) of EEE placed on the market.

275. In the consultation with stakeholders there was strong support for our proposal to reduce the burden of compliance for producers who place very small tonnages of WEEE on the market. 87% of respondents agreed with the principle of introducing a minimum threshold for small producers and 46% of respondents supported our proposed threshold of 5 tonnes. If this proposal is taken forward it would come into force with the new regulations on 1st January 2014. A number of stakeholders recommended a 1 tonne limit and many producers and compliance schemes suggested that a reduced limit should apply for lamps. The rationale for this was that lamps are costly to recycle compared to other WEEE and that 5 tonnes represents a large quantity of lamps. Nevertheless, no compelling evidence was put forward to support a 1 tonne limit, and whilst lamp recycling is much more costly in comparison to other WEEE, our analysis suggests that given the historical low level of household lamps being recycled, the additional cost burden of this proposal on larger lamp producers would be negligible.

Competition assessment

276. See section 4.

277. For UK manufacturers selling to non-EU countries where competitors don't sell in the EU e.g. US and Asian companies not exporting to Europe – their competitors will not incur costs for collection, recycling and treatment of WEEE as UK companies will. The recommended option reduces costs of compliance which could reduce any competitive disadvantage placed upon EU producers operating in US and Asian markets as a result of a lower cost base. However, other countries outside of Europe will have own legislation on environmental and human protection from waste disposal.

278. **Impact on consumers:** There is limited evidence on the extent to which producers pass on costs of compliance with the WEEE regulations in the UK on to consumers. Where there is a great deal of price competition for products, including from outside of the EU, it is less likely for these costs to be passed on to consumers and there will be/ there is more pressure on producers to absorb these costs so that they are able to maintain their price point.

Greenhouse Gas Assessment

279. This IA assumes that the same amount of obligated tonnage is received by AATFs as that which would be within the existing system. Therefore the CO2 savings remain the same as in the baseline for all options.

Wider Environmental Issues

280. This IA assumes any system adopted to transpose the recast WEEE Directive will continue to have the same level of environmental benefits as the existing system. (see IA no. 0382 para 155-158)

Equality Impact Assessments

281. The proposed system will not have an adverse or disproportionate effect on any person as a consequence of race, ethnic origin, religion, gender, sexual orientation, age, transgender / transsexual or disability.

Direct costs and benefits to business calculations (OITO)

282. Under the One In, Two Out rule any new burden placed on business through domestic regulation needs to be compensated by deregulation of twice the value.

283. The proposed legislation addressed in this IA is out of scope of OITO. This is because although this proposal is also a response to the Red Tape Challenge, as well as an EU directive, it still categorised as out of scope of the OITO. The proposal cannot be counted as an out because it is not strictly a removal of gold-plating of an EU Directive.

Costs to Public Sector – Monitoring and Enforcement

284. The system changes will have an impact on compli ance and monitoring requirements costs. Fees are imposed on a cost recovery basis and assumed fo r simplicity that they remain the same as the baseline for all options. The impact of the introduction of a de-minimis threshold is m onetised. See section 6 for more detail.

Post Implementation Review (PIR) Plan

285. This proposal puts forward options for amendments to the UK WEEE regulations directive. The regulations are to be reviewed by January 2019 on the basis of a non-statutory commitment to review (PIR). The objective of the review will be to ensure that the legislation is achieving its aims without undue burden to those obligated by it. If this is not being achieved, careful consideration would be given to modifying the regulation or providing improved guidance. The approach taken will include canvassing stakeholder views through their representative organisations. This should include a mix of qualitative and quantitative evidence. BIS already have good communications with the representative organisations and will continue to work with them to ensure that the objectives are being met and we are informed of any problems.

Annex A: Assumptions

Methodology

Estimating Electrical and Electronic Equipment (EEE) Placed on Market

The Environment Agency collects data from Producers regarding the quantity of household and non-household EEE placed on the market. Data for household EEE (B2C) is reported to the Environment Agency quarterly, and data for non-household EEE (B2B) is reported annually.

The latest published data was used in the development of the impact assessment model and is available on the Environment Agency website[1].

Estimating Waste Electrical and Electronic Equipment (WEEE) Arising

In 2009, Axion Consulting developed a model for estimating the quantity of WEEE arising in the UK on behalf of the government's Waste & Resources Action Programme (WRAP). Data for the model was sourced from a review of published literature and data, and direct liaison with the sector.

Two key research papers were identified that examine the prediction of EEE lifetimes[2,3]. Both papers use variations of the Weibull distribution, which is a probability distribution used in engineering to estimate the time-to-failure of components[4]. In this case, the time-to-failure can be interpreted as the time between an item of EEE being purchased and that item failing and reaching end of life (becoming WEEE). Although the papers studied only considered the time-to-failure of individual items of EEE, it was recognised that this idea could be applied to historic EEE sales to predict current and future WEEE arisings.

In order to predict current and future WEEE arisings, historical data relating to the quantity of EEE placed on market was required. Data from the Environment Agency regarding EEE placed on market is only available from mid-2007 onwards; this was not sufficient data to predict WEEE arisings, as most WEEE categories had scale parameters (maximum lifetime) of greater than two years (up to fifteen years in some cases). As a result, data for EEE items sold in previous years was sourced from Euromonitor[5]. This information was in the form of sales volumes, rather than tonnages of EEE; to convert data to tonnes, a list of 2009 EEE item weights was obtained from the Furniture Re-use Network (FRN) and applied to the sales volumes. This allowed an estimate of the total EEE sales tonnages to be calculated.

A data extrapolation exercise was conducted to account for years where historic sales data was unavailable.

EEE and WEEE Data Update, 2012

In 2012, the forecasts for WEEE arising were revisited by Axion Consulting to aid the development of a new model, which would be used to assess the commercial and environmental impacts of changes to the existing WEEE compliance scheme.

This update involved:

- inputting the latest data available from the Environment Agency relating to EEE placed on market;
- inputting the latest data available from the Environment Agency relating to WEEE collected; and
- assessing the impact on estimated total WEEE arisings and associated forecasts (B2B and B2C WEEE collected).

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[2] M OGUCHI et al (2008), Product flow analysis of various consumer durables in Japan, Resources, Conservation and Recycling 52, 463-480

[3] NORDEN (2009), Method to measure the amount of WEEE generated: Report to Nordic council's subgroup on EEE waste, http://www.norden.org/en/publications/publications/2009-548

[4] The Weibull distribution is based upon two parameters; the shape parameter and the scale parameter. In simple terms, the shape parameter determines the average lifetime of the item, while the scale parameter determines the maximum lifetime. It was assumed that each WEEE category had its own pair of parameters; some of these were taken from existing, publicly available data and research, whilst others were estimates based on Axion's experience of the recycling industry.

[5] EUROMONITOR (2009), Global Market Research and Analysis for Industries, Countries and Consumers, http://www.euromonitor.com/

For each category of WEEE, the actual quantities of WEEE collected during 2009 - 2012 were compared against the 2009 model forecasts for collected WEEE from 2009 - 2012. Where the figures did not align, the WEEE forecast data (from 2012 onwards) was updated to reflect new trends and observations. These were discussed with the project team to ensure that industry experience and an understanding of the current WEEE sector could be used to inform the forecasting update process.

Annex B: Abbreviations

AATF	Approved Authorised Treatment Facility
AE	Approved exporter
ATF	Authorised Treatment Facility
DCF	Designated Collection Facility
FOC	Free of charge
EEE	Electronic and Electrical Equipment
GDL	Gas discharge lamps
LA	Local Authority
LDA	Large domestic appliances
NPWD	National Packaging Waste Data
PCS	Producer Compliance Scheme
PoM	Placed on market
SDA	Small domestic appliances
SMW	Small mixed WEEE
WEEELABEX	WEEE Label of Excellence
WMC	Waste management company
WMP8	Environment Agency guidance on operational plans for WEEE compliance schemes
B2B	Business to Business
B2C	Business to Consumer
EA	Environment Agencies (including EA, SEPA and NIEA)