



Department
for Environment
Food & Rural Affairs

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Waste Prevention Programme for England

Evaluation of Annex IV measures

December 2013

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Evaluation of Waste Prevention Measures

1. This evaluation addresses the requirements of Article 29(2) of the revised Waste Framework Directive which requires Member States to evaluate the usefulness of the examples of waste prevention measures indicated in annex IV of the Directive (see Annex A) or other appropriate measures. It sets out the current evidence base on waste prevention in England. **It is not a statement of policy and the inclusion of or reference to any given policy should not be taken to imply that it has, or will be, endorsed by government as an option for England.**
2. This evaluation is informed by a number of reports including *Household Waste Prevention Evidence Review*¹ (HWPER), *Business Waste Prevention Evidence Review*^{2 3} (BWPER), *Waste Prevention Actions for Priority Wastes: Economic Assessment through Marginal Abatement Cost Curves* (the MACC report)⁴ and *A Comparative Study on Economic Instruments for Promoting Waste Prevention*⁵. The Evidence Reviews were both undertaken with a view to informing the development of England's Waste Prevention Programme.
3. The HWPER synthesized the findings from a portfolio of waste prevention research projects commissioned to explore household waste prevention and waste-related behaviour.
4. The BWPER aimed to map and collate the available evidence on business waste prevention and focussed on aspects of waste prevention that are influenced directly or indirectly by businesses.
5. The MACC report assesses actions aimed at increasing waste prevention, including reuse and preparation for reuse, of priority wastes (food waste, waste electrical and electronic equipment, construction wastes, textiles wastes, paper and board, and furniture waste). The report identified potential carbon and waste savings, and the associated financial and economic costs (or savings) of the actions considered and presents it in the form of a marginal abatement cost curve based on current evidence. Two types of assessment were undertaken. The assessment of technical potential is the maximum extent to which waste prevention or reuse measures could impact on a waste stream in the absence of barriers and under current conditions.

¹<http://randd.defra.gov.uk/Default.aspx?Menu=Menu&Module=More&Location=None&Completed=0&ProjectID=16161> (2008-2009)

² The BWPER considered waste from construction, food and drink, hospitality, retail and automotive sectors, and office-based services

³<http://randd.defra.gov.uk/Default.aspx?Menu=Menu&Module=More&Location=None&Completed=0&ProjectID=17499> (2010-2012)

⁴ ERM (2013) *Waste Prevention Actions for Priority Wastes: Economic Assessment through Marginal Abatement Cost Curves*, a report for Defra (completed December 2012)

⁵ Eunomia Research & Consulting (2011) *A Comparative Study on Economics Instruments for Promoting Waste Prevention*, a report for Bruxelles Environnement

The assessment of methods of implementation looked at the means by which the technical potential may be achieved. However, there are significant uncertainties in the modelling and at this stage the assessment can only be regarded as indicative of the potential savings. Notwithstanding uncertainties in the modelling, a number of trends emerge from the analysis which enables initial conclusions to be drawn about the relative significance of the different actions.

Policy measures⁶

6. The HWPER summarised findings from a large-scale strategic review of the international use of policy options for waste prevention. The HWPER found very few studies that explored the impact of policy measures, either singly or comparatively, though it found a great deal of descriptive information on what policies exist. The HWPER identified impacts for a number of different policy measures using estimates based on modelling and approximation where actual impacts were not available. From these the HWPER identified the following measures as having the most potential: local authority targets for waste prevention; a potentially significant but unknown contribution from implementation of local waste prevention plans, especially if business waste is included as well as household; increasing product lifespans; deepening producer responsibility; expanding the reuse sector; and junk mail policies.
7. The HWPER also noted that international experience suggests that the most effective and most frequently applied waste prevention policy measures come in a package including: waste prevention targets, producer responsibility, variable rate charging systems for household residual waste, public sector funding for pilot projects and collaboration between public, private and third sector organisations, supported by long term and intense public intervention and communication campaigns.
8. In addition to the general observation above about effective international practice, the international module of the HWPER⁷ noted that countries that had made a significant impact on municipal waste growth had in place a wide range of instruments and initiatives aimed (directly or indirectly) at waste prevention. In terms of policy instruments these generally included a significant number of the following: product eco-taxes; eco-labels; container reuse/deposit-refund schemes; variable-rate waste charging or rebates; high landfill taxes; and disposal bans on certain materials. The HWPER noted that the need for a 'package' approach, or a 'basket of measures' is linked to and reinforced by the fact that waste prevention is not one behaviour, but many.

⁶ Annex IV (rWFD), measure 1 - The use of planning measures, or other economic instruments promoting the efficient use of resources

⁷ WR1204-L3-m5/2-International Review

9. The BWPER found adoption of regulation as the most effective for waste prevention through hazard reduction.⁸

Landfill Tax

10. The BWPER⁹ found strong evidence that landfill tax has reduced landfill volumes and waste generation. The relationship between commercial and industrial waste arisings and the standard rate of landfill tax also appears convincing even if the causality is less straightforward, with some of the effect attributable to other policies.

Landfill Restrictions

11. All European countries are required to implement bans and restrictions on the landfilling of certain types of waste (e.g. whole and shredded tyres) as a consequence of the Landfill Directive. A study for WRAP¹⁰ noted that the evidence presented suggests there is minimal effect on waste prevention from landfill bans on their own, and that any preventative effect ought, probably, to be attributed to the combination of policies at work in a specific country, and the general attitude to waste management of the population.
12. The report notes that a ban/restriction on landfill does not dictate where the material which can no longer be landfilled will be sent. Other policies, and market conditions, will tend to dictate how this material is managed once it can no longer go to landfill. In the case of some bans/restrictions, the specific design of the ban/restriction can influence what is or is not acceptable, but it is unlikely to be able to steer waste into a specified end management route, e.g. reuse.

Producer Responsibility Schemes

13. The BWPER¹¹ found that extended producer responsibility has provided incentives to increase recycling of packaging and to minimise and light-weight packaging. However, there is little evidence on the effective use of producer responsibility in encouraging reuse activity with the aim of waste prevention.
14. The comparative study on economic instruments found that packaging tax/fee/charges under producer responsibility obligations have not typically been shown to have waste prevention impacts, albeit a well implemented scheme may lead to a reduction in residual waste.

⁸ WR1403 L1-m0-Executive Summary

⁹ WR1403-L2-m4-6-Incentives

¹⁰ Eunomia Research & Consulting (2012) Landfill Bans – Feasibility Research, a report for WRAP

¹¹ WR1403-L2-m4-6-Incentives

Product Taxes for Single-use Items

15. The comparative study on economic instruments looked at the role of product taxes/fees/charges relating to single-use items, such as plastics bags and disposable cutlery, by primarily examining the impact of Ireland's tax on plastic bags. The study found that such taxes/fees/charges in the form of the plastic bag levies they evaluated were shown to be effective in preventing waste. However, they noted that care needs to be taken to ensure that the value of the tax is adjusted from time to time to counter the effect of inflation and to sustain reductions.

Deposit Return Systems

16. A study commissioned by Defra¹² to investigate the costs and benefits of implementing a deposit return system (DRS) on packaging containers in the UK estimated that introducing a 'European style' DRS (encouraging bottle refilling) that causes the conversion of a third of beverage filling production to refillable PET or glass bottles could reduce glass and plastic waste in the UK by over 700,000 tonnes. However, the study also noted that the associated capital costs would appear to be prohibitive highlighting that even without these costs, a DRS would not result in a significant switch to using refillables. The study noted a high risk that a high deposit European style DRS would merely result in the return of containers for recycling and not refilling, thus it concluded that DRS is not a viable option to encourage reuse in the UK. The study on economic instruments for promoting waste prevention concluded that DRS's for beverage containers, while promoting reuse in some cases, are more typically used to encourage high rates of return of good quality material for recycling.

Waste Collection Services

17. The HWPER¹³ examined the evidence base for the role of waste collection services, e.g. alternate weekly collections (AWC), compulsory recycling, restricted residual waste bin capacity and incentive schemes, in preventing waste. It noted that AWC restricts residual waste capacity and can encourage waste prevention, reduction, reuse and home composting. Only limited secondary evidence was found on the impacts of waste collection arrangements on prevention.
18. A subsequent study¹⁴ found that the introduction of AWCs, free garden waste collections, home composting promotion and the provision of (charged) bulky waste collections all had a noticeable effect on household waste arisings collected from the kerbside. It noted that the introduction of AWCs created a downward trend in the amount of residual waste collected at the kerbside, although in some cases,

¹² Oakdene Hollins (2010) Deposit Return Systems for Packaging: Applying International Experience to the UK, a report for Defra (completed in 2005)

¹³ WR1204-L2-m5-Policy measures

¹⁴ Resources Futures (2009) Understanding Waste Growth at Local Authority Level, a report for Defra (WR0121)

some of this waste was simply off-set into an area's Household Waste and Recycling Centre arisings (with some evidence of this being a short term effect). This constraining effect on residual waste led householders to increasingly separate the amount of dry recyclables and garden waste (if offered free of charge) at the kerbside. However, it noted that the separate collection of these waste streams can lead to an overall total increase in the amount of household waste collected in the short term, and possibly the longer term. Authorities that reduced the amount of residual waste presented for collection through the enforcement / restriction on the presentation of side waste¹⁵, or indeed the use of restricted bin sizes for the containment of residual waste, witnessed decreasing waste trends. This is dependent on garden waste collections being strictly regulated through charging or restricting the amount that is collected through a single collection.

Incentives

19. The HWPER¹⁶ noted that while the *principle* of positive incentives, e.g. cashback incentives or cash rewards, to encourage waste prevention behaviour is acknowledged in the literature, virtually no research was uncovered during the review that formally evaluated the impacts of incentives. Defra will be evaluating the impact of its Reward and Recognition Fund which has provided £2 million, through a competitive process, for local authorities and community organisations to come up with innovative ways of increasing positive waste behaviours through rewarding and recognising those behaviours. An interim report, assessing 8 of the projects that have completed will be published by end of December 2013. A final report evaluating all 28 projects will be published by Autumn 2015.

Charging

20. The HWPER¹⁷ also looked at evidence on the opportunities and barriers to charging for household waste and the policy impacts, drawing on international experience where relevant. It found that the impacts attributable to charging are difficult to evaluate because they are often introduced in conjunction with other changes e.g. promotion work or collection changes. One of the studies examined in the HWPER concluded that the evidence in respect of the impact of charging on waste prevention is highly variable; it varies according to the type of charging system and recycling system in place.
21. The comparative study on economic instruments looked at direct and variable charging schemes drawing on evidence from schemes in other Member States, the US and Canada. The study concluded that direct and variable rate charging schemes provide evidence of waste prevention effects, with the strength of the association potentially varying with the nature of the charging system. It was noted

¹⁵ Side waste is waste which is presented by householders for collection but is not placed within the containers provided

¹⁶ WR1204-L2-m5-Policy measures

¹⁷ WR1204-L2-m5-Policy measures

that weight based systems appear to lead to the strongest waste prevention effect, but frequency based schemes also function well. Both this study and the HWPER identified increases in fly-tipping as barriers to implementation of charging.

Promotion of research and development¹⁸

22. The BWPER¹⁹ assessment of financial incentives found a significant body of evidence of the actual and potential financial savings achieved by businesses through providing R&D grants. In the UK, grants that target waste prevention activities were shown to divert 2.4 million tonnes of waste from landfill and saved 2.1 million tonnes of raw materials through resource efficiency savings; however, there is less direct evidence of waste prevention.

Product Service Systems²⁰

23. The general idea of product service systems is that consumers purchase a service (e.g. laundry) so reducing their own need to own physical products (in this case a washing machine), thus over time reducing the quantity of waste (in this case WEEE). The HWPER looked at product service systems and found evidence that they may reduce the amount of WEEE from households on new developments, through avoided ownership or smaller appliances, mainly in relation to washing machines.

24. Product Service Systems also motivate product re-design which can improve the productivity of the materials used and ultimately lead to significant waste prevention benefits.

Metrics²¹

25. The BWPER examined existing metrics used to quantify waste prevention in the business waste context. It found that the most common metrics used were financial savings and material/waste reduction. Hazardous waste reduction was also identified as a metric in some of the literature reviewed. Variation in metrics was observed between different 'users', e.g. academia, businesses, reflecting their different needs and interests. It was also noted that the metrics used had changed over time, becoming more complex and latterly including carbon savings as a

¹⁸ Annex IV (rWFD), measure 2 - The promotion of research and development into the area of achieving cleaner and less wasteful products and technologies and the dissemination and use of the results of such research and development.

¹⁹ WR1403-L2-m4-6-Incentives

²⁰ as above per footnote 14

²¹ Annex IV (rWFD), measure 3 - The development of effective and meaningful indicators of the environmental pressures associated with the generation of waste aimed at contributing to the prevention of waste generation at all levels, from product comparisons at community level through action by local authorities to national measures

priority alongside financial savings and material/waste reduction. The BWPER identified a number of learning points for the use of metrics including ensuring that metrics are credible to businesses by keeping them relevant and simple, and by reporting the financial impacts that are observed by business.

26. The BWPER also explored issues around the ease of comparison between different metrics, highlighting the need for common metrics calculated using equivalent assumptions and methodologies.

Promotion of eco-design²²

27. It is estimated²³ that 80% of all product-related environmental impacts are determined during the design phase of a product. The HWPER examined the impact of retail solutions such as refillable and self-dispensing systems on waste prevention. It looked at packaging options that required active involvement of consumers in making alternative choices. It found that the share of refillables in packaging was in long-term decline, replaced by single-use options. The HWPER summarised the barriers and success factors to greater uptake of refills, but noted the conundrum that while consumers expect refills to be cheaper than the original products this can also convey a sense of the product being lower in quality for some products. In terms of the potential contribution of refill and self-dispensing systems the Review concluded that impacts and benefits of refillable systems need to be considered on a product by product basis as the life-cycle benefits are so variable. Nevertheless, it quoted one study where for each individual product sold (rather than total tonnage for that product) a weight reduction of 60-90% was estimated on the basis of usage over a 6 month period. The HWPER included a WRAP refill study which found indicative impacts as follows: glass instant coffee jars supported by soft pack refills, 77,000 tonnes per year and deodorant and soap dispenser supported by pouch refills, 7500 tonnes per year. The indicative benefits of self-dispensing systems were less than for refills, with 2600 tonnes from coffee (assuming it replaces jars).

28. The MACC report found that actions to increase product durability have the potential to impact electronic and electrical equipment products, particularly in categories considered as 'workhorses' products, e.g. washing machines, fridges etc. However, as the impact is to delay the future sales of replacement goods, such actions appear less advantageous in the short term than actions on reuse.

²² Annex IV (rWFD), measure 4 - The promotion of eco-design (the systematic integration of environmental aspects into product design with the aim to improve the environmental performance of the product throughout its whole life cycle)

²³ http://ec.europa.eu/enterprise/policies/sustainable-business/ecodesign/files/brochure_ecodesign_en.pdf

Voluntary agreements^{24 25}

29. Waste prevention may be a voluntary agreement's primary objective (e.g. Courtauld Commitment²⁶) but is more usually one of several intended outcomes (e.g. Food and Drink Federation's zero waste to landfill target).
30. The BWPER²⁷ found much evidence for the use of voluntary agreements to reduce waste, but few explicitly target waste prevention.
31. A recent study²⁸ looked at what could be learned from voluntary agreements in the field of resource efficiency in the UK. The study found that many agreements did not have quantitative impact data associated with them, usually because they were too new. Where data has been reported to date, it suggests most agreements have achieved their targets. The report also suggests that while some agreements have missed targets they may still have made significant quantifiable contributions to resource efficiency. Equally, for some agreements that have reached or exceeded targets, the contribution of the agreement itself to this achievement is often difficult to distinguish from other prevailing factors. In some cases a sector could have been on track to achieve change anyway, either based on previous trends, or factors external to agreements.
32. The range of sectors, actors and problems to be addressed means no single ideal approach to voluntary agreements can be set out in the abstract. However, a number of challenges are likely to arise in common, and thus the issues to consider in agreement design also have much in common. The report provides detail on these issues.

Awareness Campaigns^{29 30}

33. The BWPER examined the messages and channels used for communication with businesses whether as part of awareness raising, marketing, information transfer or other activities³¹. It found that the evidence on the impacts of different waste

²⁴ Annex IV (rWFD), measure 9 - The use of voluntary agreements, consumer/producer panels or sectoral negotiations in order that the relevant businesses or industrial sectors set their own waste prevention plans or objectives or correct wasteful products or packaging.

²⁵ Annex IV (rWFD) measure 14 - Agreements with industry, such as the use of product panels such as those being carried out within the framework of Integrated Product Policies or with retailers on the availability of waste prevention information and products with a lower environmental impact.

²⁶ <http://www.wrap.org.uk/category/initiatives/courtauld-commitment>

²⁷ WR1403-L1-0-Executive Summary

²⁸ WRAP (unpublished) Evaluation of Resource Efficiency Voluntary Agreements, WRAP

²⁹ Annex IV (rWFD), measure 8 - The use of awareness campaigns or the provision of financial, decision making or other support to businesses. Such measures are likely to be particularly effective where they are aimed at, and adapted to, small and medium sized enterprises and work through established business

³⁰ Annex IV (rWFD), measure 12 - The use of awareness campaigns or the provision of financial, decision making or other support to businesses. Such measures are likely to be particularly effective where they are aimed at, and adapted to, small and medium sized enterprises and work through established business

³¹ WR1403-L2-m4-5-Communications

prevention communication activities is very weak. It found strong evidence that communication can be used effectively to drive recruitment to business support initiatives but the evidence is not robust enough to make conclusions on the impact of specific waste prevention communications. It concluded that businesses may respond better to communication that is directly targeted and specific to their industry, and that using businesses as a channel to communicate with other businesses or end-consumers may be an effective way to increase engagement in waste prevention. It was noted that communications can be costly and that the BWPER had not been able to find any comprehensive evidence on return on investment and value for money with regards to waste prevention communications.

34. The BWPER also looked at business behaviours with respect to waste prevention communications. Clarifying the concept of waste prevention to businesses and framing messages around business performance concepts – such as profitability, efficiency, productivity and innovation – may help to increase traction. Initial qualitative research with SMEs indicated that the terms ‘waste minimisation’ or ‘reduction’ were rated less relevant than terms associated with business performance and regulation.
35. The HWPER looked at the impact of local household waste prevention intervention campaigns in terms of tonnages data. It found³² that the biggest impacts could be attributed to food waste prevention (1.5 kg/hh/wk) campaigns. The Love Food Hate Waste Campaign (LFHW) launched in 2006, aimed to raise awareness of the need to reduce food waste, the benefits, and offer easy practical solutions to consumers. The campaign, which was run by WRAP, showed that by doing some easy practical everyday things in the home, that food waste can be reduced. A national campaign was supported by complementary regional and local campaigns based on nationally prepared campaign logos and materials.
36. WRAP’s evaluation of the LFHW campaign³³ has identified that it helped contribute to:
- a reduction in avoidable food waste arisings of 21% (ca. 1.1 million tonnes a year) between 2007 and 2012, preventing over £3.3 billion worth of food a year being wasted.
 - preventing 4.4 million tonnes of carbon dioxide emissions a year, and saving a billion tonnes of water.
 - more than 2 million people have made changes to the way they shop, prepare, store and use food.

³² WR1204-L3-m3/3-Impacts of public campaigns and interventions

³³ <http://www.wrap.org.uk/content/household-food-and-drink-waste-uk-2012>

Information on waste prevention techniques^{34 35}

37. WRAP's Waste Prevention Toolkit (ref) is an online tool to inform and assist local authorities in the development of waste prevention plans for their areas through good practice advice, case studies, checklists, worksheets, templates and signposting. It aims to bring together the best of good practice gathered from a range of local experience and include a business case with quantitative predictions of waste reduction and financial savings. It also acts as a hub of evidence on waste prevention (to support with Local Authority business case development) and share good practice amongst Local Authorities (by listing relevant case studies). The LoveFoodHateWaste website (ref) has advice on the actions householders can take to reduce food waste. There is no quantitative evaluation on the effectiveness of these measures in preventing waste available at present.

Business support programmes³⁶

38. The BWPER³⁷ provided examples of quantitative data of business support programmes role in waste minimisation. The BWPER concluded that business support programmes are generally effective in helping companies to prevent the generation of waste, noting that this was reflected in business surveys as well as in evaluation reports. Reduction of costs was the main motivator of companies to accept offers of support while the evidence suggests that many companies do not recognise the costs of purchasing unnecessary materials and the costs of disposing of those materials. Despite the significant costs savings reported, fees for participation in the services offered by business support organisations are seen as barriers to business participation.

39. The BWPER³⁸ also noted that well-managed waste minimisation clubs have the potential to provide significant savings, in excess of £10 for each £1 invested. Waste savings per club can range from a few thousand to hundreds of thousands of tonnes annually, depending on the number and type of businesses involved and the duration of the club activity.

³⁴ Annex IV (rWFD), measure 5 - The provision of information on waste prevention techniques with a view to facilitating the implementation of best available techniques by industry

³⁵ Annex IV (rWFD), measure 8 - The use of awareness campaigns or the provision of financial, decision making or other support to businesses. Such measures are likely to be particularly effective where they are aimed at, and adapted to, small and medium sized enterprises and work through established business networks

³⁶ Annex IV (rWFD), measure 8 - The use of awareness campaigns or the provision of financial, decision making or other support to businesses. Such measures are likely to be particularly effective where they are aimed at, and adapted to, small and medium sized enterprises and work through established business networks

³⁷ WR1403-L2-m4-8-Other Business Support

³⁸ WR1403-L2m4-7-Waste Minimisation Clubs

Ecolabelling³⁹

40. The BWPER⁴⁰ was unable to find strong evidence that waste prevention savings could be directly attributed to labelling. The Review considered the effectiveness of the EU Ecolabel but noted that it has been difficult to define empirically the effects of its use. The Review referenced a study into the possible effect of adoption of EU Ecolabelled products⁴¹. While it did not consider waste minimisation, material savings were estimated and could be recognised as a waste prevention activity. The EU Ecolabel also quantifies reduction of hazardous substances but the savings are theoretical and therefore cannot be considered evidence of the effect of labelling on waste minimisation. In summary the Review concluded that there is sparse evidence of the effect of labelling on waste prevention, largely because either waste prevention is not the primary measures or reductions in waste generation are difficult to measure accurately. It noted that although the effects of waste prevention are not direct it could be inferred that labels have driven down hazardous waste since this is the target of much of the rationale of, for example, EU Ecolabel.

Promotion of environmental management systems⁴²

41. The BWPER⁴³ provides a comprehensive assessment of the use of standards to prevent waste. It reported that although evidence for the efficacy and scope of standards to address waste prevention is sparse, it does appear that standards have some effect on waste prevention, but there is uncertainty on quantifying these benefits. The Review found that the majority of evidence on standards with respect to waste prevention is associated with the use of Environmental Management Systems (EMS). When implemented EMS's are commonly applied to target a wide range of environmental impacts, not just single issues. While EMS's do not explicitly require waste prevention activities this can be implied under certain criteria. The Review found good evidence that EMSs reduce waste to landfill. However, the reports do not permit distinction in attribution between landfill diversion, waste minimisations and waste prevention. The Review also noted that due to the timeframe for the development and implementation of new standards, it is likely that there will be a significant time lag between publication and the appearance of good supporting evidence of impacts on waste prevention.

³⁹ Annex IV (rWFD), measure 13 - The promotion of creditable eco-labels

⁴⁰ WR1403-L2-m4-2-Labelling

⁴¹ Cadman, J. and Dolley, P., The Direct and Indirect Benefits of the European Ecolabel – Final Report: DG Environment, EU Commission (2004) (ref 10 on L2m4-2)

⁴² Annex IV (rWFD), measure 10 - The promotion of creditable environmental management systems, including EMAS and ISO 14001

⁴³ WR1403-L-2m4-1-Standards

Green Public Procurement Policies⁴⁴

42. An organisation's procurement decisions can prevent waste in two distinct ways depending on whether procurement is used primarily as a tool for internal change or a driver for external change whereby it can influence the processes or products of the supply chain. The BWPER⁴⁵ concluded that sustainable procurement as a driver of external change offers the greatest potential, especially when one or more large organisations in the same sector implement a common purchasing strategy.
43. Waste prevention is rarely an explicit objective of sustainable procurement; the focus is often waste reduction. Very little evidence was found of the impact of procurement strategies being used to drive hazardous waste reduction.
44. The BWPER noted that the sustainable procurement standard is being taken up more widely in business as evidenced by a number of case studies although the benefits are not widely quantified.

Promotion of reuse and repair⁴⁶

45. The National Industrial Symbiosis Programme network, established in 1999 and funded by government, identifies mutually profitable links or synergies between its business members so that underutilised and under-valued resources from one (materials, energy and water) are recovered and reused elsewhere in the industrial network.
46. The BWPER⁴⁷ noted that NISP had produced numerous cases of 'cascaded' reuse across several sectors. Typically, these involve the transfer of packaging such as intermediate bulk containers, wooden packing cases or plastic drums from one business no longer requiring them to a second company.
47. Defra commissioned a scoping project to establish the baseline for reuse and repair in England in 2011⁴⁸ which led to two further projects, one of which identified the reuse potential, market demand and priorities for reuse, and preparation for reuse⁴⁹. This identified measures that could have high impact in terms of encouraging additional reuse or because they have a significant impact across a

⁴⁴ Annex IV (rWFD), measure 15 - In the context of public and corporate procurement, the integration of environmental and waste prevention criteria into calls for tenders and contracts, in line with the Handbook on environmental public procurement published by the Commission on 29 October 2004

⁴⁵ WR1403-L2-m4-3-Procurement and Supply Chain

⁴⁶ Annex IV (rWFD), measure 16 -The promotion of the reuse and/or repair of appropriate discarded products or of their components, notably through the use of educational, economic, logistic or other measures such as support to or establishment of accredited repair and reuse-centres and networks especially in densely populated regions

⁴⁷ WR1403-L3-m2-Reuse and Material Use Efficiency

⁴⁸ Summary Report: A rapid scoping exercise to establish a baseline on reuse and preparation for reuse-how much reuse is going on?, Defra (2011)

⁴⁹ The Market Potential and Demand for Product Reuse, Defra (2013)

range of different product areas. The principal high-impact measures were: introduction of a landfill ban on textiles; local authority reuse targets for furniture and large WEEE; a VAT exemption for all sales of second-hand items; partnership working between local authorities and third sector organisations to deliver a reuse led bulky waste collection service; and establishing reuse shops on household waste and recycling centres. For the construction and demolition sector, the following key measures were identified: changing incentives to promote and encourage timber reuse; introduce incentives to support reuse of construction site surplus; refocus on reuse of demolition materials; and conduct research into potential for reuse of specific materials. The research provided information on which measures could provide results going forward and has been taken into account in the development of the programme.

48. The MACC report found that of those actions considered as part of this work, the greatest benefits for WEEE and furniture relate to increasing reuse by focussing on increasing supply of quality second hand products through improved collections and better information for consumers on product availability and product quality. The top five actions in the report offer potential annualised savings of £1.5 billion and £670 million for WEEE and furniture respectively but the report acknowledges that these can only be indicative of the potential savings due to significant uncertainties in the data and the need for further work to verify true costs and benefits depending on the method of implementation. The interactions between different actions would also need to be considered as they are not all independent of each other and cumulative actions could either reinforce or diminish each other.

Cleaner Consumption Incentives⁵⁰

49. The study on economic instruments for promoting waste examined financial support for the purchase of reusable nappies and laundry services. It found that subsidies for reusable nappies, demonstrate wide variations in the level both of subsidy and uptake, and there appears to be no clearly established relationship to link between the two. Moreover, there is a lack of evidence on the rate at which participants revert to the use of disposables. Such schemes are typically undertaken at the local authority level, and the likelihood of waste prevention impacts, and the cost-effectiveness of any impacts, is likely to depend on local circumstances.

⁵⁰ Annex IV (rWFD), measure 11 - Economic instruments such as incentives for clean purchases or the institution of an obligatory payment by consumers for a given article or element of packaging that would otherwise be provided free of charge

Training programmes for competent authorities⁵¹

50. There is no evaluation on the impact of training programmes for competent authorities as regards the insertion of waste prevention requirements in permits under the rWFD and Directive 96/61/EC. Environment Agency officers who regulate waste facilities undergo a six month programme of mandatory training and accompanied site visits before they are assessed for their warrants. The initial training is then followed by a further 18 months of on the job development which is again assessed to ensure that officers understand the legislative requirements, such as the waste hierarchy, and can advise the businesses they regulate. This development programme is independently assessed and endorsed by the Chartered Institution of Wastes Management (CIWM).

Waste Prevention in Non-IPPC installations⁵²

51. There is limited quantitative evidence that can be used to assess the usefulness of this measure at this time. Site Waste Management Plans (SWMPs) are an example of this measure but are being repealed. While government recognises the value of SWMPs as a tool for businesses to effectively manage resources and reduce costs they should be promoted as a tool for businesses to reduce and save money rather than be a mandatory burden.

⁵¹ Annex IV (rWFD), measure 6 - Organise training of competent authorities as regards the insertion of waste prevention requirements in permits under this Directive and Directive 96/61/EC

⁵² Annex IV (rWFD) measure 7 - The inclusion of measures to prevent waste production at installations not falling under Directive 96/61/EC. Where appropriate, such measures could include waste prevention assessments or plans.

Annex A

Annex IV of the revised Waste Framework Directive - Examples of waste prevention measures referred to in Article 29

Measures that can affect the framework conditions related to the generation of waste

1. The use of planning measures, or other economic instruments promoting the efficient use of resources.
2. The promotion of research and development into the area of achieving cleaner and less wasteful products and technologies and the dissemination and use of the results of such research and development.
3. The development of effective and meaningful indicators of the environmental pressures associated with the generation of waste aimed at contributing to the prevention of waste generation at all levels, from product comparisons at Community level through action by local authorities to national measures.

Measures that can affect the design and production and distribution phase

4. The promotion of eco-design (the systematic integration of environmental aspects into product design with the aim to improve the environmental performance of the product throughout its whole life cycle).
5. The provision of information on waste prevention techniques with a view to facilitating the implementation of best available techniques by industry.
6. Organise training of competent authorities as regards the insertion of waste prevention requirements in permits under this Directive and Directive 96/61/EC.
7. The inclusion of measures to prevent waste production at installations not falling under Directive 96/61/EC. Where appropriate, such measures could include waste prevention assessments or plans.
8. The use of awareness campaigns or the provision of financial, decision making or other support to businesses. Such measures are likely to be particularly effective where they are aimed at, and adapted to, small and medium sized enterprises and work through established business networks.
9. The use of voluntary agreements, consumer/producer panels or sectoral negotiations in order that the relevant businesses or industrial sectors set their own waste prevention plans or objectives or correct wasteful products or packaging.

10. The promotion of creditable environmental management systems, including EMAS and ISO 14001.

Measures that can affect the consumption and use phase

11. Economic instruments such as incentives for clean purchases or the institution of an obligatory payment by consumers for a given article or element of packaging that would otherwise be provided free of charge.
12. The use of awareness campaigns and information provision directed at the general public or a specific set of consumers.
13. The promotion of creditable eco-labels.
14. Agreements with industry, such as the use of product panels such as those being carried out within the framework of Integrated Product Policies or with retailers on the availability of waste prevention information and products with a lower environmental impact.
15. In the context of public and corporate procurement, the integration of environmental and waste prevention criteria into calls for tenders and contracts, in line with the Handbook on environmental public procurement published by the Commission on 29 October 2004.
16. The promotion of the reuse and/or repair of appropriate discarded products or of their components, notably through the use of educational, economic, logistic or other measures such as support to or establishment of accredited repair and reuse-centres and networks especially in densely populated regions.