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Environmental Audit Committee

Growing a circular economy: Ending the throwaway society

Third Report of Session 2014–15

Report, together with formal minutes relating to the report

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Environmental Audit Committee

The Environmental Audit Committee is appointed by the House of Commons to consider to what extent the policies and programmes of government departments and non-departmental public bodies contribute to environmental protection and sustainable development; to audit their performance against such targets as may be set for them by Her Majesty's Ministers; and to report thereon to the House.

All publications of the Committee (including press notices) and further details can be found on the Committee's web pages at www.parliament.uk/eacom

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Summary

The current way our economy consumes resources is not sustainable. A 'linear' approach—where materials are extracted, made into a product, used and discarded—wastes valuable resources and damages the environment. In addition, increasing levels of consumption in developing countries will put ever more pressure on the prices of materials and subsequent costs for businesses and consumers. A 'circular' approach of re-using resources, maximising their value over time, makes environmental and economic sense. There are potentially billions of pounds of benefits for businesses across the economy by becoming more resource efficient.

The Government recognises this opportunity, and is involved in a number of initiatives to support a more circular economy, but instead of scaling up its work it is cutting it back. Its approach lacks leadership. The Government should learn from the strategic vision and ambitious targets that other countries have adopted. It should embrace the EU's ambitious targets for improving resource productivity by 30% and support business in achieving the economic and environmental benefits this would bring. It should also support the European's Commission's proposals for recycling and the accompanying targets, and use these to drive change.

During our inquiry, we heard from a range of businesses who are taking steps to a more circular economy approach, such as those that have introduced new business models that sell a service rather than a product or use innovative materials and processes to reduce environmental impacts. They told us that there is a range of barriers that Government should tackle to create the conditions for the changes needed for this to expand. We recommend that the Government reforms taxation and producer responsibility regulations to reward companies that design products with lower environmental impacts and ensures that resources are re-used. Revenues from such an approach should be used to help fund bodies, including WRAP, working to enhance materials recovery and a circular economy. It should also support efforts to improve information about the location of materials and give direct guidance to local authorities on what materials are collected and recycled. This should include a ban on food waste to landfill and separate food waste collections. It should also work with industry to set longer warranty periods for consumer products and new environmental standards for eco-design, taking steps to stop businesses using materials that cannot be recycled when better alternatives exist, and use Government procurement standards to promote a more sustainable and circular economy. The Green Investment Bank too could play a greater part in the circular economy by financing innovative technologies.

1 Introduction

What is a circular economy?

1. A circular economy maximises the sustainable use and value of resources, eliminating waste and benefiting both the economy and the environment. It offers an alternative to the predominant current approach where resources are used for one purpose and then discarded. The Government describes a circular economy as:

moving away from our current linear economy (make–use–dispose) towards one where our products, and the materials they contain, are valued differently; creating a more robust economy in the process.¹

2. The idea is not new, and is associated with a range of concepts such as ‘cradle to cradle’ design and ‘industrial ecology’, which draw inspiration from biological cycles and emphasise the importance of optimising the use of resources in a system over time. A circular economy includes a range of processes, or ‘cycles’, in which resources are repeatedly used and their value maintained wherever possible. The European Commission talks about:

re-using, repairing, refurbishing and recycling existing materials and products. What used to be regarded as ‘waste’ can be turned into a resource. All resources need to be managed more efficiently throughout their life cycle.²

In recent years the Ellen MacArthur Foundation have raised the profile of these ideas in the UK through a series of reports with global consulting firm McKinsey. These set out a conceptual framework for the circular economy and highlight the economic and environmental benefits to businesses of taking this approach.³

Our inquiry

3. Our interest in the circular economy lies in its potential to reduce waste, use resources more efficiently, and promote sustainable development which fully values the environment. We took evidence from a wide range of organisations and experts, including retail businesses, manufacturers, designers and those involved in the waste management and recycling industries, as well as the European Environment Commissioner, Janez Potočnik, and Parliamentary Under-Secretary of State in Defra, Dan Rogerson MP. We are grateful to them all, and to our specialist adviser Martin Brocklehurst.⁴

1 The Government [Prevention is better than cure: the role of waste management in moving to a more resource efficient economy](#) (December 2013) p9

2 European Commission website [Moving towards a circular economy](#), accessed 17 July 2014

3 EllenMacArthur Foundation, [Reports](#)

4 Martin Brocklehurst declared the following interests on 30 April 2014: Independent environmental consultant with KempleyGreen Consultants, advising a number of clients on waste and resource management, catchment management, citizen science and ecosystem services. Until 2011, employed by the Environment Agency.

The benefits of a circular economy

4. One reason a more circular economy is needed is because current rates of resource consumption are not sustainable. The European Environment Commissioner, Janez Potočnik, highlighted to us that increasing levels of consumption in developing countries will put ever more increasing pressure on resources:

In one generation, we will have on the planet an additional 2 billion people, which is more than the overall population at the beginning of the 20th century, when it was 1.5 billion. That is more than 200,000 per day. ... McKinsey estimates that, by 2030, 3 billion people who are currently living in poverty will join the middle-class level of consumption. If you take into account that, all in all, that would mean that we would need something like three times more resources than we use today in 2050—70% more of food, feed and fibre in 2050—we would likely be around 40% short of drinking water in 2030. If we take into account that already today we are using approximately 60% of our ecosystems in pretty much unsustainable ways that makes a pretty simple conclusion: how we produce, consume and live will have to be changed.⁵

The Ellen MacArthur Foundation similarly concludes that:

Whilst we cannot say for certain that we will ‘run out’ of resources—mankind has shown incredible persistence and ingenuity in finding access to new sources—it is clear that we have exhausted the easy to access reserves. This is having a significant impact on prices, and the century of commodity price declines enjoyed between 1900 and 2000 were effectively erased in the first decade of this millennium. There are few signs that this trend will be reversed.⁶

5. The Green Alliance predict a “great resource price shock”, as the combination of rising demand and constrained supply leads to rising prices:

The last decade has seen a dramatic shift from 20th century expectations that relatively ready access to cheap raw materials was the norm, and that the occasional resource crunch would be overcome by new technology and new sources of supply. This has been expressed in restrictions on raw materials like rare earth metals and very substantially greater price volatility across a whole host of commodities. Over the past decade world food prices have doubled, metals prices have trebled and energy prices have quadrupled.⁷

Dustin Benton from the Green Alliance told us that the cost of extracting resources is rising as the easiest to reach sources run out:

Copper is an area that we have looked at in some detail, because it is not very readily substitutable. There is copper in all of the wires in this room, in our smartphones, everywhere. We could not run a modern

5 Q198

6 Ellen MacArthur Foundation ([GCE0024](#)) para 2

7 Green Alliance ([GCE006](#)) para 5

society without it. ... When we started measuring back 150 years ago there was about 7% copper in every ton of ore that we got. Today it is about 0.6%. ... There is plenty of copper in the earth's crust, don't worry, but getting to it, extracting it, is increasingly a challenge.⁸

Sir Ian Cheshire of Kingfisher told us that he expected that rising global demand for products would continue to lead to increasing prices. He said that businesses needed to adapt to this new reality:

I am personally convinced that resource prices are going one way because of the next 30 years, and that if you have a planning assumption in your business model that that is not the case I think you are going to be unpleasantly surprised. There is opportunity always to substitute certain material prices and mitigate this, but I think the broader picture is a one-way bet at the moment.⁹

6. Whilst the threat of increasing prices provides a driver for businesses to become more resource efficient, there are also strong environmental arguments for taking a more circular approach. Many of the wider environmental impacts from the use of materials are not captured by market prices. Dustin Benton of the Green Alliance explained that a circular economy has significant environmental benefits. He noted that the price of resources does not include the full environmental costs associated with extracting, processing and transporting them. If the costs of carbon emissions were included, for example, then the benefits of a circular approach would be clear:

If we were to price carbon adequately to get real change to tackle climate change ... the price of aluminium would jump by 70% because of the amount of energy that goes into its production. Recycled aluminium would only jump by about 7%.¹⁰

7. Jamie Butterworth of the Ellen MacArthur Foundation explained that it is possible to transform the environmental impact of products by changing the materials they are made from. He gave the example of a Californian company that is making packaging material using used ground coffee to produce mycelium as an alternative to polystyrene. He told us that this material "is price competitive with polystyrene" and "completely restorative".¹¹

8. There are several ways of measuring the 'circularity' of the economy. One headline figure is the household recycling rate, which reached 43% in England in 2012-13, up from 12% in 2000-01. However, waste collected by local authorities forms only a 13% of total waste produced in the UK. The main components are construction and demolition waste (49%) and commercial and industrial waste (24%).¹² Household recycling is discussed in more detail below. WRAP (the Waste and Resources Action Programme) estimated that in 2010 the UK economy was 22% 'circular'; an increase from 8% in 2000. In total in 2010, 540 million tonnes of resources entered the

8 Q19

9 Q18

10 Q10

11 Q4

12 National Audit Office [Environmental Protection](#) (July 2014), p30

economy, and, “after losses to the environment through industrial processes, energy consumption and wear-and-tear”,¹³ 259 million tonnes were left to be managed as waste, of which 117 million tonnes were recycled. It estimated that by 2030, the UK economy’s circularity could increase to 27%, whilst also benefiting from a reduction in materials consumption of 30 million tonnes a year.¹⁴

9. Waste policy and regulation in England is informed by the ‘waste hierarchy’, as required by the EU Waste Framework Directive, and transposed into law by the Waste (England and Wales) Regulations 2011. The hierarchy, which is consistent with the circular economy approach, gives top priority to waste prevention, followed by preparing for re-use, then recycling, other types of recovery (including energy recovery) and last of all disposal or landfill.¹⁵

10. A more circular economy also has economic benefits. The Environmental Services Association suggest that a more circular economy could increase UK GDP by £3 billion a year.¹⁶ A study for the Government in 2011 indicated that there were £23 billion of financial benefits from low/no cost improvements available to businesses in the UK.¹⁷ The Green Alliance told us that the circular economy makes good business sense:

Where companies control the full cycle of a material or product, they choose circular models to offset the need to hedge for the price volatility of new materials. This also avoids the (normally uninsured) risk that lack of availability of resources will constrain production.¹⁸

11. In their evidence, the Chartered Institution of Wastes Management (CIWM) drew on analysis from the EU that estimated that full implementation of the 8 existing EU main waste-related directives could save €72 billion a year (€9 billion in UK). The value of the ‘waste industry’ in Europe could increase by €42 billion (€5 billion in UK), with 400,000 new jobs (50,000 in UK). EEF, the manufacturer’s association, highlighted research by the Next Manufacturing Revolution, which suggests that in just three UK manufacturing sub-sectors re-manufacturing has the potential to create £5.6bn to £8bn a year and support over 310,000 jobs. Commissioner Potočnik told us:

Environmental protection and health protection and economic development are two sides of the same coin. Flipping that coin makes no sense. We simply have to recognise the integration of environmental concerns into not only industrial policy, but transport policy, energy policy, fisheries policy, agricultural policy, trade policy, research policy and so on. It is an absolute necessity.¹⁹

13 Chartered Institution Of Wastes Management ([GCE0043](#)) para 7

14 WRAP ([GCE0025](#)) para 11

15 The Government ([GCE0045](#)) para 25

16 Environmental Services Association, [Going for Growth: A practical route to a Circular Economy \(June 2013\)](#)

17 The Government ([GCE0045](#)) para 8

18 Green Alliance ([GCE006](#)) para13

19 Q202

Business engagement

12. Professor Tim Jackson told us “unless you have a business model that is different from the one predicated on the material throughput of consumer products, you cannot create an economy that will deliver the circular economy *in toto*”.²⁰ Clearly, one solution to rising populations and resource scarcity is for people to consume less, but there are also opportunities for new business models which use resources more efficiently, such as those which provide access to products, such as cars, rather than ownership. Sir Ian Cheshire highlighted that “the emergence of things like the ‘sharing economy’ and different forms of more sustainable consumption become easier for customers”.²¹

13. Some businesses are taking the lead in responding to the challenges of rising natural resource prices by adopting circular economy approaches. Ramon Arratia of Interface carpets told us that setting ambitious goals had made his organisation “look for radical options and think big, and things emerged. We went to the inventors of nylon who told us it was impossible to recycle nylon. Now we have 100% recycled nylon, not only across our company but also across all of our competitors.”²²

14. Some new business models offer the potential to use resources more efficiently by rewarding better design and encouraging the repair, re-use and recycling of products. For example, Rolls Royce has switched to a service-based model, offering ‘power by the hour’ which covers “full in-use monitoring, servicing, repair, remanufacture and replacement” of its engines. WRAP told us that a ‘take-back’ model for TVs and clothing, where products are returned for recycling or re-use, could increase UK GDP by over £1.75 billion by 2020. It is working on a ‘REBus’ project “to demonstrate profitable, resource-efficient and resilient alternative business models” in the electrical products, textiles, furniture and construction products sectors.²³

15. Dan Rogerson, Defra Minister with responsibility for waste, highlighted the REBus project’s work looking at hiring out baby equipment: “As your needs change with buggies, ... and what you need the buggy to do, depending on how many children you have and so on, you buy that service rather than just a product”.²⁴ By supporting research into these areas, the Government can help support businesses in their decision-making, potentially reducing risks associated with taking new approaches.

16. The circular economy concept can help businesses to think through how they use materials and understand the full life-cycle of their products. It is both a challenge and an opportunity for businesses. Marks and Spencer told us that in their experience:

20 Q145

21 Q6

22 Q99

23 WRAP ([GCE0025](#)) para 23

24 Q238

The circular economy is most dependent on dematerialisation and re-use. Therefore, the traditional waste hierarchy (and policies) of reduce (dematerialise), re-use, and recycle is still relevant to the circular economy. For example, re-using clothing to reduce consumption is significantly more beneficial in financial and environmental terms than the lesser option of recycling.²⁵

WRAP believed that “true circularity is not just about recycling more material, but about using less material in the first place”.²⁶ It is therefore about better design. The Great Recovery project, funded by the Technology Strategy Board and run by the Royal Society for the encouragement of Arts, Manufactures and Commerce (RSA), has led research into the role of design in the transition to a circular economy. They calculated that “over 80% of the environmental impact of a product is determined at its design stage, making it a crucial leverage point in shifting towards more circular systems” and identified four ‘design models’ for circularity:

- a) Design for longevity;
- b) Design for leasing /service;
- c) Design for re-use in manufacture; and
- d) Design for material recovery.²⁷

Design for the circular economy requires specialist expertise. It is not just about making things, but understanding materials and building links between organisations. Sophie Thomas of the RSA highlighted a need for “more system designers, system thinkers.”²⁸

17. Research by Green Alliance with the Circular Economy Task Force has highlighted business conditions that are more conducive to the circular economy: where the value of materials is high, where they can be collected reliably with little contamination, and where the product or component is easy to re-use or transform through recycling. Where there are multiple owners who control the materials, or where products change rapidly, it can be harder to introduce circular business models.²⁹ By their nature, alternative business models are ‘disruptive’, and challenge existing market players. Splosh Ltd, which sells laundry detergents, told us that businesses that attempt to innovate may face intense competition from rivals:

Many major companies have invested significant sums in brands and business models that support linear products, which may not be turned easily into circular products. Circular products would represent a threat to the status quo which would lead to discounting and marketing pressure from established brands.³⁰

25 Marks and Spencer ([GCE0049](#)) para 7

26 WRAP ([GCE0025](#)) para 11

27 RSA ([GCE0048](#))

28 Q69

29 Green Alliance ([GCE006](#)) para 15

30 Splosh ([GCE004](#)) para 7

18. Ramon Arratia of Interface carpets told us that it is challenging for manufacturers to become services expert because it requires different skills.³¹ He told us that other policy interventions can support greater circularity, and that there are different ways that companies can gain from circularity without needing to control the entire process:

You do not necessarily need to own the product in order for the product to come back. If you impose a ban on the landfill of carpet across Europe—as it is in Germany and in other countries—effectively the carpet will go back to the best technology. If we have the best technology to recycle, it will come back to us. There are other ways. Ownership of the actual product across the whole life is not absolutely critical.³²

Marks and Spencer told us that “finding practical, workable solutions to growing a circular economy depends on high-quality, multi-stakeholder collaboration”.³³ Many businesses do not have specialist skills or experience to know how to apply circular economy thinking. The Resource Association told us that this was particularly important for small and medium sized enterprises (SMEs):

For the SMEs that are the backbone of industry and commerce, time and resources for innovation are often hard to find and they are more reliant on support and encouragement from Government. To this end, maintaining support for businesses through funding mechanisms such as the Technology Strategy Board and the Waste and Resources Action Programme remain important.³⁴

19. The Government highlighted the work the Technology Strategy Board is doing to support circular economy innovation. This includes work with Knowledge Transfer Networks on design challenges to promote re-use, resource efficiency and supply chain innovations.³⁵ The Technology Strategy Board has supported around 60 projects, investing over £13 million, including developing recycled aluminium alloys for Jaguar Land Rover car bodies and redesigning a Morphy Richards steam iron for longer life and lower energy use.³⁶ Professor Rob Holdway of Giraffe Innovation told us about work he was involved in to recover critical metals from printed circuit boards using novel engineering technologies. He told us that these electronic equipment materials are valuable—“by 2020 there will probably be about £1.3 billion worth of value in those materials”.³⁷ CIWM emphasised that Government is playing a significant role in supporting UK businesses, including supporting access to international markets through UK Trade and Investment (UKTI):

Government is successfully supporting innovation and development in some areas including the valuable work by KTN and TSB, to find and

31 Q103

32 Q104

33 Marks and Spencer ([GCE0049](#)) para 9

34 Resource Association ([GCE0023](#)) para 9

35 Government ([GCE0045](#)) para 27

36 Technology Strategy Board ([GCE0030](#)) para 23

37 Q68

develop and introduce technologies and new approaches at all points in the resources cycle, regardless of 'sector'. UKTI also support access to overseas markets where UK knowledge and experience are highly valued.³⁸

20. The Government has, however, stopped directly funding its National Industrial Symbiosis Programme. Liz Goodwin of WRAP told us the reason for ending funding was that "quite a lot of this was just one-offs and it was very difficult to replicate it."³⁹ International Synergies Ltd told us the that programme is "a business opportunity engagement process which then allows other ideas/tools to be introduced to businesses but in a peer-to-peer way which is far more effective than consultant- or government-to-business",⁴⁰ and this work had "recently been recognised by DCLG as being excellent value for money".⁴¹

21. The Government highlighted a number of initiatives it has promoted to encourage greater collaboration. This includes setting up the business-led Circular Economy Task Force, and working through WRAP to establish voluntary initiatives in different sectors, such as the Sustainable Clothing Action Plan (SCAP) and Sustainable Electricals Action Plan (SEAP). It also supports the Product Sustainability Forum, which brings together retailers and suppliers, NGOs, academics and Government representatives, with a focus on grocery products.⁴² It is also funding research on business models (paragraph 14). WRAP told us, however, that the Scottish Government's Resource Efficient Scotland programme provides wider support to businesses, third sector and public sector organisations to reduce overheads through improved energy, material resource and water efficiency.⁴³

22. The Government told us, however, that its focus is on "moving towards a more circular economy, rather than achieving or delivering it",⁴⁴ and that the "Government is clear that businesses need to drive change".⁴⁵ It added that

Government's role should be focused on the areas where Government is uniquely placed to act, i.e. working with businesses to ensure the right frameworks are in place to allow them to act, remove any unnecessary barriers and ensure that market failures are addressed.⁴⁶

Marks and Spencer told us that responsibility for the circular economy lies 80% with businesses, but that crucially there remained a role for "some degree of support and incentivisation from Government as well".⁴⁷ Sir Ian Cheshire of Kingfisher believed that Government has a significant role in facilitating change:

38 Chartered Institution Of Wastes Management ([GCE0043](#)) para 25

39 Q24

40 International Synergies Limited ([GCE0019](#))

41 International Synergies Limited ([GCE0055](#))

42 Government ([GCE0045](#)) paras 21-27

43 WRAP ([GCE0025](#)) para 65

44 Government ([GCE0045](#)) para 11

45 [ibid.](#) para 19

46 Government ([GCE0045](#)) para 9

47 Q116

I think Government acting as a promoter of the circular economy and a promoter of these types of behaviour, and having an explicit role to champion this through BIS and others talking about new models for businesses, is going to be incredibly important.⁴⁸

During our inquiry, we examined a number of areas where Government might focus more attention in order to enable companies to move towards a more circular approach, which we discuss in Part 2.

2 Policy areas for growing a circular economy

Taxes which support resource efficiency

23. One of the most effective policy measures in increasing circularity in the past decade has been the landfill tax, which Hampshire County Council told us “has helped to push material up the waste hierarchy by making other waste management systems more affordable”.⁴⁹ Waste-to-landfill has halved since the tax was introduced in 1996.⁵⁰ Dan Rogerson told us that he wanted to reduce waste-to-landfill further, but that there were always some substances, such as asbestos, which would have to be disposed of in that way:

We have reduced landfill a great deal but there is more to do on that. ... I suppose from Defra’s point of view in particular it would be making sure that we are pushing the materials up the hierarchy and the amount that goes to landfill is down to some very hazardous wastes and so on.⁵¹

Some witnesses felt that the landfill tax had resulted in a shift to the next cheapest alternative, which is often incineration or export. Eunomia Research and Consulting told us that incineration, or energy from waste, should also be taxed in order to achieve greater recovery of materials.⁵² Novelis told us that they supported transforming the landfill tax into a “disposal tax that included incineration—effectively taxing the linear and incentivising the circular”.⁵³ Dustin Benton from Green Alliance told us that incinerating waste materials benefited from guaranteed financial returns for the energy generated, whereas recycling materials to use them again depended on markets which were more volatile and so less attractive to investors.⁵⁴

24. The Government’s 2011 waste review stated that “market-based instruments such as taxes and trading systems are an efficient and cost effective way of pricing in the value of environmental resources. By giving certainty over the price of these resources, they create new opportunities for businesses in markets for environmental goods and services.”⁵⁵ We noted in our recent report on *Well-being*, the work that the Natural Capital Committee is doing on the scope for Government policy-making to reflect the value of ecosystem services.⁵⁶ A circular economy would be greatly facilitated if businesses too could take account of such factors.⁵⁷ Sir Ian Cheshire suggested that taxes should be used to incentivise businesses to take a more

49 Hampshire County Council ([GCE0020](#)) para 4.10

50 Government ([GCE0045](#)) para 53

51 Q223

52 Eunomia ([GCE0038](#)) para 24d

53 Novelis Europe ([GCE0027](#)) para 8

54 Q24

55 Defra [Government Review of Waste Policy in England 2011](#) p13

56 Environmental Audit Committee, Fifteenth Report of Session 2013–14, [Well-being](#), HC59

57 Steve Venton, *Natural capital horizon scan* (July 2014)

circular approach, by “pricing the externality properly”.⁵⁸ He suggested that differential VAT rates could change business behaviour:

You could design it in a way that is fiscally neutral, just to keep the Treasury calm. I genuinely think that, with a bit of indication and information and a bit of financial incentive, you will start to get people looking for these types of products.⁵⁹

25. The Green Alliance believed that the Government had provided “limited support for conditions enabling circularity”.⁶⁰ SITA highlighted that “previous waste strategies have been overwhelmingly biased towards the management of municipal waste and towards end-of-pipe ... Policies that ‘push’ materials out of landfill should be balanced by policies that ‘pull’ these diverted materials into the production economy”.⁶¹ Steve Lee of CIWM also highlighted the importance of “stimulation of the market end for circular economy materials”.⁶² Ramon Arratia of Interface carpets told us that more could be done to incentivise products with better environmental characteristics:

We have products today with 5 kilograms of CO₂, with 100% recycled nylon, and there are products in the market with 20 kilograms of CO₂ with high-pile virgin nylon. Both pay the same VAT. Both pay the same tax. What are the signals that we are giving to the market?⁶³

Similarly, Steve Lee told us that he wanted:

... to see a transfer of the weight of taxation away from effort, from skills, from employment and towards virgin resource use. That could take many forms, including a variable VAT rate across Europe, such that it would encourage designers and manufacturers to look for sources of secondary materials for their products, services and processes. We believe that there is great scope here and it is something that only Government in the UK can carry forwards as an argument into Europe, because it would be a very difficult thing for an individual member state to do on its own, but it could have tremendous impact if it were picked up at a European level.⁶⁴

The Local Government Association suggested lowering National Insurance Contributions for additional staff in repair organisations to support growth in the re-use sector.⁶⁵

58 Q28

59 Q8

60 Green Alliance ([GCE006](#)) para 19

61 SITA ([GCE008](#)) para 15

62 Q191

63 Q115

64 Q184

65 Local Government Association ([GCE0029](#))

26. Dan Rogerson would not be drawn on whether his Department had discussed alternative fiscal measures, either internally or with the Treasury.⁶⁶ He told us that at present the Government's main focus was on maintaining the landfill tax:

There is some flexibility under EU rules for looking at VAT but that is not something that we are proposing to do at the moment. I think it is important that we continue to make sure the landfill tax is doing the job it has done quite successfully to make sure that the cost of landfill remains higher than the far more constructive uses of those materials.⁶⁷

27. Current taxation laws do not reward companies that take a circular economy approach, with its associated environmental benefits, and risk locking the economy on a linear path. As pressure on resources will continue to increase, taxation policy should incentivise products that are designed to have a lower environmental impact and support greater repair and re-use. *The Government should introduce differential VAT rates based on life-cycle analysis of the environmental impact or recycled content of products, and tax allowances for businesses that repair goods or promote re-use. It should set up a cross-Government working group, led by the Cabinet Office to decide how best to implement such reforms.*

Producer responsibility and 'take-back' schemes

28. The Green Alliance have identified that one of the most fundamental barriers to a circular economy is 'split incentives' where organisations that design products often do not have responsibility for their end-of-life recovery.⁶⁸ The Government considers that "producer responsibility is an extension of the 'polluter pays' principle and is about ensuring businesses take responsibility for the products they place on the market at the end of their lifecycle."⁶⁹ Dr Kate Goldsworthy from the University of the Arts told us that extended producer responsibility could have an impact on how products are designed:

If the take-back systems are looked at alongside the design, you see some really interesting things happening. If a company knows that their product is coming back full circle to them, it is in their interest to design it in such a way that they can get the maximum value from it.⁷⁰

29. The RSA highlighted that in Japan "manufacturers themselves own most of the materials recovery and recycling plants and operate their own compliance schemes, resulting in direct cost savings and incentives to design for disassembly, re-use and remanufacturing".⁷¹ Dustin Benton of Green Alliance described this as "an example where the state has effectively created a whole system where the incentives are aligned".⁷² The Environmental Services Association told us that "design of products

66 Q288

67 Q287

68 Green Alliance ([GCE006](#)) para 16

69 Government ([GCE0045](#)) para 36

70 Q73

71 RSA ([GCE0048](#)) para 2

72 Q32

for recyclability, which enables bulk collection and automated disassembly so far as possible, will help to maximise the longer run economic benefits of recovering secondary materials from the waste stream.”⁷³

30. There is a producer responsibility scheme for packaging through a system of Packaging Recovery Notes (PRNs), which packaging reprocessors sell when they have recovered and recycled a tonne of packaging. There are also regulations under the Waste Electrical and Electronic Equipment (WEEE) Directive which obligate retailers of electronic or electrical goods to operate or join a take-back scheme. Axion Recycling believed, however, that these “acted as a barrier to progression towards a circular materials economy” because most compliance schemes do not have individual producer responsibility (IPR):

In a system where all producers pick up an equal cost per tonne for dealing with the end-of-life waste treatment system based upon market share, there is no incentive for any single producer to invest in making changes to their own business model which will help to increase recyclability of products. Why would any single firm invest this effort, if all they do is pass those benefits onto other players in the market who will not make any changes to their own product design, material selection criteria or ease of disassembly? The lack of IPR options create a barrier to progress in this important aspect of eco-design.⁷⁴

The Government’s Waste Prevention Plan, however, states that it will “work with the industry to explore how Individual Producer Responsibility can be implemented” for the electrical and electronics sector.⁷⁵

31. The Environmental Industries Commission told us that “producer responsibility has been fairly successful in increasing the collection and recycling of materials, but has been much less successful at altering the nature of products from the point of design so that they have less impact throughout their life and are easier to recycle.”⁷⁶ Nick Brown of Coca-Cola suggested that PRNs should have “different contributions for packages that are harder to recycle or have a harder end of life”.⁷⁷ The British Plastics Federation wanted a further reform of the PRN system to “incentivise the use of plastics packaging recyclate within the UK by enabling obligated organisations to offset the volumes of recyclate used against the charges applied for compliance”.⁷⁸

32. Sir Ian Cheshire told us that many environmental regulations have not been designed with the circular economy in mind. He explained that the additional bureaucracy of compliance adds costs which are currently prohibitive for many businesses:

73 Environmental Services Association ([GCE0026](#)) para 14

74 Axion Recycling ([GCE0041](#)) para 4

75 The Government *Prevention is better than cure: the role of waste management in moving to a more resource efficient economy* (December 2013), p17

76 Environmental Industries Commission ([GCE005](#)) para 3

77 Q150

78 British Plastics Federation ([GCE0021](#)) para 3.6

... In take-back chains there is a real problem. I can apparently sell a power tool all the way down the value chain to a customer but if I want to take it back and repair it I have to have a WEEE certificate and become a licensed waste carrier, and frankly the economics don't work.

The European Commissioner, Janez Potočnik told us “we absolutely need to address those issues”.⁷⁹ There is clearly a need to balance strong regulation to prevent illegal disposal of waste, with measures that make it easier for businesses to take back and re-use products. WRAP told us:

“We recognise the need for a balance between sensible waste controls (which rightly exist to prevent illegal activity) and the promotion of greater circularity. However, we think it is important that issues such as the definitions of waste, by-products and end-of-waste are regularly reviewed to ensure that this balance continues to be achieved.”⁸⁰

33. The current producer responsibility schemes fail to incentivise or reward companies that design products with their end-of-life in mind. In addition, aspects of the wider regulatory framework for waste can prevent businesses re-using materials or products. *The Government should reform the PRN scheme to include an 'offset' or lower charge for products that have higher recycled content and ensure that funds generated from the operation of the scheme are distributed to bodies working to enhance materials recovery and product circularity. It should also introduce individual producer responsibility schemes in new sectors to make more producers design products with their end-of-life in mind. The Government should review how processes for environmental protections against illegal disposal of waste might be simplified to encourage businesses to re-use materials. More generally, it should explore the scope for regulating the minimum recycled content of particular products in order to stimulate sustainable markets in recovered and recycled material.*

Recovering materials

A standardised approach to recycling services

34. We heard from several witnesses that the current area by area approach to recycling collections is reducing opportunities for businesses. EEF recommend that the Government introduce a “nationwide code for local authorities on waste collection to help manufacturers design for recyclability”.⁸¹ The Green Alliance and Circular Economy Task Force estimate that introducing more consistent recycling collections could be worth £1.7 billion a year to businesses.⁸² Sir Ian Cheshire told us:

We don't have any standardisation of the way that waste streams are done local authority by local authority. If you are going to get to scale in the UK, it should not be beyond the wit of man to standardise the way in which we organise and collate waste streams. At the moment it is

79 Q209

80 WRAP ([GCE0025](#)) para 63

81 EEF [Materials for Manufacturing](#) (July 2014), p20

82 Green Alliance [Wasted Opportunities: Smarter systems for resource recovery](#) (July 2014), p6

absolutely subscale and suboptimal. I think it has been done in the cause of localism, which on one hand is a good thing. In this case I think it has inadvertently created a blockage to potentially a lot of valuable waste being accessed.⁸³

Liz Goodwin from WRAP told us “if we were starting from scratch we would not be doing what we are doing currently”.⁸⁴ She explained that messages about recycling were made more complicated by the fact that different waste collection schemes are in place in different parts of the country, and how that affects a WRAP-run on-pack labelling scheme:

There are three symbols: one is it is ‘widely recycled’, one is it is ‘not recycled’, and one is ‘check locally’ because there is not a large enough proportion of the population covered by the recycling scheme. Once you get to 70% of people having access to it, it becomes ‘widely recycled’. For example, on mixed plastics we still need about 70 local authorities to start collecting mixed plastics for that to get a ‘widely recycled’ label, and that will be a massive improvement.⁸⁵

35. Dr Stewart Barr of Exeter University told us that “because of the varying nature of recycling services in the UK, there cannot be one consistent message about a product’s recyclability”.⁸⁶ Mike Barry of M&S told us “the number one thing that [the Government] can do to help us is to simplify the collection of waste in the consumer’s home.”⁸⁷ Nick Brown of Coca-Cola saw a need for “a vision of what a more common and standard collection system could look like... There is a lot of potential for overcoming that confusion by moving towards a more common scheme.”⁸⁸ Professor Tim Jackson told us that recycling has to be simple, and that the two main things that can be done to promote recycling behaviours are “absolute consistency of messaging and clarity of infrastructure”, and “to return those [recycling] behaviours as soon as possible to habitual behaviours, rather than demanding cognitive effort from people”.⁸⁹

36. The way waste is collected and sorted can have a significant impact on its future value. Professor Rob Holdway told us that “through better segregation, avoidance of sending stuff to landfill, we now have some very good recycling businesses that can stimulate designers to think about these issues for milk bottles, water bottles and so on.”⁹⁰ In February 2013, the Government launched a Quality Action Plan which acknowledged that “although buyers and sellers are agreeing prices in the market for recyclates, there are strong indications that market signals regarding quality appear not to be working in the way they should. This is resulting in inefficiencies in both economic and environmental terms, and delivering material of sub-standard quality

83 Q23

84 Q44

85 Q45

86 Dr Stewart Barr ([GCE0002](#)) para 1

87 Q90

88 Q136

89 Q134

90 Q73

in some cases.”⁹¹ Many recyclers have criticised the Government, however, for not going far enough to require local authorities to separate out waste. Chase Plastics told us that the Government’s approach is unlikely to do enough to reduce contamination and promote recycling in the UK:

Our government chose to ignore Europe’s advice on source separation and good collection practice. ... Poor quality collection methods mean that the contamination levels in recyclables is too high for the economic sorting and processing of such materials here in the UK.

37. Food waste collections not only reduce the volume of waste sent to landfill, where it produces methane, but can be a feedstock for anaerobic digestion and other technologies. Novamont highlighted that just 400,000 tonnes of food waste was collected for organic recycling, out of the 7.2 million tonnes of food waste from households.⁹² They suggested that regulatory measures are needed to divert organic waste from landfill, such as the regulations requiring households to separate out food waste in Ireland, or the landfill ban on food waste being introduced in Scotland.⁹³ The Anaerobic Digestion and Biogas Association recommended that the Government should “give a greater steer towards councils and businesses to implement separate food waste collections”.⁹⁴

38. The Government has offered guidance to local authorities about the frequency of waste collections and made £250 million available to those that offer weekly waste collections:

The Government is committed to working with councils to increase the frequency of collections and make it easier to recycle. It is considered that local authorities with weekly residual collections can still achieve high recycling rates. A number of local authorities with weekly collections of residual waste have achieved recycling rates of over 50%.⁹⁵

The Government’s initiative on weekly residual waste collections risks distracting from the message that households should separate out recyclable materials, and food waste. Whilst Dan Rogerson told us he saw a “huge amount of progress” in recycling, he acknowledged some scope for offering “a little bit more guidance, and we could do some work on best practice”.⁹⁶

39. A circular economy would be supported by a more consistent national approach to household recycling collections. This would maximise recycling of a wide range of materials, and ensure consistent messaging and on-pack advice labels on products. *Local authorities need to tailor their services to local needs, but the Government should give clear guidance that directs local authorities in England towards a more standard approach. This should include separation systems that enable reliable*

91 Defra, [Quality Action Plan](#) (February 2013), p7

92 Novamont ([GCE0039](#)) para 3.1.1.

93 [Ibid.](#) para 5.1.2.

94 Anaerobic Digestion and Biogas Association ([GCE0037](#)) para 8

95 DCLG [Guidance on weekly rubbish collections Delivering a frequent, comprehensive service](#), paras 30 and 31

96 Q275

delivery of compatible sorted waste products to all recyclers, separate food waste collections, and a ban on food waste to landfill.

Better data

40. A lack of detailed information about waste materials is a significant barrier to companies making informed decisions about where to prioritise investments and to be able to match end-of-life materials with markets. The Environmental Services Association stated “one area of ongoing concern is the chronic lack of data on material flows”.⁹⁷ Eunomia identified that:

One of the greatest sources of frustration regarding waste, other than those collected by local authorities, is that the quality of data remains truly abysmal. No one actually knows how much waste is being generated by commerce, industry, or the construction and demolition industries, or how it is being managed.⁹⁸

EEF told us that “poor data is increasingly being cited by the waste industry as the key reason for under-investment in treatment facilities because it makes it unduly difficult for financiers to undertake due diligence”.⁹⁹ Peter Jones, an independent adviser, stated that “gross ignorance and utter speculation [about future waste capacity] is entirely down to the lack of an integrated, real time data capture network”.¹⁰⁰

41. Accurate information about levels of waste materials is vital for modelling future demand. Axion Recycling told us that “if there is a lack of confidence in the demand for the output products of any materials recycling business, then there is a very high risk that the investment will fail.”¹⁰¹ One way of addressing this issue is to improve the reporting of this information through the ‘Waste Duty of Care’, or ‘eDoc’, system. Steve Lee of CIWM explained that:

eDoc ... is a very important project. It is three quarters of the way through its life. It has produced a web-based data, trafficking and monitoring system that is free to the user. It was launched at the end of January [2014]. It is supported by all four UK Governments. The big question now is who will be its foster parent and who will look after it in the next critical four or five years of its life.¹⁰²

Dan Rogerson told us that so far 1,446 businesses had registered on eDoc and it currently contained over 12,000 waste transfer records. He was clear that it is “the job of us as Government to champion it”, noting that the “leading waste companies are very keen to take this forward”.¹⁰³ Dominic Hogg of Eunomia wanted this

97 Environmental Services Association ([GCE0026](#)) para 22

98 Eunomia ([GCE0038](#)) para 8

99 EEF ([GCE0032](#)) para 19f

100 Peter Jones ([GCE0012](#)) para IV a)

101 Axion Recycling ([GCE0041](#)) para 7.1

102 Q181

103 Q250

reporting to be mandatory in order to get the necessary quality of information for effective planning, and complained that:

... we have gone backwards a little, because Defra has now decided to allow alternatives to Waste Transfer Notes to be used as evidence of proper handling of data, so they can record waste that has been moved on an invoice, rather than a waste transfer note, which dilutes and diffuses the nature of the information. We need a proper, electronic register where we track the movements of waste and what it is through the whole system. I cannot believe this is a question of if; it has to be a question of when.¹⁰⁴

42. The ‘Waste Duty of Care’, or ‘eDoc’, is an important initiative to improve the quality of information about the resources contained in waste. It will help businesses and Government better identify opportunities for maximising the value of these materials and plan future investments. *The Government should set out plans to ensure eDoc’s long term future so that it can fulfil its role in improving data quality on waste materials. It should set a deadline by which time reporting in this way will be mandatory.*

Infrastructure

43. We heard from witnesses that a more circular economy will need investment in new infrastructure. The Green Investment Bank told us that it had invested over £200 million in the UK waste sector, mainly through PFI/PPP projects, but was now moving towards a strategy of investing in “pioneering projects”, such as specialist fuel supply and anaerobic digestion.¹⁰⁵ They stated that the move away from traditional PFI/PPP projects was because “most local authorities have now procured their chosen waste management solutions”.¹⁰⁶

44. Dominic Hogg of Eunomia thought that the Green Investment Bank should move away from investments in incineration infrastructure, including energy from waste plants, because these potentially diverted materials away from recycling and therefore limited circular economy activity.¹⁰⁷ Steve Lee of CIWM disagreed, telling us that England is “short of the infrastructure that we need to deliver the future”. He emphasised the importance of the Green Investment Bank’s funding for anaerobic digestion because the “signals it sends to other potential investors that this is a technology, a process and a part of the market in which it has confidence, and is willing to invest, are incredibly powerful”.¹⁰⁸ The Local Government Association suggested scaling up debt financing through the Green Investment Bank,¹⁰⁹ and the Environmental Services Association wanted the Green Investment Bank to develop new insurance products to underwrite some elements of ‘feedstock risk’ associated

104 Q179

105 Green Investment Bank ([GCE0057](#)) para 5

106 [ibid.](#) para 18

107 Q173

108 Q176

109 Local Government Association ([GCE0029](#))

with securing sufficient materials.¹¹⁰ Air Products told us that such ‘feedstock risk’ was an issue for energy from waste plants.¹¹¹

45. The Green Investment Bank can play an important role in the transition towards a more circular economy, particularly where infrastructure development for innovative technologies is held back by a lack of finance. *The Green Investment Bank should finance innovative technologies to support a circular economy. The Bank could for example showcase the potential of anaerobic digestion plants which are able to process a range of waste feedstock sources by investing in such projects. The Government needs to ensure that its policies for recovering resources and generating energy are aligned and are consistent with the waste hierarchy.*

Setting standards to promote circular products

Design and warranties

46. The Government has a role to play in encouraging design that improves the whole-life efficiency of products. The Government Office for Science’s *Future Manufacturing Project Foresight Report* highlighted the potential of eco-design standards “involving minimisation of critical raw materials and design for recovery as policies that facilitate a shift towards a circular economy”.¹¹² The *Government’s Waste Prevention Programme for England* states that the Government will seek to influence the EU to bring waste prevention requirements into product standards and labelling :

We are implementing the EU Ecodesign Directives and the EU Ecolabel scheme in the UK. As part of this work, we will influence the EU to bring waste prevention requirements into product standards as they are updated. For example, in forthcoming revisions of the Eco-label criteria for PCs and laptops, there will be discussions around modifying reparability criteria.¹¹³

47. The RSA suggested that there needed to be more guidelines for circular approaches to be mainstreamed into design briefs:

Currently, there is no requirement for designers to consider the end of life implications of the products they create. The current recasting of the EU Directive Ecodesign framework¹¹⁴ are the first steps towards potentially providing some guidelines for some product groups, but do not go far enough into circular or system thinking. This means that business as usual invests a significant amount into creating consumables which are designed for ease of manufacturing, maximising profits for retailers and manufacturers at the point of sale but that in the majority

110 Environmental Services Association ([GCE0026](#)) para 26e

111 Air Products ([GCE0033](#))

112 Government Office for Science [Future Manufacturing Project Foresight Report](#) (2013)

113 The Government [Prevention is better than cure: the role of waste management in moving to a more resource efficient economy](#) (December 2013), p20

114 [DIRECTIVE 2005/32/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL](#)

end up on the waste pile within 6 months, representing a huge loss of value in terms of energy and materials.¹¹⁵

Similarly, the Local Government Association told us:

The design of products is of central importance in determining whether a product can be reused. A lack of available parts or designs which make repairs difficult and expensive can mean some products that should be reusable are not. There is a role for government through promoting the adoption of British Standards for reuse and remanufacture and encouraging appropriate EU regulation that sets minimum standards for product design through future rounds of the EU Eco-design Directive.¹¹⁶

Dustin Benton of Green Alliance believed that further eco-design legislation has a role:

I think there is a real opportunity for eco-design legislation to enable a more circular economy to happen. It has been strikingly effective on energy, which is what it was originally intended to do. I think it would cut the costs to UK consumers by about £50 per year if they swapped normal light bulbs for LEDs, for example, and that was driven entirely by legislation. It is micro policy and it is very detailed when you go into it. It has to be micro-detailed, but we know that there is interest already in looking at material efficiency within the eco-design Directive.¹¹⁷

Dan Rogerson told us that “energy has led the way on energy-efficient white goods but there are opportunities for us to do a lot more around water and so on”.¹¹⁸

48. Sir Ian Cheshire believed that there is a case for forcing businesses to only use recyclable materials. He thought that “there probably are two or three critical plastics areas where there might be a case for some very targeted intervention to say, ‘Either we are just not going to let you use this stuff ... or we are going to make it so uneconomic that the market won’t want to use it’.”¹¹⁹ Commissioner Potočnik told us that it was important to “start to shape the products that could be used and recycled, because the materials that are buried are lost”.¹²⁰ Liz Goodwin of WRAP told us that voluntary agreements make regulations not always necessary, provided that there is a clear signal that “by year X, everything that is put on the market is recyclable”.¹²¹

49. Interface told us that life-cycle analysis of products could underpin “environmental product declarations ... enabling customers to compare products and choose the ones that have least impact”.¹²² Commissioner Potočnik told us that the European Commission was “trying to develop a kind of methodology on the basis of

115 RSA ([GCE0048](#)) para 10

116 Local Government Association ([GCE0029](#))

117 Q30

118 Q267

119 Q31

120 Q209

121 Q31

122 Interface ([GCE0052](#)) para 16

which we would be able to compare products, or at least product groups, and organisations”.¹²³

50. The RSA also highlight the importance of longer warranties for moving businesses towards service-based models, similar to those discussed in paragraph 14. These business models are based on products that are designed to last, and be repaired, with materials recovered and re-used at the end of their life:

Implementing new business models that shift from linear ‘make, sell’ models to those with service and leasing systems will require the review and amendment of current legislation models including credit licensing agreements, guarantees and warranties.

51. *The Government, working closely with the EU, should establish eco-design standards across a range of products. It should set out the steps towards a ban on products that are made from materials that cannot be recycled, or reduce taxes on those that can be (paragraph 27). Such standards would phase out inefficient products or hard to recycle materials by ensuring that companies design products that are consistent with the circular economy, have a clear end-of-life recovery route and are fabricated using easily separable and recyclable components. The Government should underpin voluntary agreements by setting timescales by which regulation would establish the recyclability of all products coming on the market. The Government should also work with industry sectors to set longer minimum warranty periods for consumer products to encourage businesses to adopt more resource-efficient business models.*

Re-use and re-manufacturing

52. The LGA’s *Routes to re-use* report identified that 615,000 tonnes of material that currently goes to landfill or incineration could instead be repaired, resold or donated.¹²⁴ Green Alliance highlight that “finished products are worth much more than the raw materials inside them and direct re-use preserves the most value and embodied energy in products”. For example, a reused smart phone retains around 48% of its original value, whereas its value as recycle is just 0.24%.¹²⁵ WRAP estimates that as much as 23% of WEEE (Waste Electrical and Electronic Equipment) disposed of at recycling centres has the potential to be repaired.¹²⁶ The re-use of WEEE has the potential to save the taxpayer of £1.9 million on goods with a resale value of £232 million.¹²⁷

53. The Restart project highlighted barriers to increasing re-use:

Firstly, consumers struggle to find clear and accessible information on repair services in their local areas. Secondly, there is a question around

123 Q212

124 Local Government Association [Routes to re-use: maximising value from re-used materials](#) (March 2014)

125 Green Alliance ([GCE006](#)) para 10

126 WRAP [Realising the re-use value of Household WEEE](#) (2011)

127 Local Government Association [Routes to re-use: maximising value from re-used materials](#) (March 2014), p11

trust in these services: how to repair (or have an object repaired) in a reliable environment, and in an affordable way.¹²⁸

The Government highlighted a postcode locator that WRAP is introducing to help people locate re-use or repair services. Dan Rogerson told us that “if we get the business to those repair businesses then that will hopefully safeguard them for the future”.¹²⁹ He told us about the development of a re-use standard for discarded electrical equipment (PAS 141) that was developed by the British Standards Institution and supported by BIS.¹³⁰ Oakdene Hollins, which manages the Centre for Remanufacture and Reuse, highlighted that this standard gave assurance that “re-used electronic equipment had undergone a thorough hazard and function checking process before sale.”¹³¹ WRAP is also managing an £800,000 waste prevention fund to support innovative prevention, re-use or repair initiatives.¹³²

54. There are cost and environmental benefits from re-manufacturing. Caterpillar noted that re-manufactured products needed a full as-new warranty and wanted this to be defined and formally recognised by policymakers to ensure a common understanding and acceptance of re-manufactured goods. They questioned the need for or value of an international standard for specific re-manufactured finished goods, but supported the development of a standard “to describe and define the remanufacturing process”.¹³³ The RSA added that trade descriptions regulations should be changed to encourage re-manufacturing:

In the UK, companies are prevented from selling products as new if they contain reconditioned parts, and this contributes to the wastage of significant quantities of usable materials. Provided the parts are certified to the same standard, either by [Original Equipment Manufacturer] or remanufacturing bodies, it should be possible for components such as metals to be remanufactured and used on a recurring basis in different products. Once again, this is already happening in other parts of the world (e.g. Japan) and we recommend the UK would do well to learn from these examples.¹³⁴

Caterpillar wanted countries to treat re-manufactured goods in the same way as new goods in their trade regulations. Some countries, they noted, “restrict the free outflow of core items destined to be remanufactured and the inflow of remanufactured ones entering specific countries”.¹³⁵

55. Re-using products or re-manufacturing components is an efficient way of using existing materials. There are a variety of barriers that limit their potential, however, including perceptions of the quality of re-used products, and formal acceptance of re-

128 The Restart Project ([GCE0053](#)) para 3.1

129 Q269

130 Q271

131 Oakdene Hollins ([GCE0031](#)) para 3

132 WRAP, *Innovation in Waste Prevention Fund*

133 Caterpillar Remanufacturing ([GCE0040](#)) para 7

134 RSA ([GCE0048](#)) para 3

135 Caterpillar Remanufacturing ([GCE0040](#)) para 16

manufacturing as of equal status as new products. *The Government should take steps to remove trade barriers for remanufactured goods through trade negotiations, including pushing for them to be treated in the same way as new products.*

Government procurement

56. Liz Goodwin of WRAP told us that as a significant procurer, the Government could stimulate growth in the circular economy through its own buying.¹³⁶ Defra's Waste Prevention Programme for England states that public sector spending is worth approximately 15% of UK GDP and central government alone procures the equivalent of 8% of UK GDP, and indicates that the Government "will include waste prevention and re-use requirements where Government Buying Standards for specific products are updated, building on existing references to re-use".¹³⁷ WRAP is supporting Defra in this process by providing evidence of good practice for specific product groups including catering services, hospitality and mobile phones.¹³⁸

57. The Environmental Industries Commission wanted Government Buying Standards to be made more demanding in terms of the use of recycled content.¹³⁹ Green Alliance recommended that the Buying Standards require minimum standards for products to be disassembled or recycled, and specify that a minimum proportion of products should come from a reused or remanufactured source.¹⁴⁰

58. **The Government, through WRAP, has taken some steps to promote a more circular economy through Government procurement. *However, it should extend buying standards to include a greater emphasis on the recyclability of materials and recycled or re-used content.***

136 Q15

137 The Government [Prevention is better than cure: the role of waste management in moving to a more resource efficient economy](#) (December 2013), p17

138 WRAP ([GCE0025](#)) para 35

139 Environmental Industries Commission ([GCE005](#)) para 5.9

140 Green Alliance ([GCE006](#)) para 30

3 Leadership and ambition

Leadership

59. The Government acknowledged the potential of the circular economy in its 2013 *Future of Manufacturing* report¹⁴¹, and its *Waste Prevention Programme for England* sets out a range of such initiatives.¹⁴² It also endorsed the business-led Circular Economy Task Force, convened by Green Alliance. The Government outlined for us a number of steps it was taking to support a circular economy.¹⁴³ It is supporting circular economy innovation through the work of the WRAP and the Technology Strategy Board (paragraph 17), although it has stopped funding the National Industrial Symbiosis Programme (paragraph 20).

60. Several of our witnesses highlighted that progress compares unfavourably with initiatives introduced by other countries and UK devolved administrations. Some of our witnesses wanted BIS to be given a lead role on the circular economy, and a new Office of Resource Management to be established. The Resource Association said:

We note with a mild degree of envy that the French now have a dedicated Minister for the Circular Economy in Ségolène Royal. Alongside an Office of Resource Management (or similar named co-ordinating function), a similar post in Government may do much to widen awareness of the opportunities in the circular economy and be a catalyst for change.¹⁴⁴

CIWM saw:

... poorly resourced departments, especially Defra; lack of co-ordination between departments; a total withdrawal from policy and intervention on commercial and industrial wastes; poorly resourced local authorities; under-mining of local authorities and their waste services; reduced funding for agencies such as WRAP and dis-jointed planning for resources at a strategy level and dis-jointed thinking on government finance support for infrastructure in this sector.¹⁴⁵

The Government has recently announced that the Minister for Business and Energy has been made a champion for the bio-economy, and a new steering group will be established to make the most of opportunities from waste.¹⁴⁶

61. Defra has cut the funding to its main delivery body for resource efficiency work. Defra's funding for WRAP has fallen from £56m in 2009-10 to £26m in 2013-14 and

141 Government Office for Science [Future Manufacturing Project Foresight Report](#) (2013)

142 The Government [Prevention is better than cure: the role of waste management in moving to a more resource efficient economy](#) (December 2013)

143 Government ([GCE0045](#)) paras 22-60

144 Resource Association ([GCE0023](#)) para 6

145 Chartered Institution Of Wastes Management ([GCE0043](#)) para 28

146 [Government response to the House of Lords Science and Technology Committee Report: 'Waste or resource? Stimulating a bio economy?'](#) (June 2014)

subsequently to 15.3m in 2014-15.¹⁴⁷ Liz Goodwin, Chief Executive of WRAP, told us that as a result of such budget cuts it had stopped its work on the construction sector and the built environment, and reduced its work on food waste.¹⁴⁸ Sir Ian Cheshire told us:

For the business community, WRAP is very highly valued as an expert partner and has been involved in a lot of different, very successful projects. It is one of the areas where we were alarmed to see the scale of the funding cuts. I think [WRAP] cope remarkably well, but I still think there is an opportunity to rebuild some of that in a more targeted way.¹⁴⁹

Dan Rogerson told us that some of the reduction in funding was a result of projects finishing, but acknowledged that Defra had scaled back support for WRAP as a result of wider cuts to Government spending:

We have not been able to offer the same funding to WRAP that we have in the past but we are still offering significant funding to them and they are continuing to deliver a lot of work for us. We are very grateful for that and all the expertise they have.¹⁵⁰

62. DS Smith recommended that Local Enterprise Partnerships, regional networks and trade associations should play a key role in sharing information and expertise. International Synergies Limited suggested that the Government “use a very small proportion of the European Regional Development Fund money allocated to the business led LEPs as a vehicle to re-launch a nationally co-ordinated but LEP directed industrial symbiosis programme.”¹⁵¹ Dan Rogerson told us that a “number of [LEPs] are looking at opportunities for getting into emerging sectors and many of those will be around making better use of the resources that are available”¹⁵², but added:

I do not think the approach of local enterprise partnerships is for us to say: “That LEP over there, you must do something here on the circular economy”. That is not the approach that LEPs are set up to deliver.¹⁵³

In our *Sustainability in BIS* inquiry we found a similar Government attitude towards the scope for environmental considerations to be taken into account in BIS Regional Growth Fund applications.¹⁵⁴

147 The Government [Review of Defra funding for WRAP \(Waste and Resources Action Programme\) Summary report of the review and responses to the opportunity to comment document](#) (November 2013)

148 Q48

149 Q52

150 Q255

151 International Synergies Limited ([GCE0019](#))

152 Q260

153 Q262

154 Environmental Audit Committee, Seventh report of session 2013-2014 [Sustainability in BIS](#), HC 613 para 21

Ambition

63. Professor Tim Jackson told us that an important way of judging whether the circular economy is having an impact was to look at global material flows:

The best evidence that we have on that is that we are not actually making progress. For example, a recent study on the so-called material footprint found that for every 10% of increase in GDP, you have a 6% increase in material footprint. If you look at the UK in particular, our material footprint exceeds our growth in GDP over the past 20 years.¹⁵⁵

The Environmental Industries Commission recommend that Government should put in place a framework of indicators on resource efficiency, including indicators for each industrial sector, to enable industries to monitor and benchmark their performance.¹⁵⁶ European Commissioner Janez Potočnik told us that the European Resource Efficiency Platform had recommended a resource productivity target as a way of monitoring progress. He explained:

The best proxy would be to ‘raw material consumption’ compared with GDP, because it is simple. It is constituted from domestic and imported materials, so imports do not bias the numbers. EUROSTAT are already producing it for quite a few member states. ... One of the recommendations was that, from now to 2030, we would increase that resource productivity by a minimum of 30%.¹⁵⁷

Jonathan Tilson from BIS told us that the Government currently lacked the information to be able to track how effectively businesses are taking up efficiency opportunities, with “quite a lot of work still to do to develop the metrics and a better understanding”.¹⁵⁸

64. As many natural resources are produced overseas, increasingly re-using or recycling these materials may reduce the need for imports and give the UK supply chain more certainty over critical materials at stable prices. Professor Tim Jackson told us that “it is such a fundamental part of the success of an economy in the long run to know that its supply chains are secure and that it does not have resource dependencies it cannot ever meet”.¹⁵⁹ The Government told us that it had cancelled a potential study on resource risks and departmental priorities,¹⁶⁰ but that a Cabinet Office led study was now looking at 20 critical materials for the economy.¹⁶¹ Nevertheless, many organisations wanted the Government to take a more strategic approach to resources which proactively engaged with businesses. CIWM wanted “an industrial strategy from a resources perspective”.¹⁶² EEF, in their *Materials for manufacturing* report, observed that America, Germany, South Korea and Japan all

¹⁵⁵ Q133

¹⁵⁶ Environmental Industries Commission ([GCE005](#)) para 5.1

¹⁵⁷ Q205

¹⁵⁸ Q252

¹⁵⁹ Q146

¹⁶⁰ Q241

¹⁶¹ Q243

¹⁶² Chartered Institution Of Wastes Management ([GCE0043](#)) para 32

had sophisticated strategies for resource security¹⁶³ and called for the Government to introduce a “Stern for Resources” review.¹⁶⁴

65. One way of underpinning a stronger commitment to a future circular economy would be by engaging positively with the European Commission’s recently published *Circular Economy Package*.¹⁶⁵ Commissioner Potočnik told us that the European Commission’s vision was that “by 2030 each country should recycle everything it is possible to recycle”, and that “countries would not landfill anymore”.¹⁶⁶ This is reflected in the targets of the *Circular Economy Package*, which requires Governments to recycle 70% of municipal waste and 80% of packaging waste by 2030. The *Package* also includes a zero-waste-to-landfill policy for plastics, paper, metals, glass and bio-waste by 2025, as well as initiatives around eco-design.

66. The Scottish Government has introduced zero waste regulations to help support improved recycling, and is developing a roadmap for a circular economy in Scotland.¹⁶⁷ Scotland’s zero waste plan, published in 2010, includes a target to increase recycling rates to 70% for all waste arising in Scotland by 2025, and a maximum of 5% of waste to landfill.¹⁶⁸ In England, household recycling rates have plateaued in recent years, and the National Audit Office has identified a risk that the UK may not meet the current 50% target for 2020.¹⁶⁹ Dan Rogerson welcomed the EU emphasis on a circular economy,¹⁷⁰ but told us that “we would not be seeking to have binding targets for member states”¹⁷¹ and that there was “very little point in setting a target that is not achievable”.¹⁷²

67. Our previous inquiry on *Plastic bags* examined the Government’s proposals to introduce a mandatory 5p charge on plastic bags in England to encourage re-use and reduce litter and waste. We welcomed the initiative, but found that the series of exemptions were likely to be confusing for shoppers and would weaken the environmental message and effectiveness of the scheme.¹⁷³ The Government’s decision not to include small businesses in this iconic scheme was a particularly striking example of its lack of ambition to take the steps needed to embed a more circular approach throughout the economy.

68. Reducing the dependency on primary resource use for economic growth is an essential part of moving to a more sustainable economic system. Some businesses are showing real leadership and innovation to adjust their business models and become more resource efficient. However, the Government must do more to ensure that the

163 EEF [Materials for manufacturing](#) (July 2014) p11

164 *Ibid.* p10

165 European Commission [Communication on: Towards a circular economy: A zero waste programme for Europe](#) (July 2014)

166 Q209

167 Scottish Government ([GCE0054](#))

168 Scottish Government [Scotland’s Zero Waste Plan](#) (2010)

169 National Audit Office [Environmental Protection](#) (July 2014), para 2.46

170 Q231

171 Q227

172 Q226

173 Environmental Audit Committee, Eleventh Report of Session 2013-14, [Plastic Bags](#) HC 861

right conditions are in place so that many more businesses shift from a linear approach to a circular one. Targets for resource productivity could provide an important tool for delivering the necessary change by showing businesses that Government is committed to supporting the changes required. The European Commission's proposals to achieve a 70% recycling target by 2030 could do much to promote innovation.

69. The Government should promote and build on existing initiatives to identify good practice on the circular economy and support businesses, in particular the work of WRAP. However, instead of scaling up this work, it is cutting it back. It cancelled a review into resource risks and departmental priorities, and responsibilities across Government remain unclear. The picture painted in our inquiry is of a catalogue of small-scale Government initiatives and support rather than a strategic plan to achieve systemic change, clearly linked to industrial policy. A new steering group on the bio economy, whilst welcome, is not of the same order of response as the potential Office of Resource Management that some have suggested. Even its proposal to introduce a charge for plastic bags is weakened by a series of exemptions, and it should re-consider its decision not to include all businesses in the scheme.

70. The Government should learn from the strategic vision and ambitious targets that other countries have adopted. It should embrace the EU's ambitious targets for improving resource productivity, and support business in achieving the economic and environmental benefits. It should also support the European's Commission's proposals for recycling and the accompanying proposed targets, and use these to drive change.

71. The Government needs to ensure that there is sufficient funding available for agencies such as WRAP and the Technology Strategy Board to support this transition. Some of the revenues from the Landfill Tax and taxes on non-circular products (paragraph 51) should be used to directly support the circular economy and reverse the cuts in WRAP's funding.

72. The circular economy must be embedded into industrial strategy, based on resource risks and covering key sectors. Local Enterprise Plans should take identify steps to mitigate these risks and opportunities to innovate. It should also be mainstreamed into departmental business plans, with clear responsibilities for driving this forward in both BIS and Defra and across Government.

Conclusions

1. Current taxation laws do not reward companies that take a circular economy approach, with its associated environmental benefits, and risk locking the economy on a linear path. As pressure on resources will continue to increase, taxation policy should incentivise products that are designed to have a lower environmental impact and support greater repair and re-use. (Paragraph 27)
2. The current producer responsibility schemes fail to incentivise or reward companies that design products with their end-of-life in mind. In addition, aspects of the wider regulatory framework for waste can prevent businesses re-using materials or products. (Paragraph 33)
3. A circular economy would be supported by a more consistent national approach to household recycling collections. This would maximise recycling of a wide range of materials, and ensure consistent messaging and on-pack advice labels on products. (Paragraph 39)
4. The 'Waste Duty of Care', or 'eDoc', is an important initiative to improve the quality of information about the resources contained in waste. It will help businesses and Government better identify opportunities for maximising the value of these materials and plan future investments. (Paragraph 42)
5. The Green Investment Bank can play an important role in the transition towards a more circular economy, particularly where infrastructure development for innovative technologies is held back by a lack of finance. (Paragraph 45)
6. Re-using products or re-manufacturing components is an efficient way of using existing materials. There are a variety of barriers that limit their potential, however, including perceptions of the quality of re-used products, and formal acceptance of re-manufacturing as of equal status as new products. (Paragraph 55)
7. The Government, through WRAP, has taken some steps to promote a more circular economy through Government procurement. (Paragraph 58)
8. Reducing the dependency on primary resource use for economic growth is an essential part of moving to a more sustainable economic system. Some businesses are showing real leadership and innovation to adjust their business models and become more resource efficient. However, the Government must do more to ensure that the right conditions are in place so that many more businesses shift from a linear approach to a circular one. Targets for resource productivity could provide an important tool for delivering the necessary change by showing businesses that Government is committed to supporting the changes required. The European Commission's proposals to achieve a 70% recycling target by 2030 could do much to promote innovation.

Recommendations

9. The Government should introduce differential VAT rates based on life-cycle analysis of the environmental impact or recycled content of products, and tax allowances for businesses that repair goods or promote re-use. It should set up a cross-Government working group, led by the Cabinet Office to decide how best to implement such reforms. (Paragraph 27)
10. The Government should reform the PRN scheme to include an 'offset' or lower charge for products that have higher recycled content and ensure that funds generated from the operation of the scheme are distributed to bodies working to enhance materials recovery and product circularity. It should also introduce individual producer responsibility schemes in new sectors to make more producers design products with their end-of-life in mind. The Government should review how processes for environmental protections against illegal disposal of waste might be simplified to encourage businesses to re-use materials. More generally, it should explore the scope for regulating the minimum recycled content of particular products in order to stimulate sustainable markets in recovered and recycled material. (Paragraph 33)
11. Local authorities need to tailor their [household recycling services] to local needs, but the Government should give clear guidance that directs local authorities in England towards a more standard approach. This should include separation systems that enable reliable delivery of compatible sorted waste products to all recyclers, separate food waste collections, and a ban on food waste to landfill. (Paragraph 39)
12. The Government should set out plans to ensure eDoc's long term future so that it can fulfil its role in improving data quality on waste materials. It should set a deadline by which time reporting in this way will be mandatory. (Paragraph 42)
13. The Green Investment Bank should finance innovative technologies to support a circular economy. The Bank could for example showcase the potential of anaerobic digestion plants which are able to process a range of waste feedstock sources by investing in such projects. The Government needs to ensure that its policies for recovering resources and generating energy are aligned and are consistent with the waste hierarchy. (Paragraph 45)
14. The Government, working closely with the EU, should establish eco-design standards across a range of products. It should set out the steps towards a ban on products that are made from materials that cannot be recycled, or reduce taxes on those that can be. Such standards would phase out inefficient products or hard to recycle materials by ensuring that companies design products that are consistent with the circular economy, have a clear end-of-life recovery route and are fabricated using easily separable and recyclable components. The Government should underpin voluntary agreements by setting timescales by which regulation would establish the recyclability of all products coming on the market. The Government should also work with industry sectors to set longer minimum warranty periods for consumer products to encourage businesses to adopt more resource-efficient business models. (Paragraph 51)

15. [The Government] should take steps to remove trade barriers for remanufactured goods through trade negotiations, including pushing for them to be treated in the same way as new products. (Paragraph 55)
16. The Government should extend buying standards to include a greater emphasis on the recyclability of materials and recycled or re-used content. (Paragraph 58)
17. The Government should learn from the strategic vision and ambitious targets that other countries have adopted. It should embrace the EU's ambitious targets for improving resource productivity, and support business in achieving the economic and environmental benefits. It should also support the European's Commission's proposals for recycling and the accompanying proposed targets, and use these to drive change. (Paragraph 70)
18. The Government needs to ensure that there is sufficient funding available for agencies such as WRAP and the Technology Strategy Board to support this transition. Some of the revenues from the Landfill Tax and taxes on non-circular products should be used to directly support the circular economy and reverse the cuts in WRAP's funding. (Paragraph 71)
19. The circular economy must be embedded into industrial strategy, based on resource risks and covering key sectors. Local Enterprise Plans should take identify steps to mitigate these risks and opportunities to innovate. It should also be mainstreamed into departmental business plans, with clear responsibilities for driving this forward in both BIS and Defra and across Government. (Paragraph 72)

Formal Minutes

Thursday 17 July 2014

Members present:

Joan Walley, in the Chair

Peter Aldous
Mark Lazarowicz

Dr Matthew Offord
Dr Alan Whitehead

Draft Report (*Growing a circular economy: Ending the throwaway society*), proposed by the Chair, brought up and read.

Ordered, That the draft Report be read a second time, paragraph by paragraph.

Paragraphs 1 to 72 read and agreed to.

Summary agreed to.

Resolved, That the Report be the Third Report of the Committee to the House.

Ordered, That the Chair make the Report to the House.

Ordered, That embargoed copies of the Report be made available, in accordance with the provisions of Standing Order No. 134.

[Adjourned till Wednesday 3 September at 2.00 pm]

Witnesses

Wednesday 7 May 2014

Page

Jamie Butterworth, Chief Executive, Ellen Macarthur Foundation, **Sir Ian Cheshire**, Chief Executive, Kingfisher, **Liz Goodwin**, Chief Executive, WRAP, and **Dustin Benton**, Head of Resource Stewardship, Green Alliance.

[Q1–54](#)

Tuesday 13 May 2014

Professor Rob Holdway, Director, Giraffe Innovation Ltd., **Dr Kate Goldsworthy**, Design for Recyclability, Textile Futures Research Centre, University of the Arts, London, and **Sophie Thomas**, Director, The Great Recovery, RSA Project.

[Q55–85](#)

Ramon Arratia, Sustainability Director, Interface Carpets, **Matthew Bulley**, Managing Director, Caterpillar Remanufacturing, and **Mike Barry**, Director of Sustainable Business, Marks and Spencer.

[Q86–127](#)

Wednesday 11 June 2014 (AM)

Phil Barton, Chief Executive Officer, Keep Britain Tidy/Waste Watch, **Nick Brown**, Head of Recycling in Great Britain, Coca-Cola Enterprises, and **Professor Tim Jackson**, University of Surrey.

[Q128–153](#)

Steve Lee, Chief Executive, Chartered Institution of Wastes Management, **Councillor Clyde Loakes**, Environment and Housing Board Vice Chairman, Local Government Association, and **Dominic Hogg**, Eunomia research and consulting.

[Q154–197](#)

Wednesday 11 June 2014 (PM)

Janez Potočnik, Environment Commissioner, European Union.

[Q198–216](#)

Wednesday 2 July 2014

Dan Rogerson MP, Parliamentary Under-Secretary of State for water, forestry, rural affairs and resource management, Department for Environment, Food and Rural Affairs, **Jonathan Tillson**, Head of Sustainable Business, Department for Environment, Food and Rural Affairs, **Stuart Edwards**, Deputy Director for Materials and Resource Industries, Department for Business, Innovation and Skills, and **Rosie Seymour**, Acting Director of Local Government Policy, Department for Communities and Local Government.

[Q217–302](#)

Published written evidence

The following written evidence was received and can be viewed on the Committee's inquiry web page at www.parliament.uk/eacom . (CGE) numbers are generated by the evidence processing system and so may not be complete.

- 1 Chase Plastics Ltd ([GCE0002](#))
- 2 Dr Stewart Barr ([GCE0003](#))
- 3 Splosh Ltd ([GCE0004](#))
- 4 Environmental Industries Commission ([GCE0005](#))
- 5 Green Alliance ([GCE0006](#))
- 6 Veolia ([GCE0007](#))
- 7 Sita UK ([GCE0008](#))
- 8 Tearfund ([GCE0009](#))
- 9 Local Authority Recycling Advisory Committee ([GCE0011](#))
- 10 Peter Jones ([GCE0012](#))
- 11 Energy Technologies Institute ([GCE0013](#))
- 12 Lavery/Pennell ([GCE0015](#))
- 13 DS Smith ([GCE0016](#))
- 14 Desso Ltd ([GCE0017](#))
- 15 Blindspot Think Tank ([GCE0018](#))
- 16 International Synergies Limited ([GCE0019](#), [GCE0055](#))
- 17 Hampshire County Council ([GCE0020](#))
- 18 British Plastics Federation ([GCE0021](#))
- 19 Keep Britain Tidy ([GCE0022](#))
- 20 Resource Association ([GCE0023](#))
- 21 Ellen Macarthur Foundation ([GCE0024](#))
- 22 Wrap ([GCE0025](#))
- 23 Environmental Services Association ([GCE0026](#))
- 24 Novelis Europe ([GCE0027](#))
- 25 Local Government Association ([GCE0029](#))
- 26 Technology Strategy Board ([GCE0030](#))
- 27 Oakdene Hollins ([GCE0031](#))
- 28 EEF ([GCE0032](#))
- 29 Air Products Plc ([GCE0033](#))
- 30 Renewable Energy Association ([GCE0034](#))
- 31 British Metal Recycling Association ([GCE0035](#))
- 32 British Standards Institution ([GCE0036](#))
- 33 Anaerobic Digestion & Biogas Association ([GCE0037](#))
- 34 Eunomia Research & Consulting Ltd ([GCE0038](#))
- 35 Novamont Spa ([GCE0039](#))
- 36 Caterpillar Remanufacturing ([GCE0040](#))
- 37 Axion Recycling Ltd ([GCE0041](#))
- 38 University of the Arts London ([GCE0042](#))
- 39 Chartered Institute of Wastes Management ([GCE0043](#))

- 40 Mineral Products Association ([GCE0044](#))
- 41 The Government ([GCE0045](#))
- 42 Coca-Cola Enterprises ([GCE0046](#))
- 43 British Retail Consortium ([GCE0047](#))
- 44 Rsa ([GCE0048](#))
- 45 Marks and Spencer ([GCE0049](#))
- 46 All-Party Parliamentary Sustainable Resource Group ([GCE0051](#))
- 47 Interface ([GCE0052](#))
- 48 Restart Project ([GCE0053](#))
- 49 Scottish Government ([GCE0054](#))
- 50 University of Surrey ([GCE0056](#))
- 51 Green Investment Bank ([GCE0057](#))

List of Reports from the Committee during the current Parliament

All publications from the Committee are available on the Committee's website at www.parliament.uk/eacom.

The reference number of the Government's response to each Report is printed in brackets after the HC printing number.

Session 2014–15

First Report	Marine protected areas	HC 221
Second Report	National Pollinator Strategy	HC 213

Session 2013–14

First Report	Embedding sustainable development: an update	HC 202 (HC 633)
Second Report	Outcomes of the UN Rio+20 Earth Summit	HC 200 (HC 633)
Third Report	Transport and the accessibility to public services	HC 201 (HC 632)
Fourth Report	Protecting the Arctic: The Government response	HC 333
Fifth Report	Progress on Carbon Budgets	HC 60 (HC 928)
Sixth Report	Biodiversity offsetting	HC 750 (HC 1195)
Seventh Report	Sustainability in BIS	HC 613 (HC 1069)
Eight Report	Codes for Sustainable Homes and the Housing Standards Review	HC 192 (HC 8830)
Ninth Report	Energy subsidies	HC 61 (HC 1103)
Tenth Report	Sustainability in the UK Overseas Territories	HC 332 (HC 1167)
Eleventh Report	Plastic bags	HC 861 (HC 239)
Twelfth Report	Green Finance	HC 191 (HC 330)
Thirteenth Report	HS2 and the environment	HC 1076 (HC 216)
Fourteenth Report	Invasive non-native species	HC 61 (HC 385)
Fifteenth Report	Well-being	HC 59

Session 2012–13

First Report	The St Martin-in-the-Fields seminar on the Rio+20 agenda	HC 75
Second Report	Protecting the Arctic	HC 171 (HC 858)
Third Report	Wildlife Crime	HC 140 (HC 1061)
Fourth Report	Autumn Statement 2012: environmental issues	HC 328 (HC 1087)
Fifth Report	Measuring well-being and sustainable development: Sustainable Development Indicators	HC 667 (HC 139)
Sixth Report	Energy Intensive Industries Compensation Scheme	HC 669 (Cm 8618)
Seventh Report	Pollinators and Pesticides	

Session 2010–12

First Report	Embedding sustainable development across Government, after the Secretary of State's announcement on the future of the Sustainable Development Commission	HC 504 (HC 877)
Second Report	The Green Investment Bank	HC 505 (HC 1437)
Third Report	Sustainable Development in the Localism Bill	HC 799 (HC 1481)
Fourth Report	Embedding sustainable development: the Government's response	HC 877
Fifth Report	The impact of UK overseas aid on environmental protection and climate change adaptation and mitigation	HC 710 (HC 1500)
Sixth Report	Budget 2011 and environmental taxes	HC 878 (HC 1527)
Seventh Report	Carbon Budgets	HC 1080 (HC 1720)
Eighth Report	Preparations for the Rio +20 Summit	HC 1026 (HC 1737)
Ninth Report	Air Quality a follow up Report	HC 1024 (HC 1820)
Tenth Report	Solar Power Feed-in Tariffs (Joint with the Energy and Climate Change Committee)	HC 1605 (HC 1858)
Eleventh Report	Sustainable Food	HC 879 (HC 567)
Twelfth Report	A Green Economy	HC 1025 (HC 568)