

# Household resource efficiency

## Past drivers

The amount of waste generated is influenced by the: rate of income and consumption growth; consumption preferences; and resource efficiency and waste avoidance.

Increased recycling rates and the decline in the generation of waste has reduced landfill rates, influenced by increases in landfill taxes levied.

The recycling rate of households is determined by an individual's behaviour and the provision of recycling facilities within local authorities. In recent years, local authorities have been increasing the provision of recycling facilities for households.

## Future drivers

A number of barriers prevent greater use of waste as a resource, such as: product design (using materials that cannot be recycled, repaired or recovered); infrastructure (fragmented collection systems); consumer behaviour (the “throwaway” consumer culture); and changes in demand. Scotland’s ability to influence some of these factors is limited, as many goods we use are sourced and manufactured outside Scotland.

## Where are we now?

- There has been an overall decrease of 4.1% in the amount of household waste generated since 2011, although there has been a slight increase in each of the last three years to 2016.
- Household waste recycling rates have increased at a slowing pace over time. Scottish household waste recycling rate in 2016 was 45.2%, increasing from 44.2% in 2015.
- There has been a sharp increase in the proportion of households using local authority-provided food caddies, rising from 46% in 2015 to 55% in 2016. This represents a substantial increase from the 26% of households using food waste recycling caddies in 2012.

## Key evidence gaps

Improve our understanding of how products and materials flow through our economy (waste flows) and their value, from the point of production to the final destination.

How agricultural and food & drink waste can be reduced across the supply chain.

Explore how sustainable in the long-term current practices of applying organic wastes to land. How do we adapt these practices to deal with increasing

## Where do we want to be?

- We are a zero waste, resource efficient nation. <sup>1</sup>
- The global footprint of our consumption and production is sustainable. <sup>1</sup>
- We are a climate leader and play our full roll in limiting global temperature rise to well below 2°C. <sup>1</sup>

## Current initiatives and their impact

Targeting public engagement: for example through the Low Carbon Scotland: A behaviours framework.

Promoting community action: the Climate Challenge Fund includes waste prevention.

Attaching a value to goods previously seen as disposable: plastic carrier bag, proposals to introduce a deposit return scheme and a charge for single-use coffee cups.

Household recycling charter: brings greater consistency to local authority recycling services.

<sup>1</sup> Draft outcome, Developing an Environment Strategy for Scotland: Discussion Paper

## Draft Knowledge Account – Household resource efficiency

### A Introduction

1. In Scotland we consume large amounts of materials and generate a lot of waste. This uses up finite resources and causes pollution. Like most developed countries, the Scottish economy relies heavily on domestic consumption with waste produced from packaging and the disposal of items when they are no longer wanted. For example, in the year to Q4 2017 consumer spending contributed 2.2 percentage points to the overall growth in Scottish GDP of 2.9%.<sup>i</sup>
2. Waste is produced from a variety of sources including households, industry, construction and agriculture. Waste can have a serious impact on the environment through the loss of finite resources and the generation of pollutants. Recycling is one means to reduce Scotland's waste impact by transforming waste into new and useful products.
3. A reduction in the amount of waste generated in Scotland is an indicator of greater resource efficiency and more sustainable consumption behaviour - addressing the first step in the waste hierarchy ('Reduce, Re-use, Recycle, Recover').
4. Waste management accounted for around 5% of Scotland's net greenhouse gas emissions in 2014, so reducing the impact of waste types that have the largest contribution to this will help Scotland meet its climate change targets.

### B Recent trends

5. Around a quarter of all waste in Scotland comes from households, with the amount generated in Scotland increasing by 1.2% (30.2 thousand tonnes) between 2015 and 2016, the third successive annual increase. However, there has been an overall decrease of 4.1% (107.8 thousand tonnes) in the amount of household waste generated since 2011, which was the first year comparable data was collected.<sup>ii</sup>
6. Household waste recycling rates have increased at a slowing pace over time. The household waste recycling rate in 2016 was 45.2%, increasing from 44.2% in 2015. <sup>iii</sup> Using the previous definition of recycling, which included composting to a lower standard<sup>iv</sup>, the rate increased from 40.1% in 2011 to 45.5% in 2016.
7. There has been a sharp increase in the proportion of households using local authority-provided food caddies, rising from 46% in 2015 to 55% in 2016. This represents a substantial increase from the 26% of households using food waste recycling caddies in 2012. Around 10% of households dispose of their food waste by home composting, which is a similar proportion to previous years.<sup>v</sup>
8. The Carbon Metric shows how waste reduction and sustainable waste management can play a critical role in the fight against climate change. Despite large annual fluctuations in waste generated, improved recycling and declining use of landfill continues to reduce the overall carbon impact of waste in Scotland which has fallen 26% or 3.6 MtCO<sub>2</sub>e (million tonnes of carbon dioxide equivalent) since 2011.<sup>vi</sup>

9. Household waste accounts for less than 25% of all Scottish waste by tonnage, but a growing majority of the carbon impacts. The five most carbon intensive waste materials make up just 6% of Scotland's waste by weight, but nearly a third of associated carbon impacts. Food waste is the most carbon intensive waste material, generating 15% of carbon impacts in 2014 and 17% in 2015.<sup>vii</sup>

### **C Past drivers of change**

10. Three key factors influence the amount of waste generated: rate of income and consumption growth; consumption preferences; and resource efficiency and waste avoidance.
11. Increased recycling rates and reduced generation of waste has had the effect of reducing landfill rates. These changes are likely to have partly been the result of the increases to landfill taxes. Landfill tax is intended to encourage waste producers to produce less waste and promote recycling and waste recovery. Methods of food waste disposal can also have an impact on the tonnage of biodegradable waste sent to landfill.
12. The recycling rate of households is a combination of an individual's behaviour and the provision of recycling facilities within local authorities. In recent years, local authorities have been increasing the provision of recycling facilities for households. For example, provision of food waste collection services has increased over the last few years. In May 2016, Zero Waste Scotland estimated that 75 per cent of Scottish households (1.8 million) had access to a food waste collection service. However, provision of these services varies across local authorities. In some rural areas, home composting is being encouraged as an alternative to a street collection service.

### **D Future drivers**

13. There are still a number of barriers which have prevented greater use of waste as a resource in Scotland. These include:
  - Product design (using materials that cannot be recycled, or restricting easy repair or recovery of materials);
  - The infrastructure (fragmented collection systems and insufficient facilities to sort and process valuable materials);
  - Consumer behaviour (the "throwaway" consumer culture and incorrect use of recycling facilities); and
  - Changes in demand, often driven by new technology, which leads to products becoming obsolete and useless.
14. Scotland's ability to influence some of these factors is limited, as many goods we use are sourced and manufactured in other parts of the world. Therefore the waste associated with their production is not visible to us and remains in the country where a product came from.

## E Current interventions and their impact

15. The Circular Economy strategy “Making things last” highlighted a range of activities which will help change the behaviour of households in order to better conserve resources which will protect our environment.
16. Targeting public engagement: for example through the Low Carbon Scotland: A behaviours framework.
17. Promoting community action: the Climate Challenge Fund includes waste prevention.
18. Attaching a value to goods previously seen as disposable: plastic carrier bag, proposals to introduce a deposit return scheme and a charge for single-use coffee cups.
19. Household recycling charter: brings greater consistency to local authority recycling services.

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<sup>i</sup> Quarterly National Accounts Scotland, Quarter 4 2017, Scottish Government  
<http://www.gov.scot/Resource/0053/00535575.pdf>

<sup>ii</sup> Household waste – summary data 2016, SEPA  
<https://www.sepa.org.uk/media/320744/household-waste-summary-data-and-commentary-2016.pdf>

<sup>iii</sup> Household waste – summary data 2016, SEPA  
<https://www.sepa.org.uk/media/320744/household-waste-summary-data-and-commentary-2016.pdf>

<sup>iv</sup> Includes compost not meeting the BSI PAS 100/110 standard.

<sup>v</sup> Scottish Household Survey  
<http://www.gov.scot/Publications/2017/09/9979/345329>

<sup>vi</sup> The Carbon Footprint of Scotland’s waste, 2014-15, Zero Waste Scotland  
<https://www.zerowastescotland.org.uk/sites/default/files/The%20Carbon%20Footprint%20of%20Scotland%E2%80%99s%20Waste%20-%202014%20and%202015%20Carbon%20Metric%20Summary%20Report.pdf>

<sup>vii</sup> The Carbon Footprint of Scotland’s waste, 2014-15, Zero Waste Scotland  
<https://www.zerowastescotland.org.uk/sites/default/files/The%20Carbon%20Footprint%20of%20Scotland%E2%80%99s%20Waste%20-%202014%20and%202015%20Carbon%20Metric%20Summary%20Report.pdf>