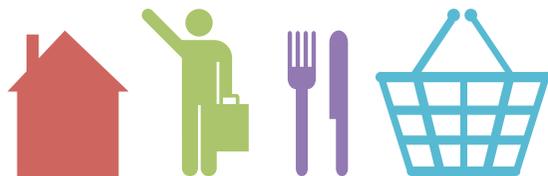


# Low Carbon Behaviours Framework

## Key Behaviour Areas – Data for Scotland

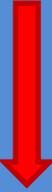
November 2016



# Table of Contents

<b>Introduction</b>	<b>3</b>
<b>Home Energy</b>	<b>6</b>
<b>Personal Transport</b>	<b>22</b>
<b>Food: Diet &amp; Food Waste</b>	<b>33</b>
<b>Consumption: Reduce, Reuse, Recycle</b>	<b>43</b>

# Introduction

 **80%  
emissions  
reduction  
target**

- The Scottish Government has a target to reduce Scotland's greenhouse gas (GHG) emissions by 80% (from the 1990 baseline) by 2050.
- Achieving this will require a shift to a low carbon society, with actions needed from everyone including government, businesses, communities, households and individuals.

**Role of  
Individuals &  
Households**

- Around 3/4 of Scotland's GHG emissions are associated with consumption by individuals and households.\*
- The 4 main themes of household and individual consumption emissions are: **Housing (mainly Home Energy), Travel, Food and Consumption.**

**Key  
Behaviour  
Areas (KBAs)**

- '*Low Carbon Scotland: A Behaviours Framework*'\*\* split those 4 themes down further into 10 Key Behaviour Areas – showing where individuals and households could help reduce emissions by changing their behaviour.
- A supporting publication brought together data on those key behaviour areas for Scotland.\*\*\*
- This report updates that publication.

\* [Scottish Government \(2016\) Low carbon behaviours framework: method to estimate Scotland's greenhouse gas consumption emissions by theme](#)

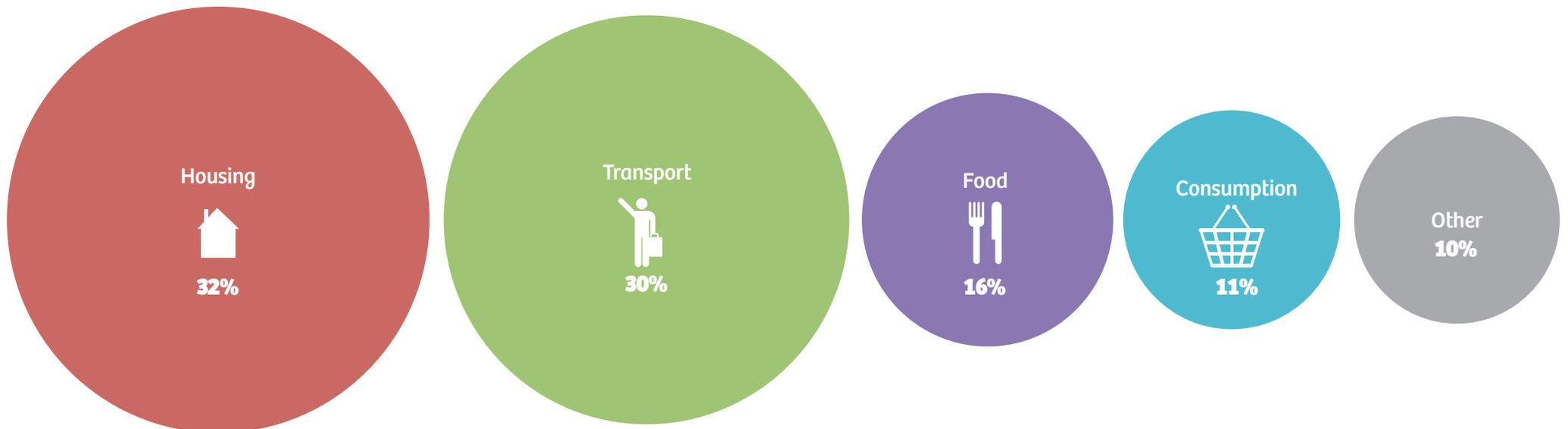
\*\* [Low Carbon Scotland: A Behaviours Framework \(2013\)](#)

\*\*\* [Low Carbon Behaviours Framework - Key Behaviour Areas - Data for Scotland \(2013\)](#)

# Scotland's Estimated GHG Consumption Emissions associated with Individuals and Households

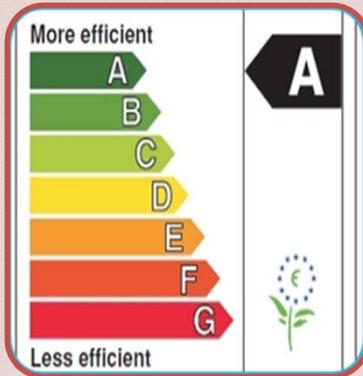
- Consumption emissions are generated by the goods and services consumed by Scottish residents, including by imports into Scotland.
- **Individuals and households account for 77% of Scotland's consumption emissions.\***
- That 77% of consumption emissions can be broken down into 4 main themes, as shown below.

Scotland's Estimated GHG Consumption Emissions associated with Individuals and Households, 2012



\* [Scottish Government \(2016\) Low carbon behaviours framework: method to estimate Scotland's greenhouse gas consumption emissions by theme](#)

# Low Carbon Behaviours: Key Behaviour Areas (KBAs)



## Home Energy

Household monitoring of their energy use

54% of households monitor their energy use (very or fairly closely), an increase of 10 percentage points since 2008.

## Personal Transport

Travel to work using public transport or active travel

31% of Scots walk, cycle or use public transport to get to work. This proportion has hardly changed since 1999.

## Food: Diet & Food Waste

Scottish Diet compared with Eatwell Guide diet (new indicator):

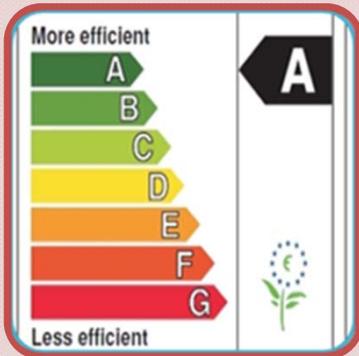
The Scottish diet is both less healthy, and has a higher environmental impact, than the recommended Eatwell Guide diet.

## Consumption: Reduce, Reuse, Recycle

Household Waste generated:

The volume of household waste has fallen by 5% since 2011.

# Key Behaviour Areas: Home Energy



## Home Energy

- The systems that heat our homes
- Keeping the heat in
- Managing home heating
- Saving electricity

## Personal Transport

- Becoming less reliant on the car
- Driving more efficiently
- Using alternatives to flying where practical

## Food

- Eating a healthy, sustainable diet, high in seasonal food.
- Avoiding food waste

## Consumption

- Reducing, reusing, recycling

# Home Energy: Summary

- **Monitoring energy use:** there has been progress on the Key Behaviour Indicator for home energy. The percentage of households who monitor their energy use very or fairly closely has increased by 10 percentage points since 2008, to 54% in 2014.
- **Heating Systems and Keeping the Heat In:** there has been progress on one-off behaviours such as installing more energy efficient boilers, loft and cavity wall insulation, helped by various government support programmes. However, over half a million dwellings have uninsulated cavity walls, and another half a million dwellings have uninsulated solid walls.
- **Heating management behaviours:** of households with central heating systems and a time clock or thermostat, over 90% use one or both to manage their home heating. However less than half of people would put extra clothes on rather than turn heating up.
- **Saving electricity:** there has been steady progress in use of energy efficient light bulbs, and over 80% of people switch off lights in unused rooms always or very often. However, a third of people always leave their TV on standby overnight, and only 4 in 10 people wash clothes at less than 40 degrees Celsius.

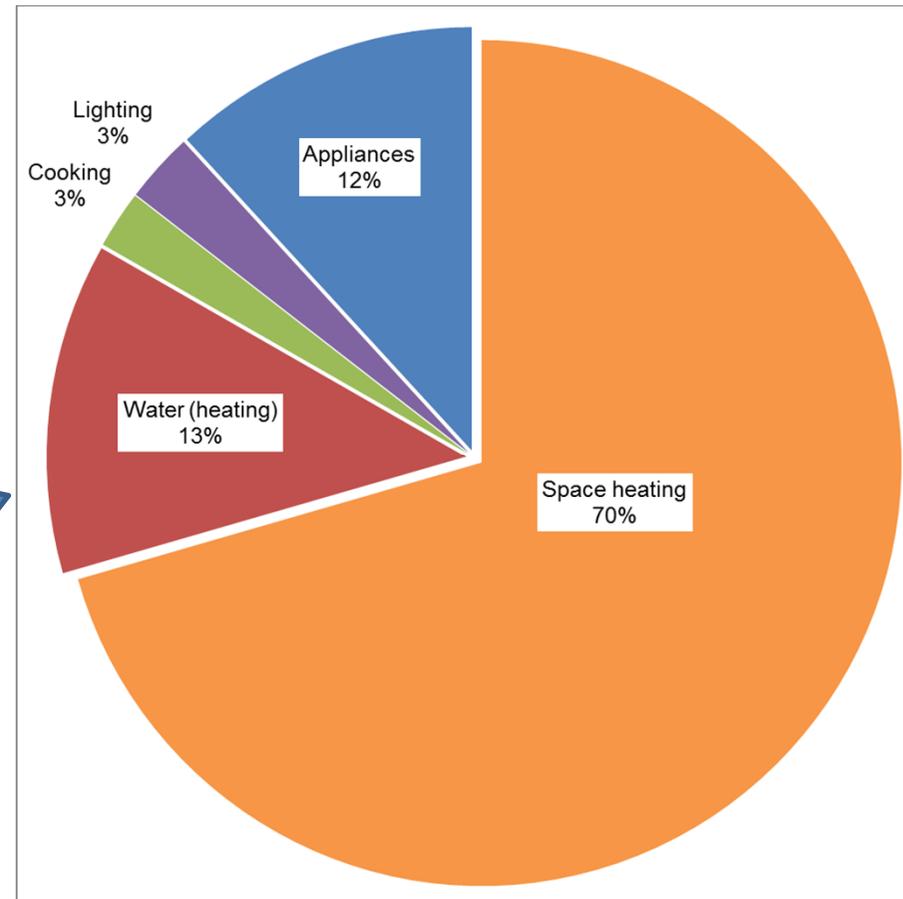
# Home Energy Emissions by End Use - UK

Emissions from Housing account for **32%** of GHG emissions from Scottish households, of which **nearly 90% is attributable to Home Energy** – an area where there is significant potential to reduce emissions\*.

UK data\*\* shows that:

- **space and water heating** together account for over three quarters of energy use in the home;
- **Lighting, cooking and appliances** account for almost a fifth of home energy use.

UK Domestic Final Energy Consumption by End Use: 2013\*\*



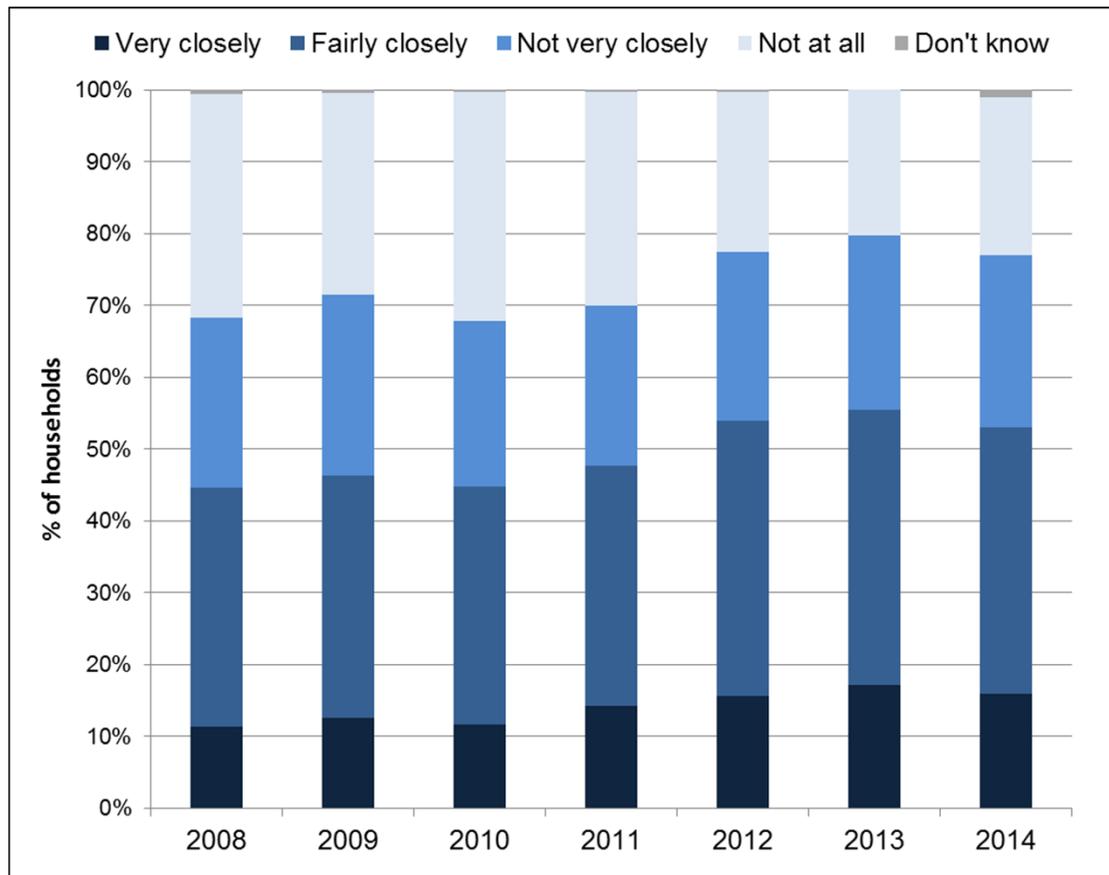
\* [Scottish Government \(2016\) Low carbon behaviours framework: method to estimate Scotland's greenhouse gas consumption emissions by theme](#)

\*\* [BEIS \(2016\) Energy Consumption in the United Kingdom, Domestic Data Tables](#)

NB: equivalent data for Scotland is not available

# Monitoring of home energy use

How closely households monitor their home energy use:  
2008-2014\*



54% of households in Scotland state that they monitor their home energy use very or fairly closely, an increase of 10 percentage points between 2008 - 2014.

However, this is only part of the picture. The following data provides a more comprehensive picture of how many households are taking action to reduce their energy use.

\*[Scottish Government \(2015\) Scottish House Condition Survey, 2014 \(based on data from Scottish Household Survey, 2014\)](#)

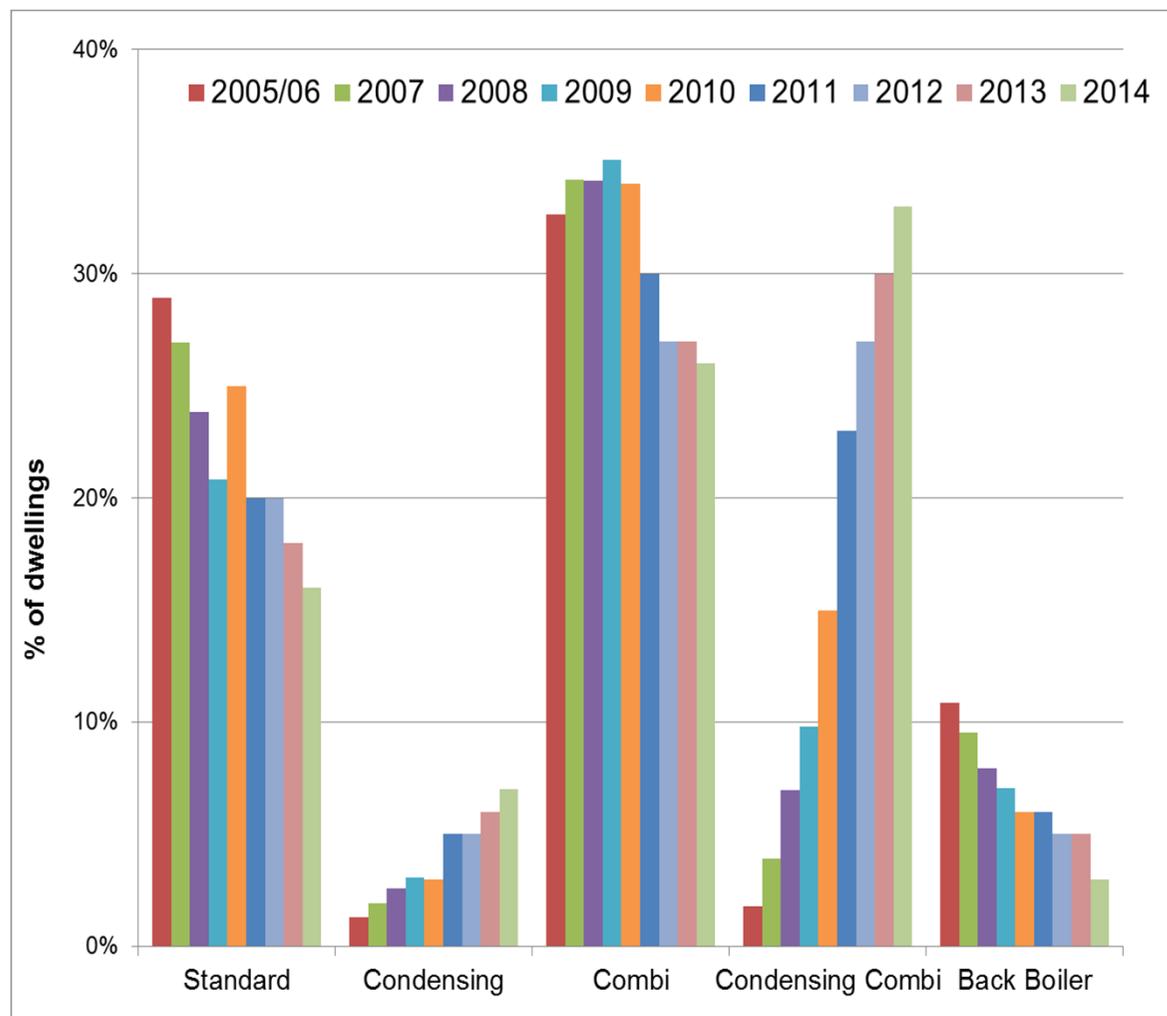
## The systems that heat our homes

# Household boiler types

Boiler types in Scotland: 2005/06 – 2014\*

84% of Scottish households use a gas or oil boiler as their primary source of heating\*.

Of those households, 48% have some type of condensing boiler, which is the most energy-efficient type - an increase from 7% in 2007\*.



\* [Scottish Government \(2015\) Scottish House Condition Survey, 2014 \(based on data from Scottish Household Survey, 2014\)](#)

The systems  
that heat our  
homes

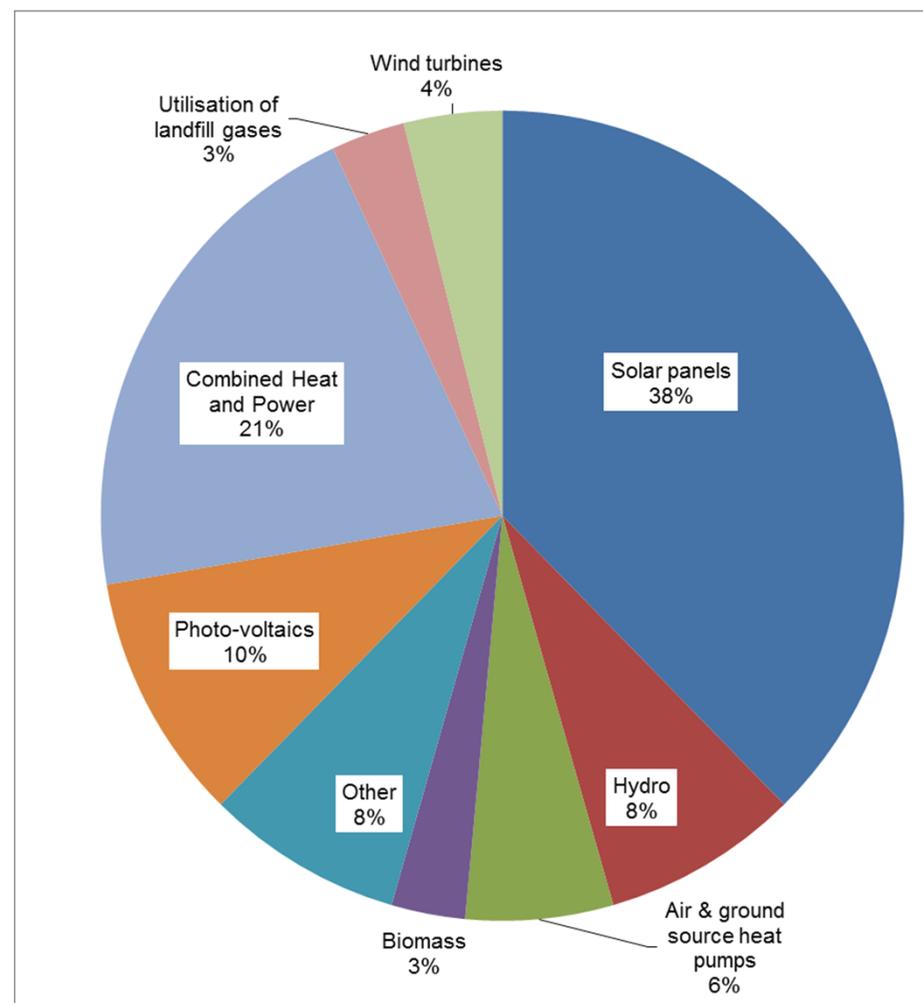
# Small-scale renewable energy generation

Around 2% of Scottish households are using renewable energy from microgeneration - small-scale, household or local sources such as solar panels or hydro schemes.

Of these small-scale installations, in 2014, solar panels were the most common type.

*NB: households can have more than 1 kind of installation.*

Small-scale renewable energy generation by source, 2014\*



\* [Scottish Government \(2015\) Scottish Household Survey, 2014](#)

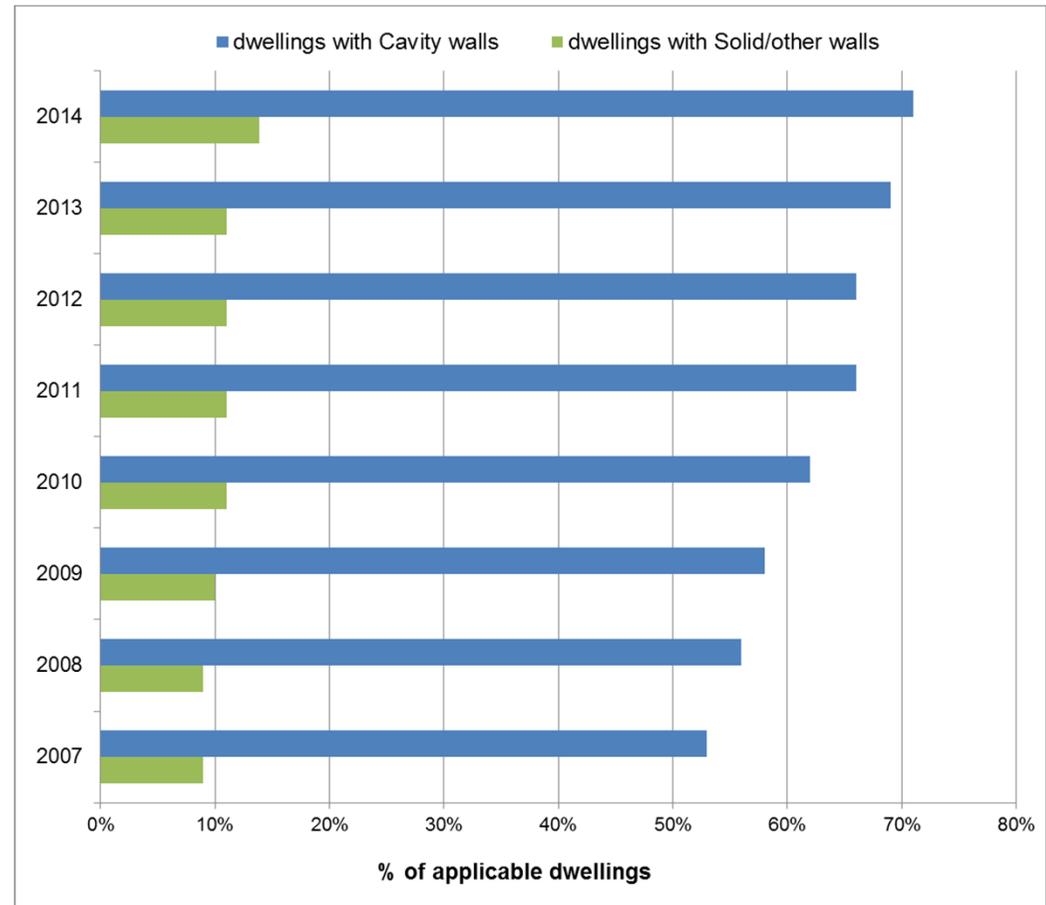
# External Wall Insulation: cavity and solid walls

Uninsulated dwellings are estimated to lose a third of their heat through their walls. In Scotland, around  $\frac{3}{4}$  of external walls are cavity walls and  $\frac{1}{4}$  are solid or other wall types.\*

**Cavity walls:** between 2007 to 2014, the proportion of insulated cavity walls has increased significantly, from 53% to 71%. However around 518,000 dwellings still have uninsulated cavity walls.

**Solid / other walls:** a relatively small proportion of these walls are insulated – only 14% in 2014, up from 9% in 2007. Around 528,000 dwellings still have uninsulated solid walls.

Dwellings with external wall insulation, 2007 to 2014\*

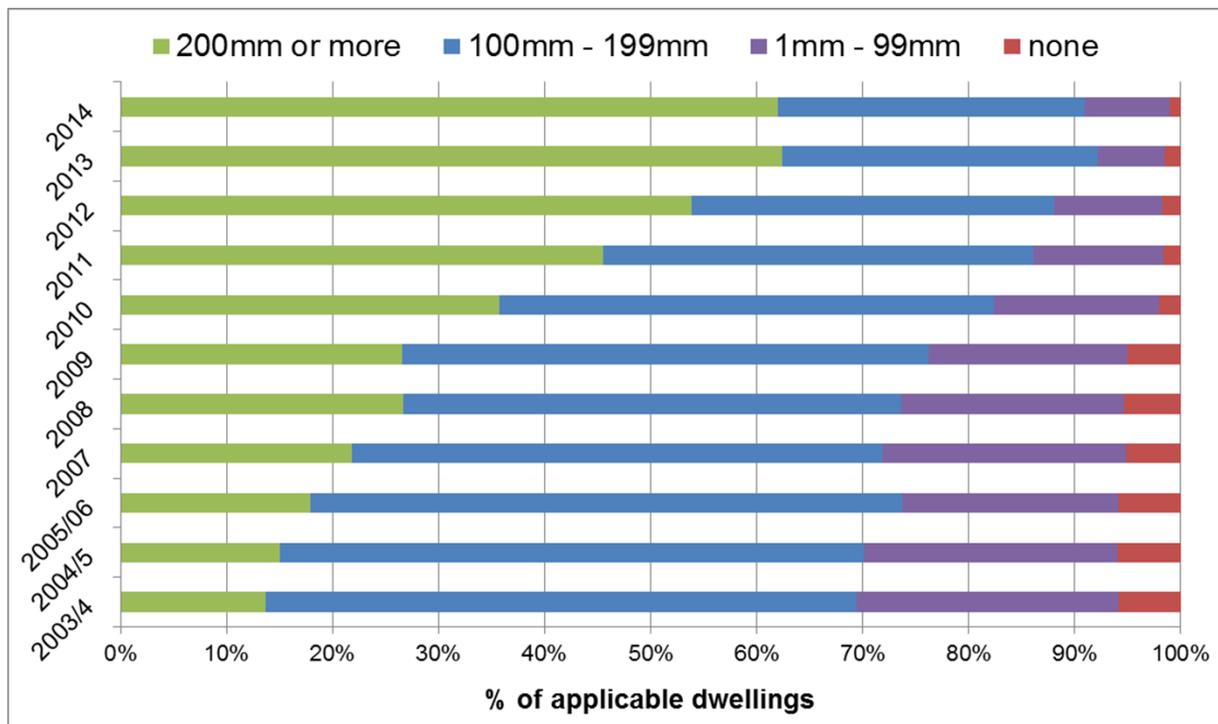


\* [Scottish Government \(2015\) Scottish House Condition Survey, 2014 \(based on data from Scottish Household Survey, 2014\)](#)

# Loft Insulation: lofts with 200mm or more insulation

It is estimated that in an uninsulated dwelling, a quarter of all heat is lost through the roof.

In 2014, 62% of dwellings (over 1.1 million homes) had 200mm or more of loft insulation. This compares with 14% in 2003/04 (258,000 homes). Only 1% of dwellings with lofts now have no insulation at all.



## Depth of loft insulation, 2003/04 to 2014\*

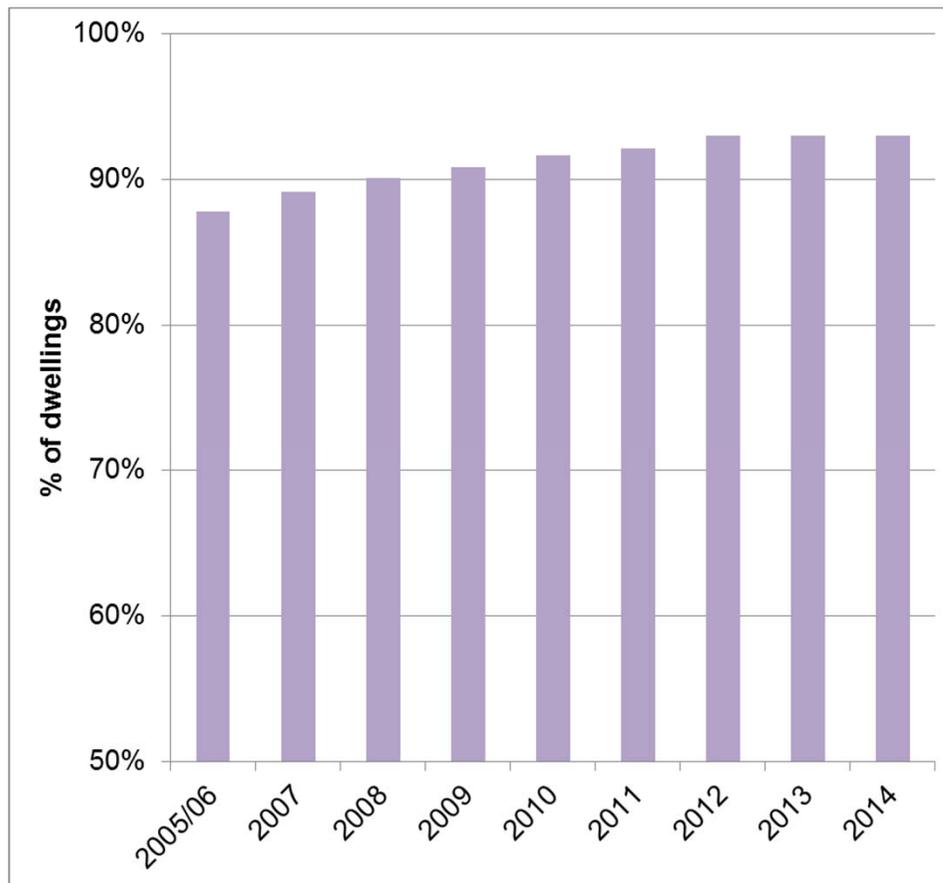
NB: the recommended depth for loft insulation using mineral wool, the most common type, is 270mm.\*\*

\* [Scottish Government \(2015\) Scottish House Condition Survey, 2014 \(based on data from Scottish Household Survey, 2014\)](#)

\*\* [Energy Saving Trust website](#)

# Window Glazing: homes with double glazing

Homes with double glazing, 2005/06 – 2014\*



The proportion of homes with double glazing has risen from 88% in 2005/06 to 93% in 2014.

Two thirds of installations occurred prior to 2003\*\* and could be less efficient than newer ones.

The proportion of homes without double or triple glazing has been falling steadily. This is a good example of an energy saving behaviour that has become a 'norm' for householders.

\* [Scottish Government \(2015\) Scottish House Condition Survey, 2014 \(based on data from Scottish Household Survey, 2014\)](#)

\*\* [Scottish Government \(2012\) Scottish House Condition Survey - Energy Use in the Home](#)

# Management of home central heating systems

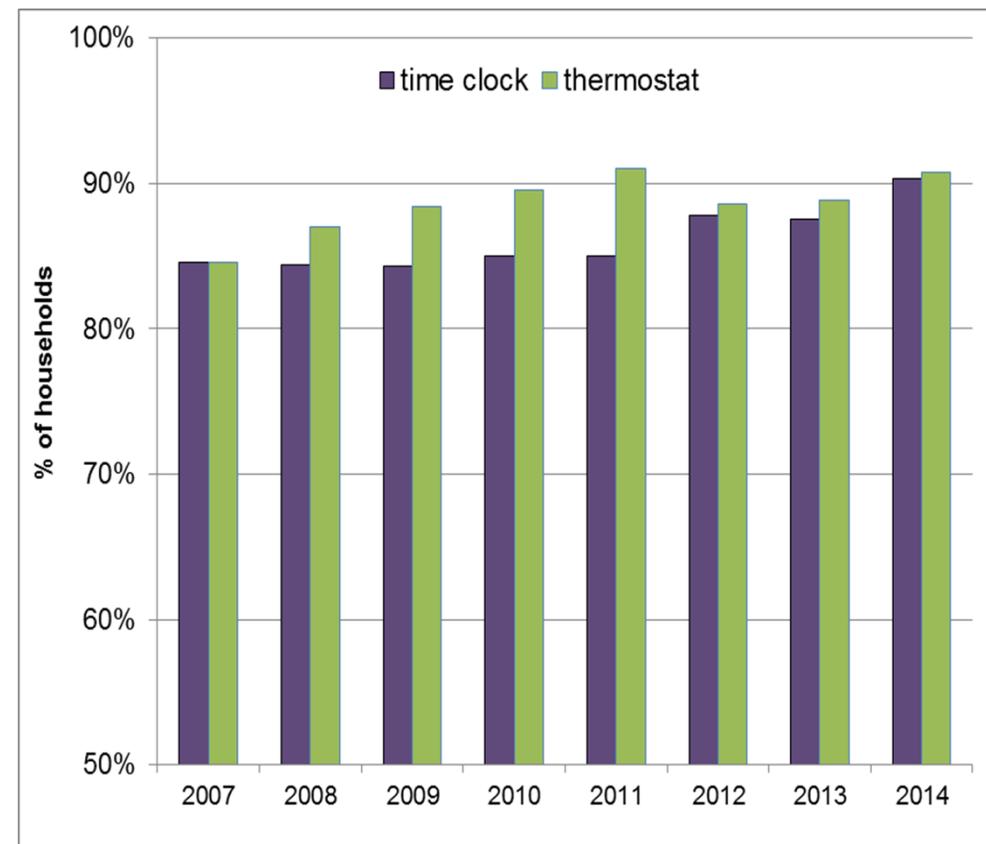
95% of dwellings in Scotland have a full central heating system and 3% a partial system (these figures include the 12% of dwellings with storage heating)\*.

Of households with central heating, over three-quarters have either a thermostat or a time clock or both; and the proportion of people who say they use them to adjust their heating has been increasing over time. In 2014:

\* **Time clocks:** 79% of householders have one, of whom 90% say they use it.

\* **Thermostats:** 84% of householders have one, of whom 91% say they use it.

Households with a thermostat and/or time clock who use them to manage their central heating systems:  
2007-2014\*\*



\* [Scottish Government \(2012\) Scottish House Condition Survey - Energy Use in the Home](#)

\*\* [Scottish Government \(2015\) Scottish Household Survey, 2014](#)

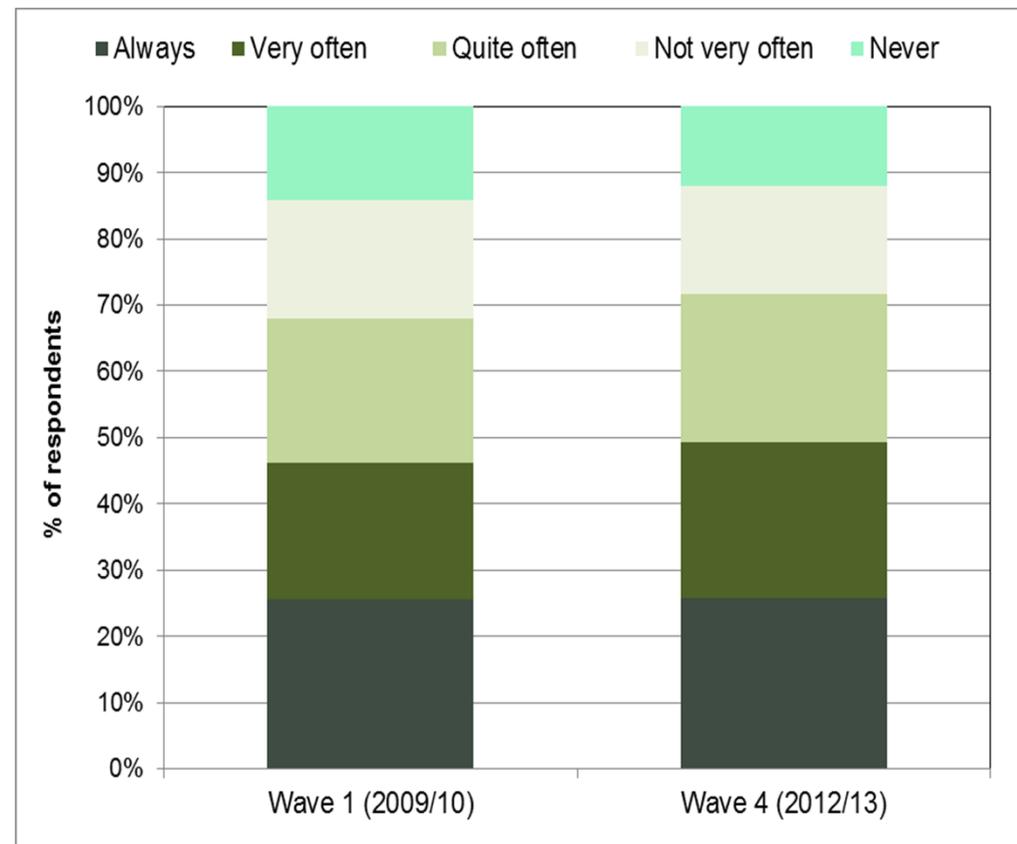
# People who put on more clothes rather than putting on or turning up heating

There is potential for households to save energy by people putting on more clothes rather than turning the heating on or up, though this might not be appropriate for all households.

Less than half of people in Scotland would **always or very often** put more clothes on rather than turning the heating on or up.

This proportion was fairly consistent between 2009/10 (46%) and 2012/13 (49%).

People who put on more clothes when feeling cold rather than putting on or turning up the heating, 2009/10 & 2012/13\*



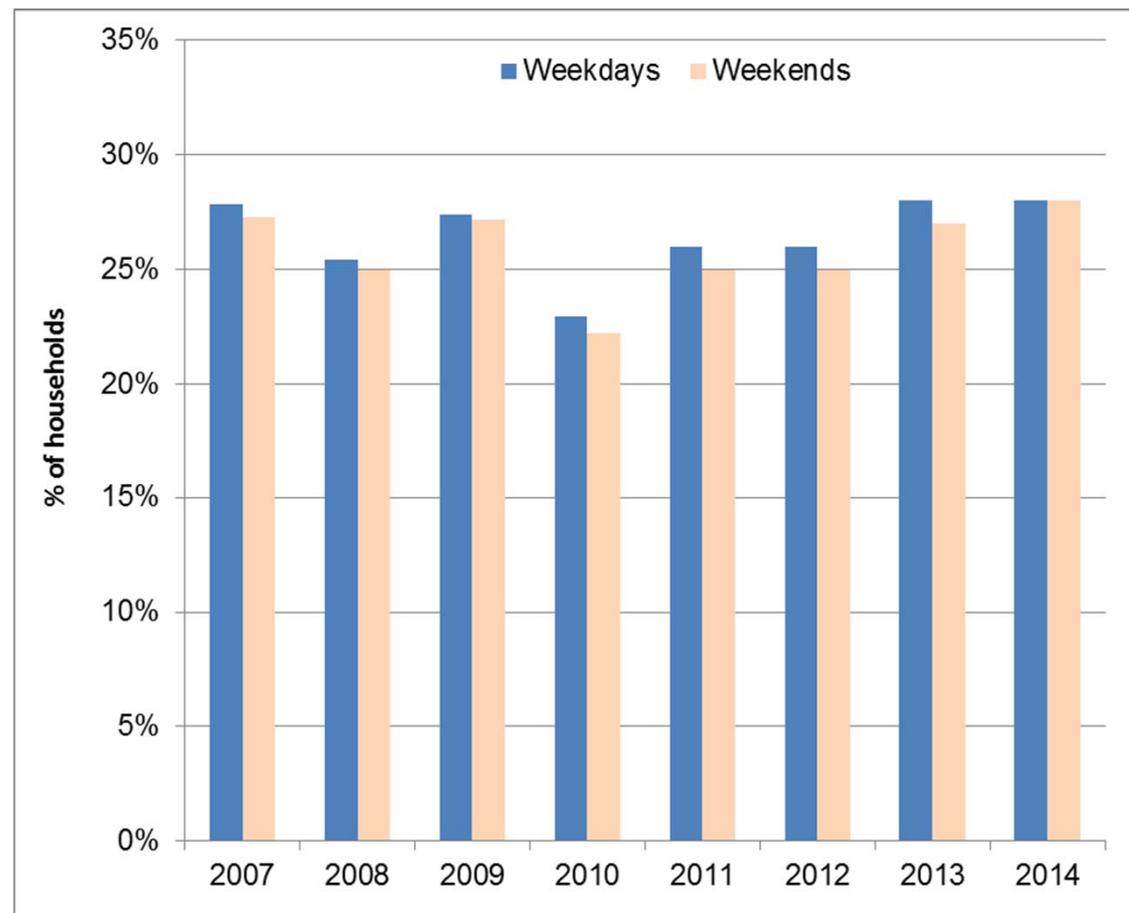
\* [Understanding Society: The UK Household Longitudinal Study](#) : Survey Waves 1 and 4

# Households not heating all rooms in winter

There is potential for households to save energy by focusing heat on rooms in most use, and avoiding overheating rooms which are in less use, though this might not be appropriate for all households.

Just over 1 in 4 Scottish households turn the heating off in unused rooms during winter, both weekdays and weekends. These figures have hardly changed over the past 10 years.

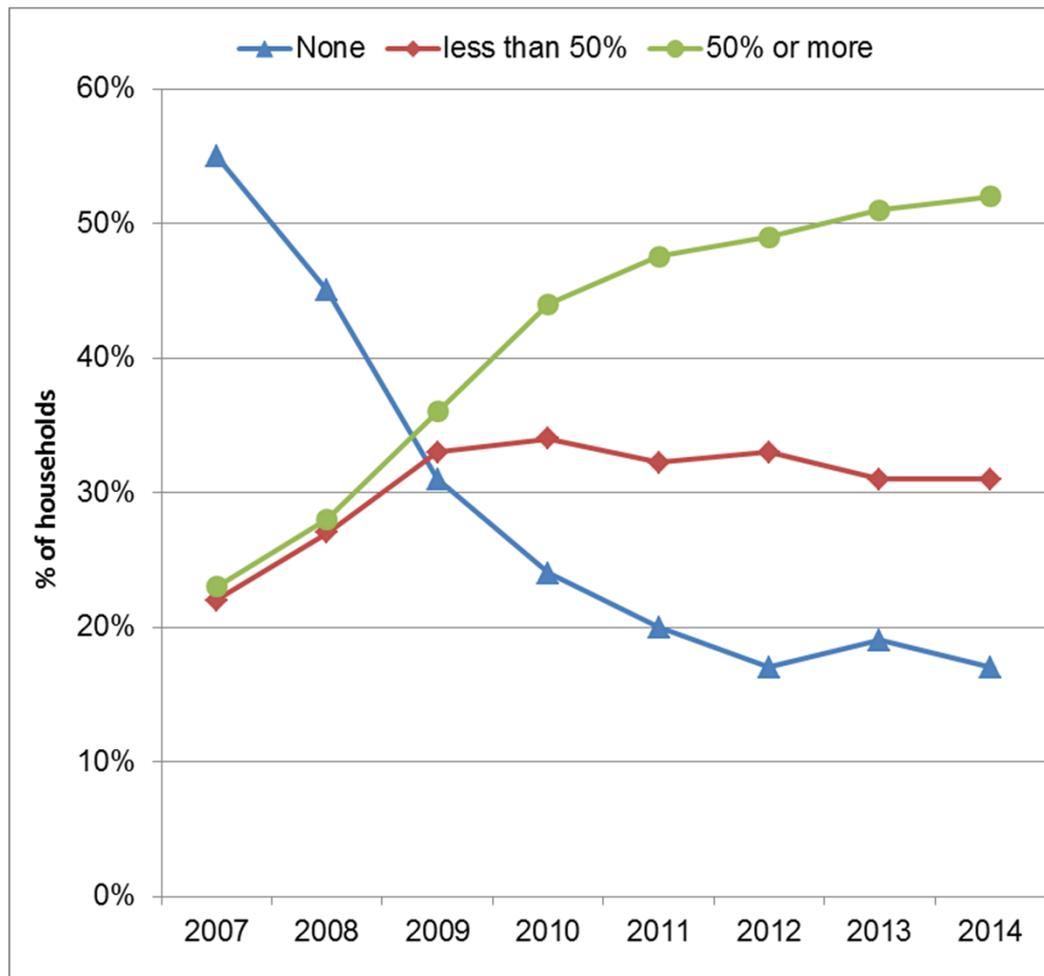
Households who do not heat all rooms in winter, 2007-2014\*



\* [Scottish Government \(2015\) Scottish Household Survey, 2014](#)

# Use of low energy lighting

Household use of low energy fixed light fittings: 2007-2014\*



## Households with:

- **No low energy lighting:** the percentage more than halved, from 55% in 2007 to 17% in 2014.

- **50% or more low energy lighting:** the percentage more than doubled in the same period, from 23% to 52%.

- **100% low energy lighting:** applied to only 13% of households in 2014.

\* [Scottish Government \(2015\) Scottish House Condition Survey, 2014 \(based on data from Scottish Household Survey, 2014\)](#)

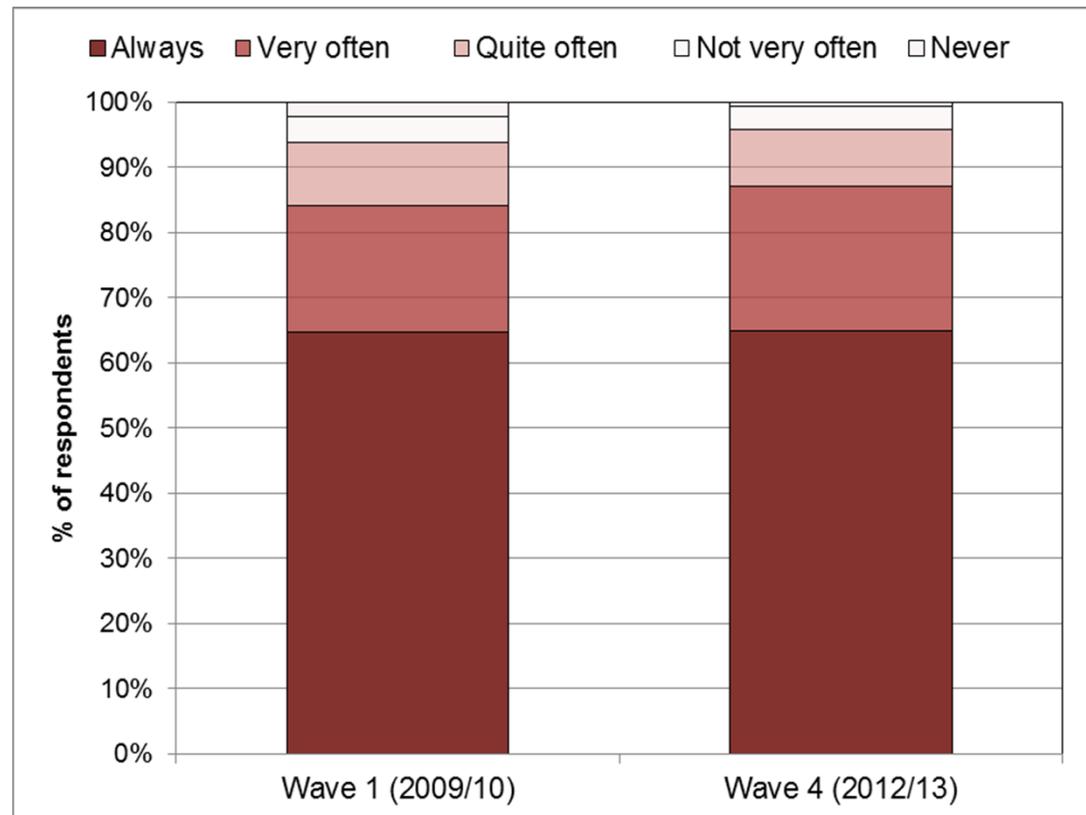
# Switching off lights in unused rooms

People who switch off lights in unused rooms:  
2009/10 and 2012/13\*

Almost two thirds of people say they **always** switch lights off in rooms that are not being used. This proportion was unchanged between 2009/10 and 2012/13.

A further 1 in 5 do this **very often**, with little change between the same two periods.

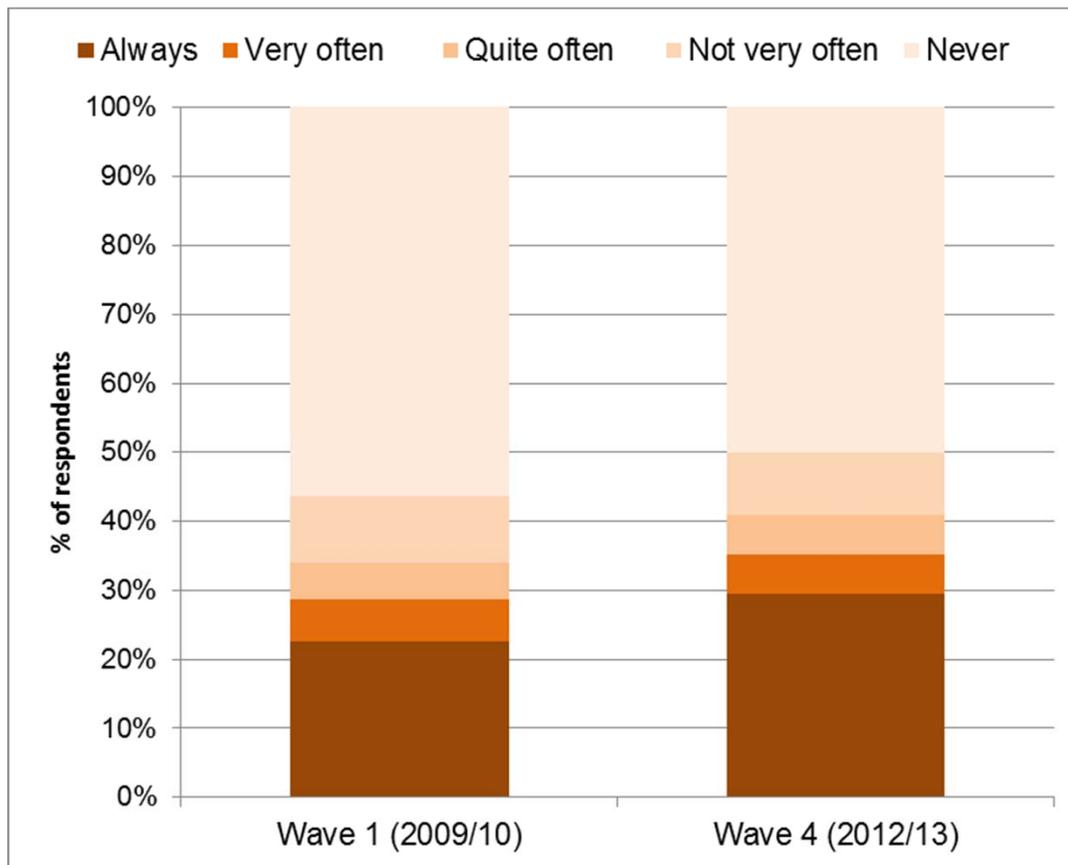
Only 5% of people **never or rarely** switch lights off.



\* [Understanding Society: The UK Household Longitudinal Study](#) : Survey Waves 1 and 4

# Fully turning off the TV overnight

People who leave the TV on standby, 2009/10 and 2012/13\*



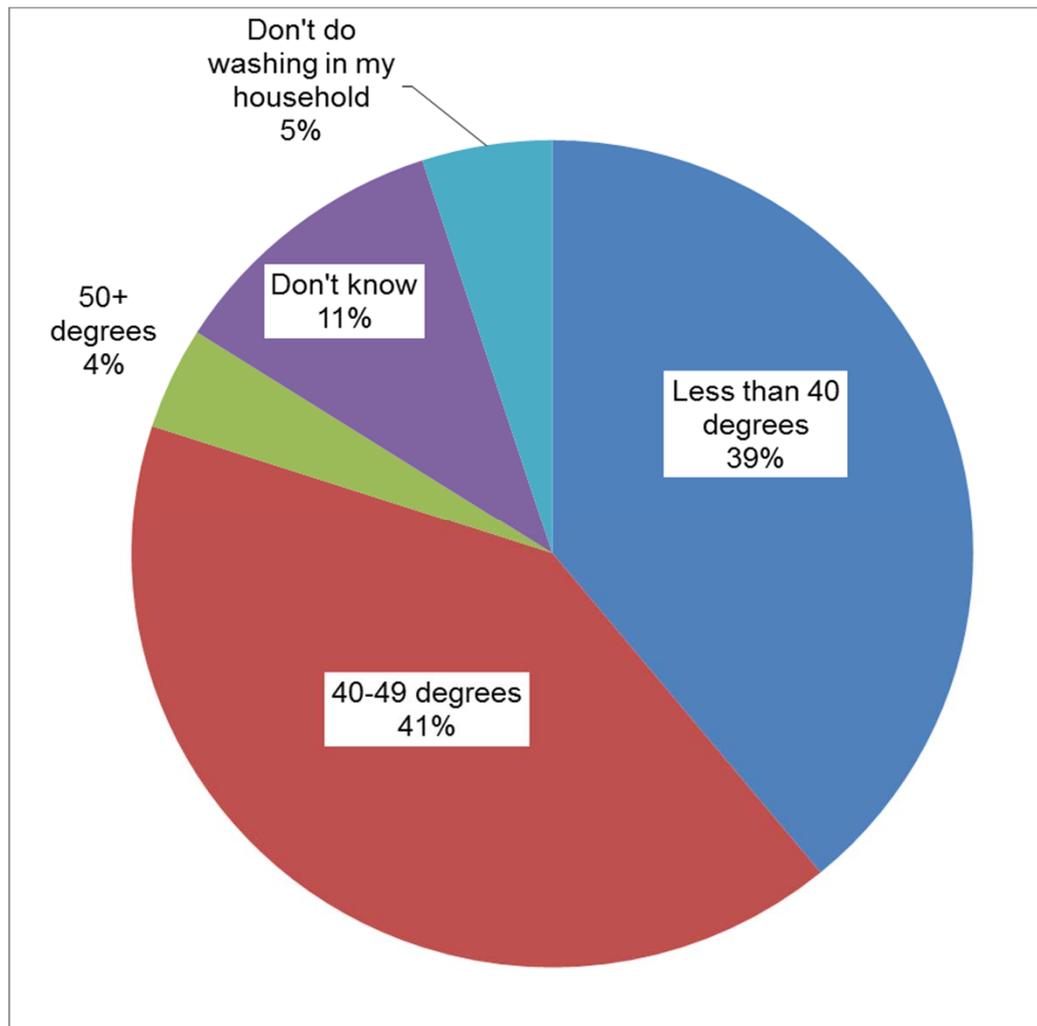
Half of people **never** leave their TV on standby overnight (2012/13) – however this represents a decrease from 57% in 2009/10.

29% of people **always** leave their TV on standby overnight – and this represents an increase from 23% in 2009/10.

\* [Understanding Society: The UK Household Longitudinal Study](#) : Survey Waves 1 and 4

# Washing clothes at less than 40 degrees

Temperature people wash their clothes at, 2011\*



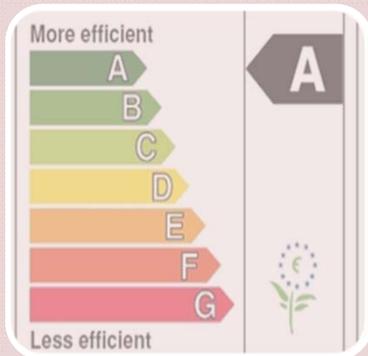
2 in 5 Scots wash their clothes at less than 40 degrees\*

According to the Energy Saving Trust, washing clothes at 30 degrees rather than at higher temperatures uses around 40% less energy.\*\*

\* Zero Waste Scotland/ WRAP 3Rs tracker, Autumn 2011

\*\* [Energy Saving Trust website](#)

# Key Behaviour Areas: Personal Transport



## Home Energy

- The systems that heat our homes
- Keeping the heat in
- Managing home heating
- Saving electricity

## Personal transport

- Becoming less reliant on the car
- Driving more efficiently
- Using alternatives to flying where practical

## Food

- Eating a healthy, sustainable diet, high in seasonal food.
- Avoiding food waste

## Consumption

- Reducing, reusing, recycling

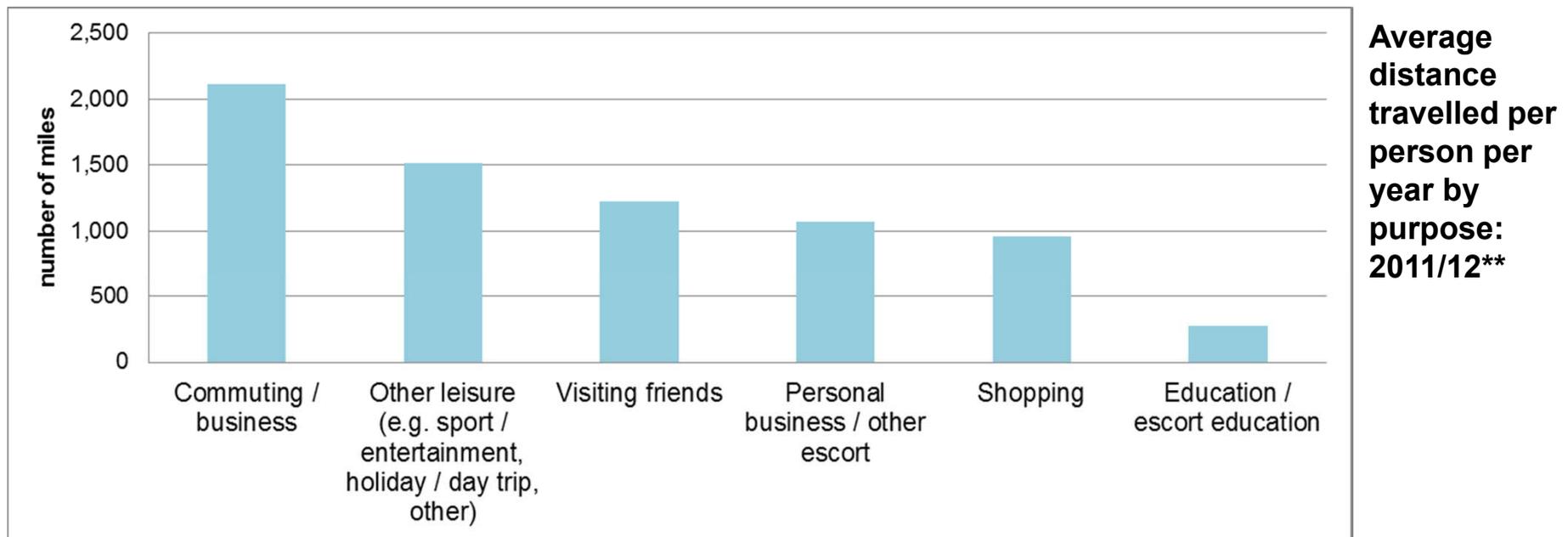
# Key Behaviour Areas - Personal Transport: Summary

- **Less Reliant on Cars:** there has been no progress on the Key Behaviour Indicator for transport, Travel to Work. The percentage of journeys to work made by public transport or active travel (walking or cycling) currently stands at 31% and has hardly changed since 1999.
- **Driving More Efficiently:** there is a clear trend towards the purchase of more fuel efficient vehicles. Over half of newly-registered vehicles in Scotland are now in the 3 lowest emissions bands. Among these, the purchase of ultra-low emission vehicles (including electric and plug-in hybrid cars) is increasing, albeit from a very low base.
- **Alternatives to Flying:** the number of domestic air passengers decreased after 2006, reflecting the economic downturn, but since 2010 has started to increase again, reflecting economic improvement. Only 1 in 10 Scots always or very often take fewer flights where possible, and  $\frac{3}{4}$  never take fewer flights.

# Reasons Why People Travel

Emissions from transport account for **30%** of GHG emissions from Scottish households.\*

People travel for a variety of reasons. 'Commuting and business' travel is the largest category of personal transport mileage (2,111 miles in 2011/12)\*\*. However, when leisure activities ('visiting friends' and 'other leisure') are considered together, travelling for leisure purposes becomes the biggest category of personal transport mileage (2,744 miles in 2011/12)\*\*.



\* [Scottish Government \(2016\) Low carbon behaviours framework: method to estimate Scotland's greenhouse gas consumption emissions by theme](#)

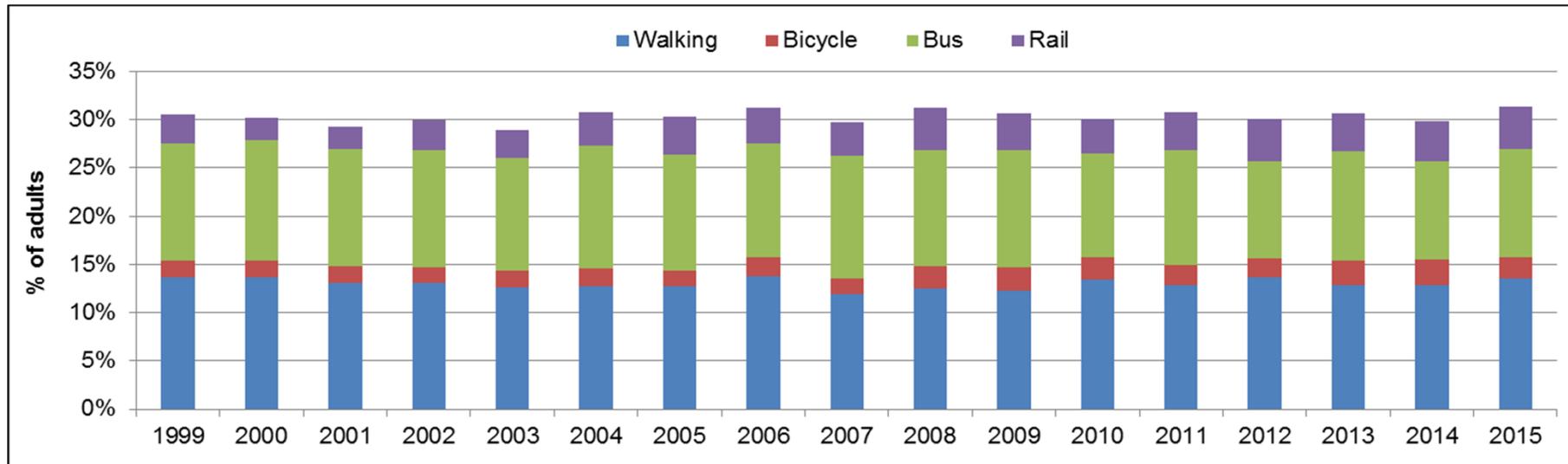
\*\* [National Travel Survey \(2011/2012 data\)](#)

# Travel to work using public transport or active travel

31% of people walked, cycled or took public transport to work in 2015. This proportion has hardly changed since 1999, remaining at around 30% over the whole period.

Cars remain the main mode of travel to work, used by around two thirds of people. Of those people, the split between car drivers and passengers has also been fairly consistent over time. In 2015, 60% were car drivers and 6% were car passengers.

How people travel to work, 1999 – 2015\*



\* [Scottish Transport Statistics \(from Scottish Household Survey Travel Diary data\)](#)

Less reliant  
on cars

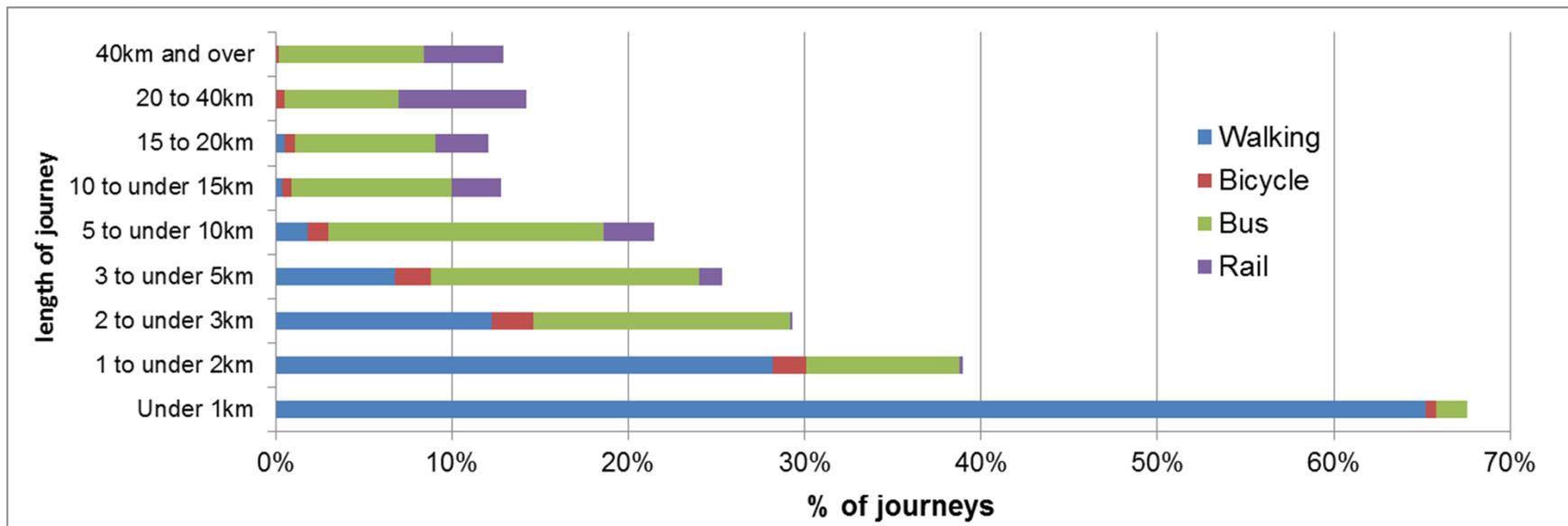
# Main mode of travel by length of journey

Walking, cycling and public transport are the main modes of travel for journeys under 1km. In 2015 these modes accounted for 68% of journeys.

Car travel: nearly 1/3 of journeys under 1km are undertaken by car, either as a driver or passenger.

Driving a car is the main mode of transport for all journeys over 1km. Around half of journeys made by car drivers are under 5km.

## Main mode of travel – Active Travel and Public Transport: by length of journey: 2015\*



\* [Scottish Transport Statistics \(from Scottish Household Survey Travel Diary data\)](#)

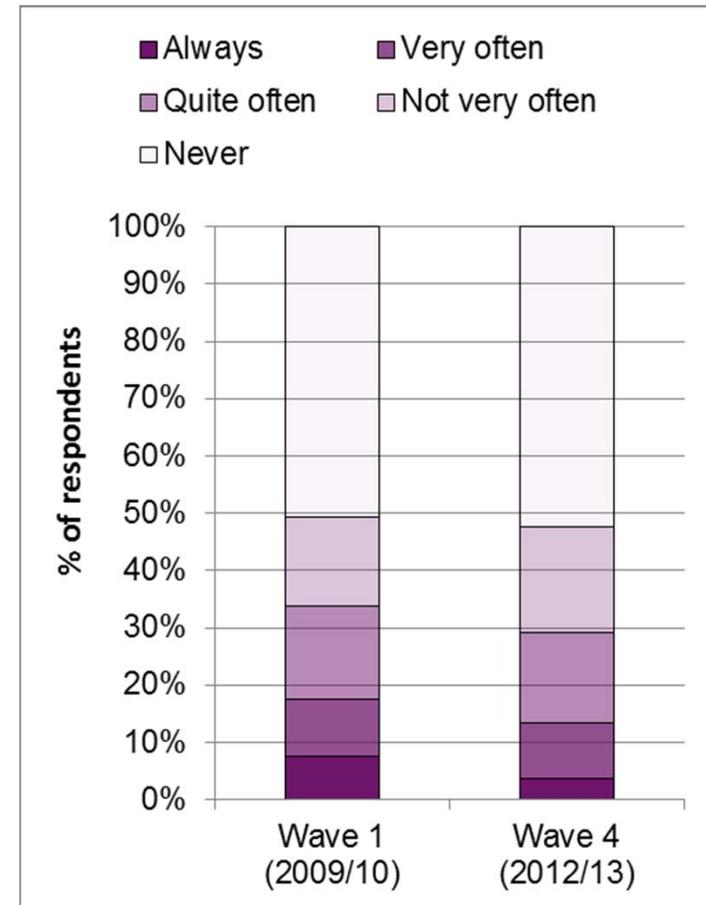
Less reliant  
on cars

# Car Sharing

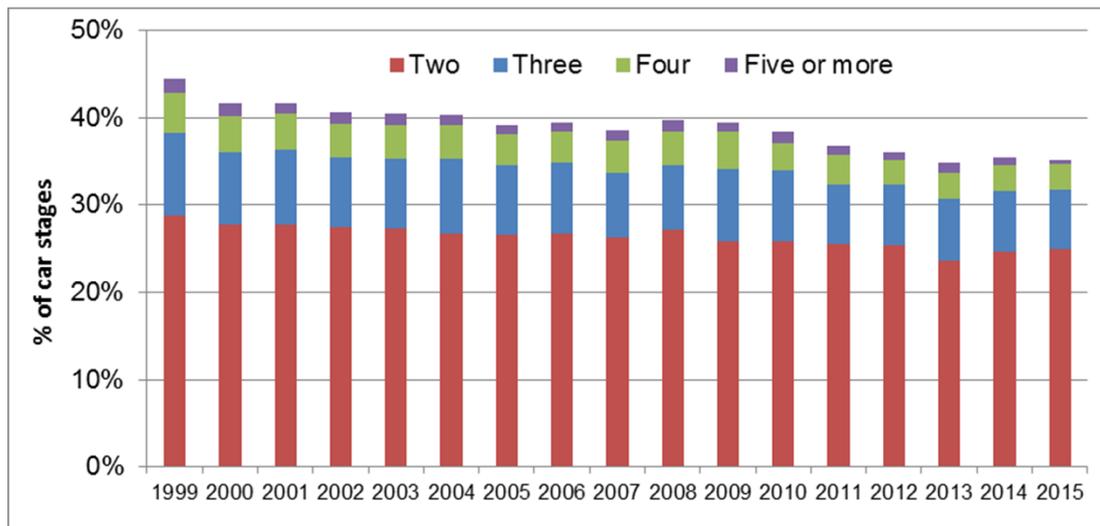
Under 2 in 5 people say they **always** or **very often** car share. Around half of people **never** car share\*.

Under two fifths of car journeys are undertaken by 2 or more people. The proportion of lone car journeys has increased from 56% in 1999 to 65% in 2015\*\*.

People who say they car share, 2009/10 and 2012/13\*



Percentage of car journeys with 2 or more people, 1999-2015\*\*

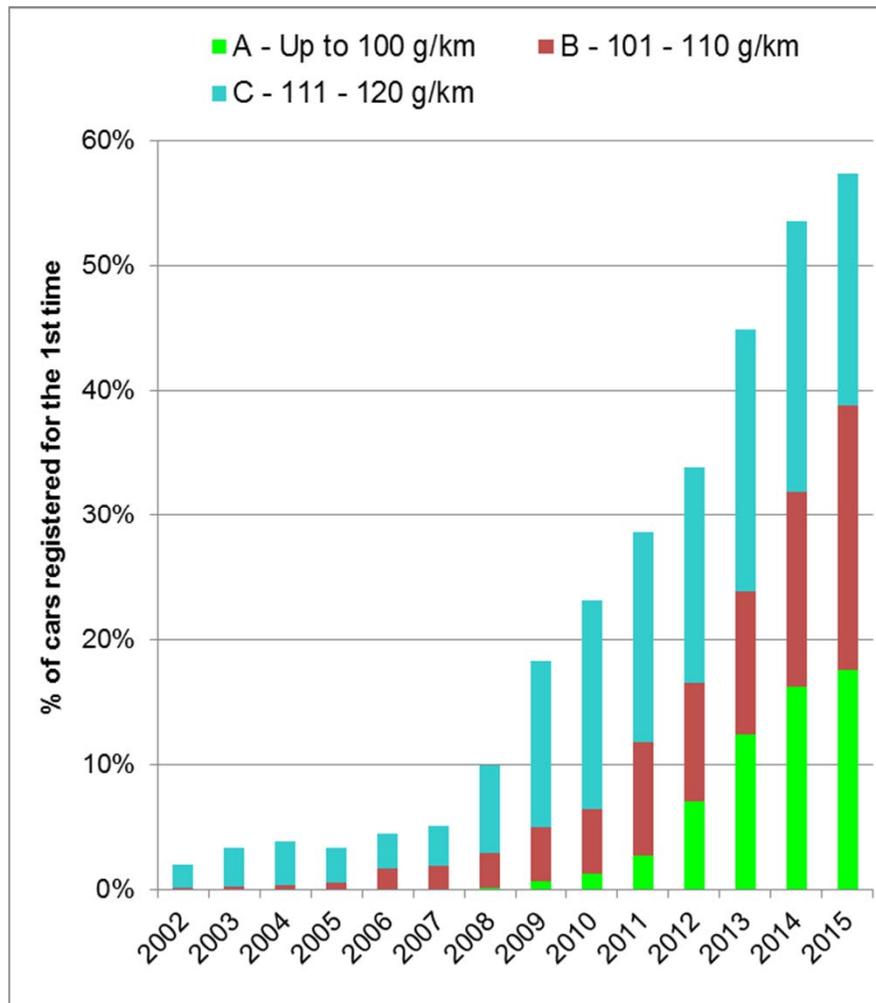


\* [Understanding Society: The UK Household Longitudinal Study](#) : Survey Waves 1 and 4

\*\* [Scottish Transport Statistics \(from Scottish Household Survey Travel Diary data\)](#)

# Fuel efficiency of newly registered cars

Cars newly-registered in Scotland in emissions bands A, B and C: 2002 – 2015\*



Drivers have been encouraged to buy cars in lower emission bands A, B or C (emitting less than 120g/km). Significantly lower rates of Vehicle Excise Duty (VED) for these bands were introduced by the UK Government in 2001.

The proportion of new vehicles registered in Scotland in bands A, B or C has increased considerably, from 2% in 2002 to 57% in 2015\*. There have been similarly steep falls in the proportion of new cars in the higher emissions bands.

\* [Transport Scotland from DVLA / UK Department for Transport UK Vehicle Licensing Statistics](#)

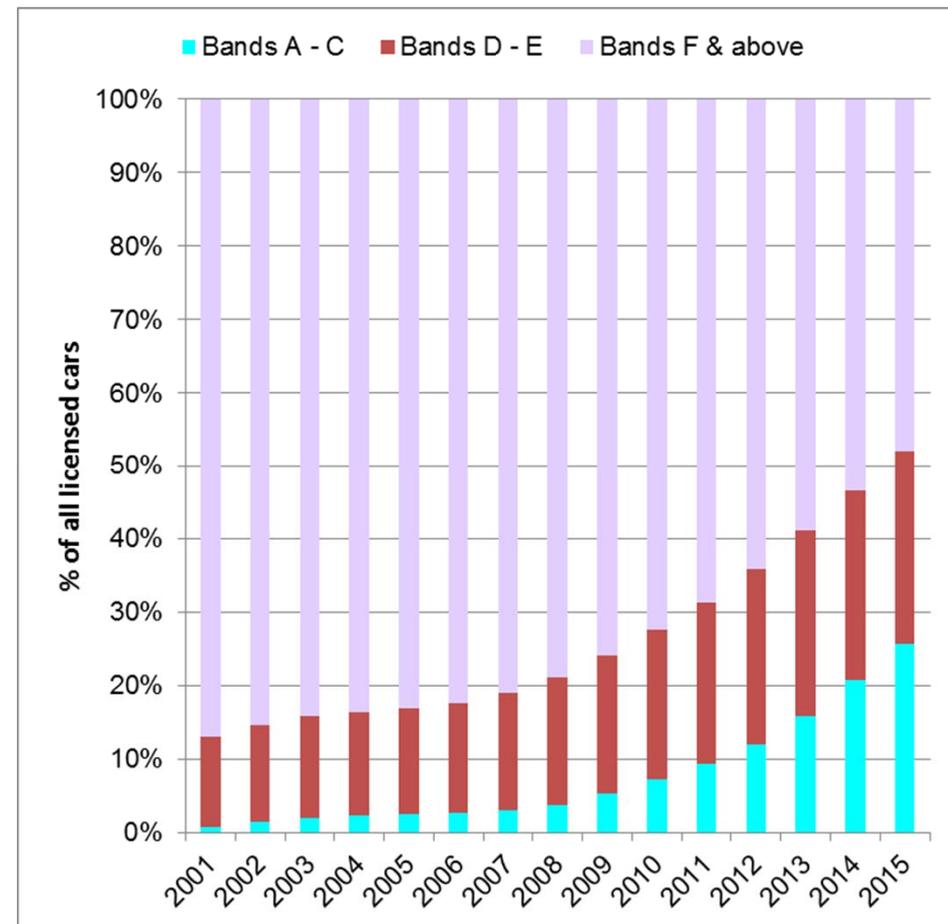
# Fuel efficiency of licensed vehicles

The emissions profile of new car purchases is influencing the profile of the licensed vehicle stock. There is a clear pattern towards ownership of vehicles with lower emissions.

- 26% of licensed vehicles are now in the 3 lowest emission Bands A-C, up from 1% in 2001.
- 52% of licensed vehicles are in the 5 lowest emission Bands A – E, up from 13% in 2001.

Higher-emission vehicles will nonetheless remain within the overall stock for several more years.

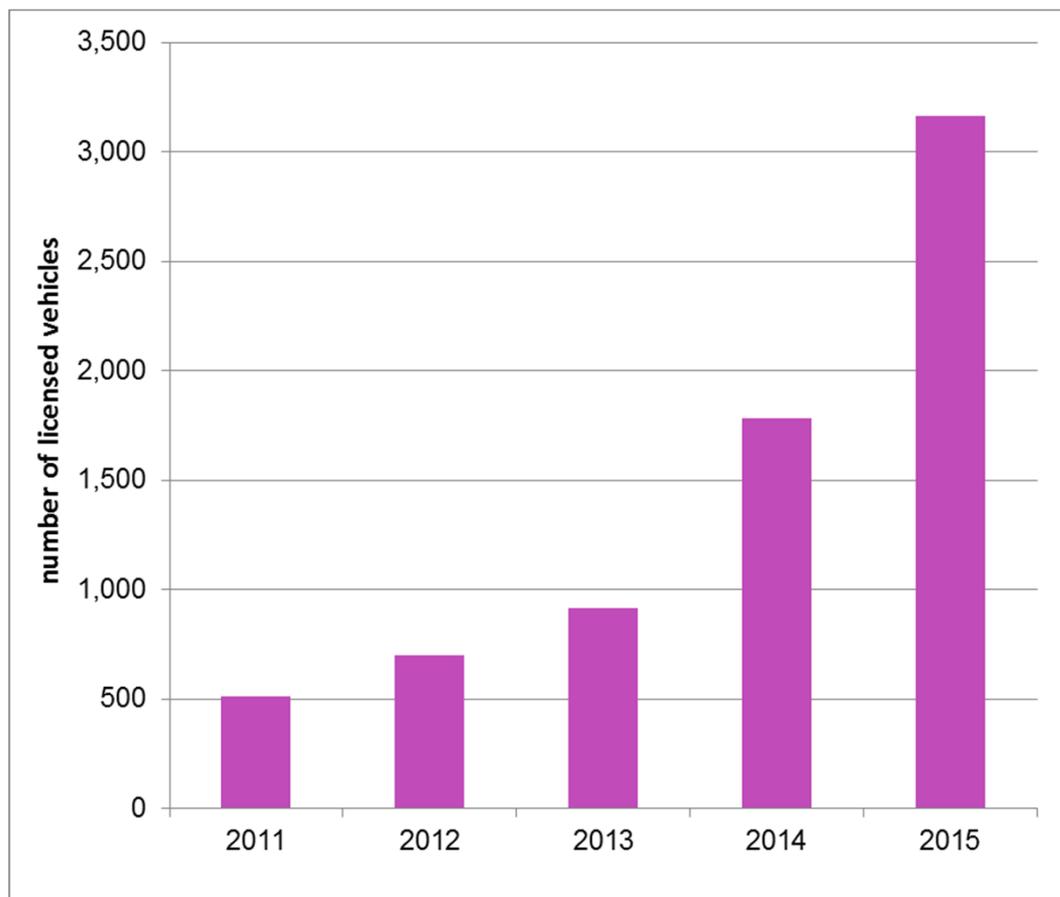
Licensed cars in Scotland by emissions band: 2001 – 2015\*



\* [Transport Scotland from DVLA / UK Department for Transport UK Vehicle Licensing Statistics](#)

# Licensed Ultra-Low Emission Vehicles

Ultra-Low Emission Vehicles Licensed in Scotland, 2011 - 2015\*



The term 'ultra-low emission vehicles' (ULEV) refers in practice to electric, plug-in hybrid and hydrogen fuel-cell vehicles.\*\*

The number of ultra-low emission vehicles licensed in Scotland is now 6 times higher compared with the end of 2011.

However they still represent a small proportion of all licensed vehicles (well below 1%).

\* [Scottish Transport Statistics No 34 2015 Edition](#)

\*\* [Department for Transport: All Vehicles - Statistical Dataset: Table VEH0170](#)

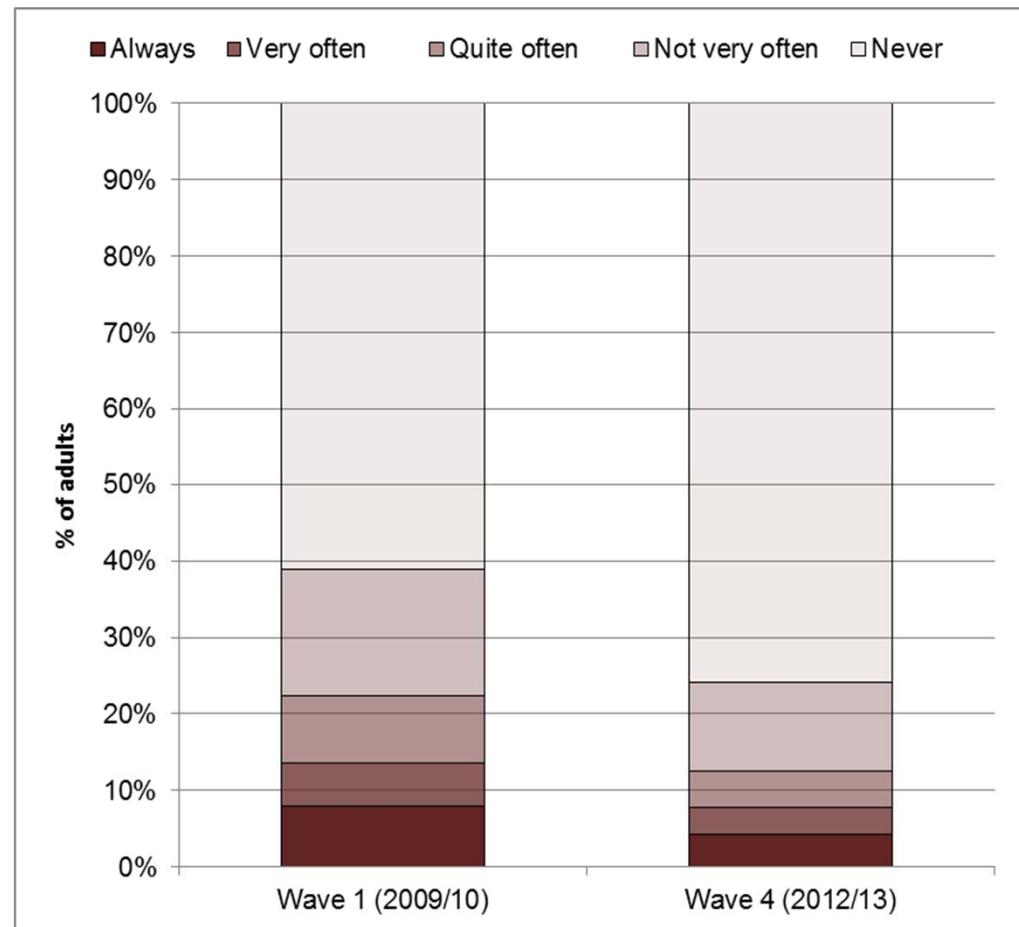
# People taking fewer flights

Around 1 in 10 Scots say they **always or very often** take fewer flights when possible – but this proportion decreased from 14% in 2009/10 to 8% in 2012/13.

In 2009/10, 61% of Scots said they **never** take fewer flights – this increased to 76% in 2012/13.

Personal flying emissions are strongly related to income. The international aviation emissions of the highest earners are more than ten times that of the lowest income households\*\*.

People who say they take fewer flights when possible, 2009/10 and 2012/13\*

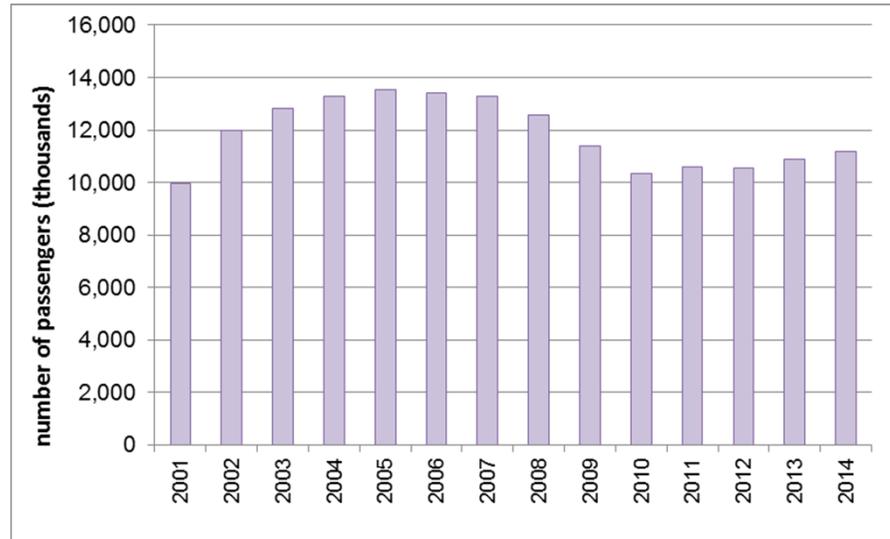


\* [Understanding Society: The UK Household Longitudinal Study](#) : Survey Waves 1 and 4

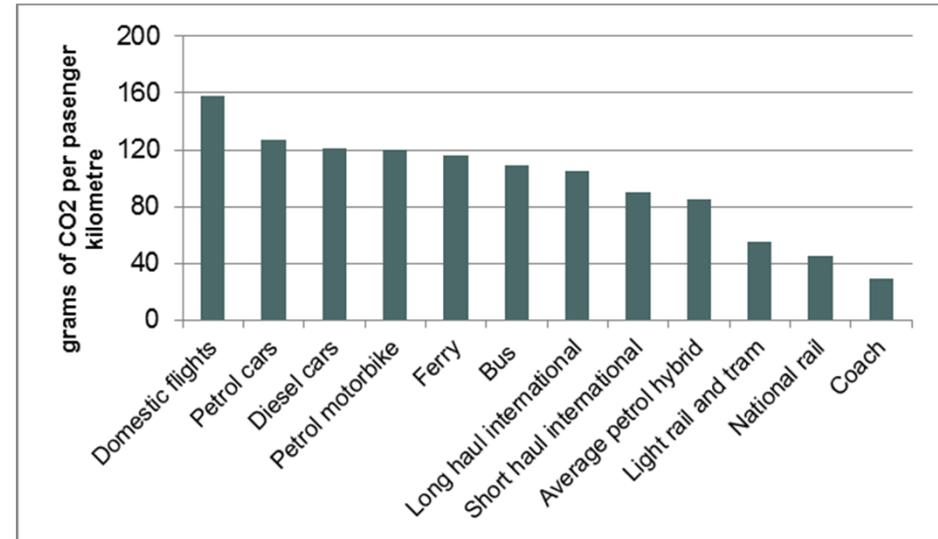
\*\* [Joseph Rowntree Foundation \(2013\) Distribution of Carbon Emissions in the UK: Implications for Domestic Energy Policy](#)

# Domestic air travel

Domestic passengers travelling to/from Scotland's five major airports on selected routes, 2001-2014\*



Grams of CO2 emitted per passenger km for different modes of UK transport, 2015\*\*



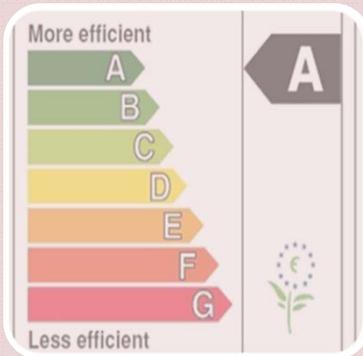
Domestic flights have the highest emissions per passenger/km of all modes of transport\*\*. The number of air transport passengers has more than doubled since 1990, and domestic passengers account for around half of the total.

Domestic air passenger numbers fell between 2006-2010, when the economic downturn led to a reverse of growth in low cost air travel. Since 2010, as the economy has improved, an upward trend has resumed, with domestic passenger numbers increasing each year, although they remain lower than the 2005 peak.\*

\* Scottish Transport Statistics from Civil Aviation Authority

\*\* DEFRA in Scottish Transport Statistics No 34: 2015 Edition

# Key Behaviour Areas: Food



## Home Energy

- The systems that heat our homes
- Keeping the heat in
- Managing home heating
- Saving Electricity

## Personal transport

- Becoming less reliant on the car
- Driving more efficiently
- Using alternatives to flying where practical

## Food

- Eating a healthy, sustainable diet, high in seasonal food.
- Avoiding food waste

## Consumption

- Reducing, reusing, recycling

# Key Behaviour Areas – Food: Healthy, Sustainable Diet - Summary

There is limited data available to track Scotland's food consumption behaviours over time, both generally, and in relation to sustainable food behaviours. However available data shows that:

- **The overall Scottish diet** is both less healthy, and has a higher environmental impact, than the recommended 'Eatwell Guide' diet - updated guidance on a healthy diet which is in use across the UK.
- **Adult consumption of fruit and vegetables** has barely changed in recent years and only one fifth of adults eat the recommended 5 or more portions a day. Many fruit and vegetable will have a low environmental impact compared with other foods, particularly if grown and eaten in season.

# Sustainable and Healthy Diet Choices

Food accounts for around 16% of Scottish households' GHG emissions.\* Evidence shows that dietary choice can influence the carbon footprint from the food we eat.

The Eatwell Guide was developed by Public Health England to help the UK public eat a healthy, balanced diet.\*\* The Carbon Trust was asked to assess the Guide's environmental impacts compared with the current UK diet. They concluded that it "*shows an appreciably lower environmental impact than the current UK diet*"\*\*\*.

The 2 indicators that follow relate to the Eatwell Guide recommendations.

\* [Scottish Government \(2016\) Low carbon behaviours framework: method to estimate Scotland's greenhouse gas consumption emissions by theme](#)

This includes the emissions associated with the production and transportation of food, but excludes emissions from food waste.

\*\* [Public Health England: 'The Eatwell Guide' \(2016\)](#). Its development was led by Public Health England (PHE), in association with the Welsh Government, Food Standards Scotland and the Food Standards Agency in Northern Ireland.

\*\*\* [Carbon Trust: 'The Eatwell Guide: a More Sustainable Diet' \(2016\)](#)

Eating a healthy and sustainable diet:

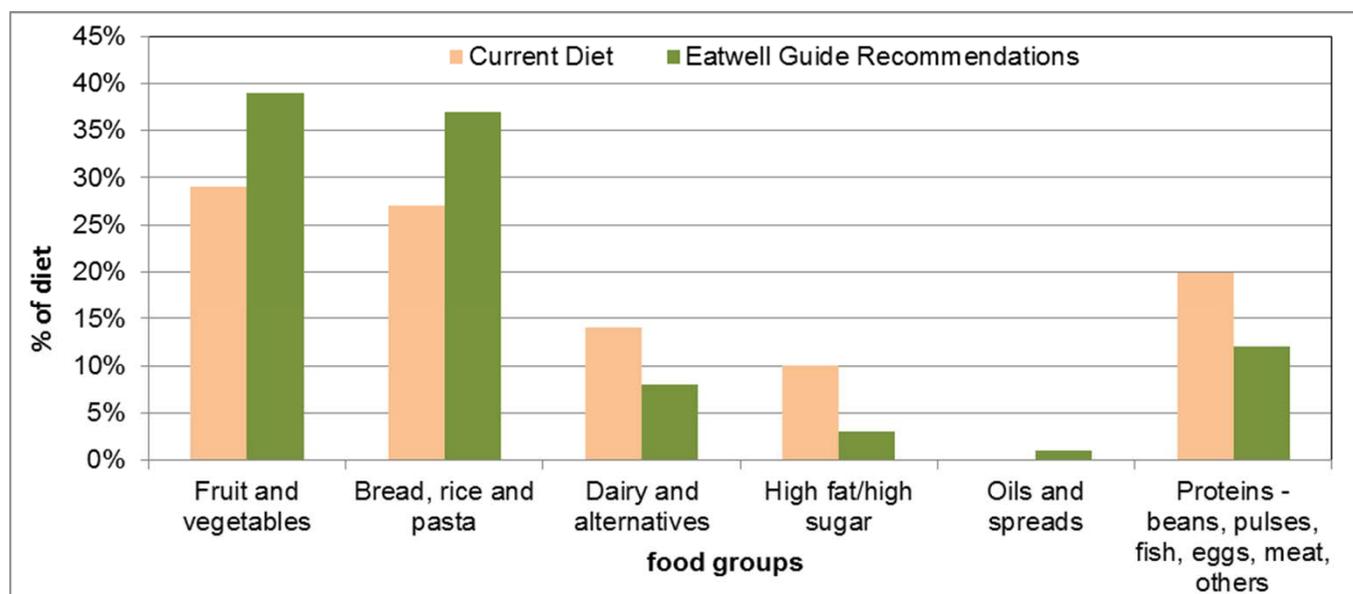
Key Indicator

# Scottish Diet compared with the Eatwell Guide

Food Standards Scotland has used the National Diet and Nutrition Survey for Scotland\* to compare the current Scottish diet with the Eatwell Guide\*\*. This data shows that actual Scottish consumption is:

- **lower** than recommended for fruit and vegetables and bread/rice/pasta;
- **higher** than recommended for dairy & alternatives, high fat & sugar, and proteins including beans, pulses, fish, eggs and meat.

This indicates that the current Scottish diet is both less healthy, and has a higher environmental impact, than the Eatwell Guide's recommended diet.



**Current Scottish Diet (2008/09 - 2011/12) compared with the Eatwell Guide\*\***

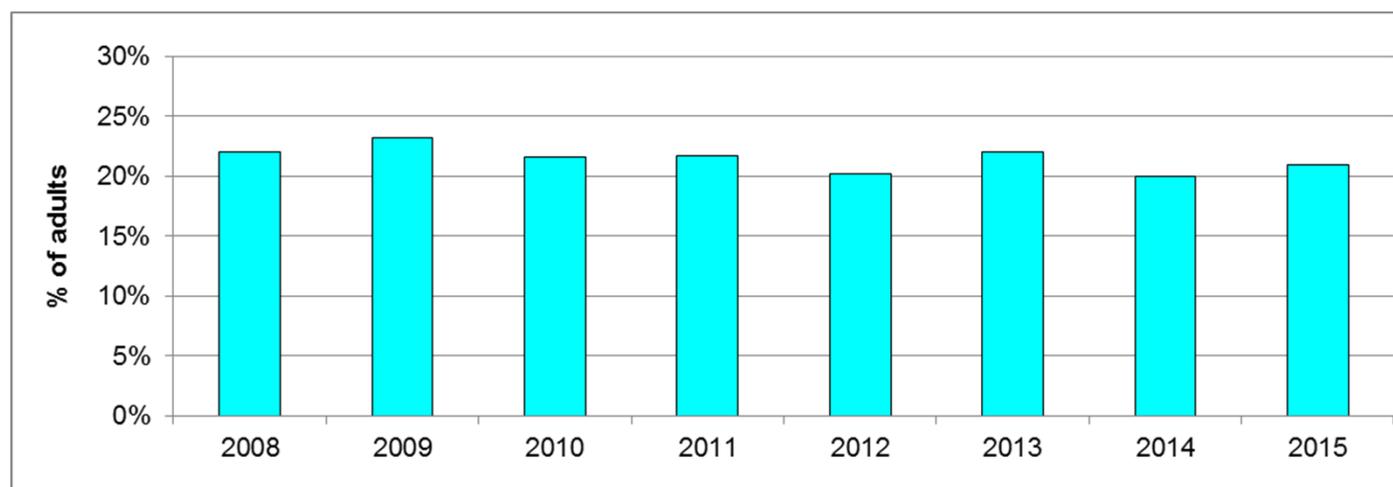
\* [Food Standards Scotland: National Diet and Nutrition Survey for Scotland](#)

\*\* [Public Health England: 'The Eatwell Guide' \(2016\)](#).

# Eating 5 or more portions of fruit and vegetables a day

'Fruit and vegetables' is one of the food groups where Scottish consumption is lower than recommended by the Eatwell Guide. From a health perspective, Scotland's dietary goals include: "Average intake of a variety of fruit and vegetables to reach at least 5 portions per person per day (400+g per day)".\*

**Adult consumption of fruit and vegetables has barely changed over the past 15 years.** Average daily consumption increased from 259g to 263g between 2001 and 2013, equivalent to just over 3 portions a day.\*\* Self-reported data shows that only around a fifth of people ate the recommended 5 or more portions in 2015, with no statistically significant change compared with 2008\*\*\*.



**Adults consuming 5 or more portions of fruit & vegetables a day: 2008 – 2015\*\*\***

\* [Revised Dietary Goals for Scotland, March 2016](#)

\*\* [Estimation of food and nutrient intakes from Living Costs and Food Survey data in Scotland 2001-2013](#)

\*\*\* [Scottish Health Survey, 2015](#)

# Key Behaviour Areas – Food: Food Waste - Summary

There is limited data to show trends in Scottish food waste behaviours over time, partly due to methodological changes in data capture. However available data shows that:

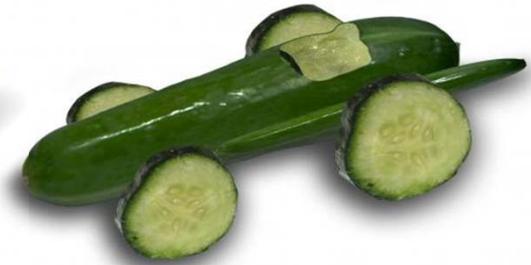
- **Disposal of food waste:** there has been a steady increase in the number of people using food waste recycling caddies, rather than throwing food waste out with general waste.
- **Disposing of uneaten food:** just over half of people say they throw away little or no uneaten food. Only 1% say they throw away a lot of uneaten food.
- **Reusing leftover food:** more people say that they reuse leftover food rather than throwing it away. Almost half use leftovers as part of another meal. However 1 in 6 say they throw leftover food away.

# Emissions from food waste

An estimated 60% of Scottish household food and drink waste is avoidable.\*

Emissions associated with this avoidable waste are estimated to be equivalent to 1.5 million tonnes of CO<sub>2</sub> each year. Avoiding these emissions would be equivalent to removing 1 in every 4 cars from Scottish roads.\*

In 2016 the Scottish Government set a target to “*reduce all food waste arising in Scotland by 33 per cent by 2025*”. This was described as important in “*reducing the environmental impact of food consumption and production (to help) in tackling climate change*”.\*\*

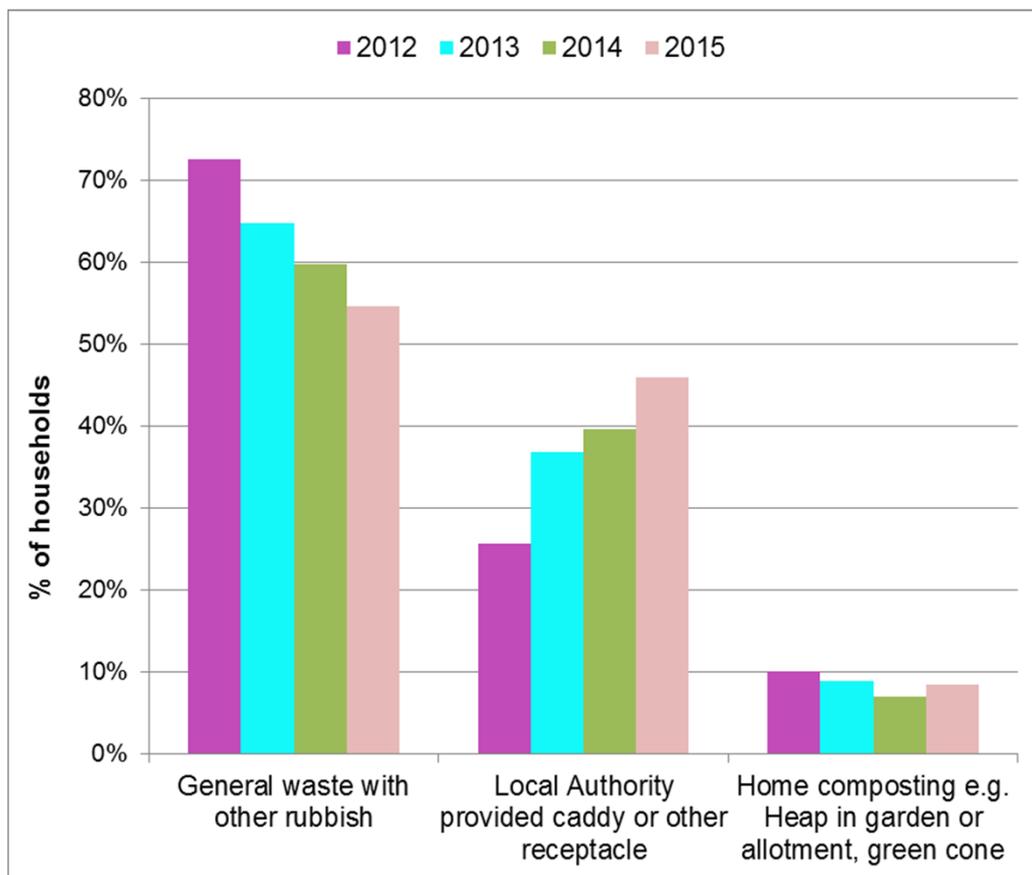


\* [Zero Waste Scotland / WRAP Scotland 'The Food We Waste' \(updated 2012\)](#)

\*\* [Scottish Government: 'Making Things Last - A Circular Economy Strategy for Scotland' \(2016\)](#)

# Disposal of Food Waste

**Food Waste Disposal Methods in the last week:  
2012-2015\***  
(NB: multiple responses were possible)



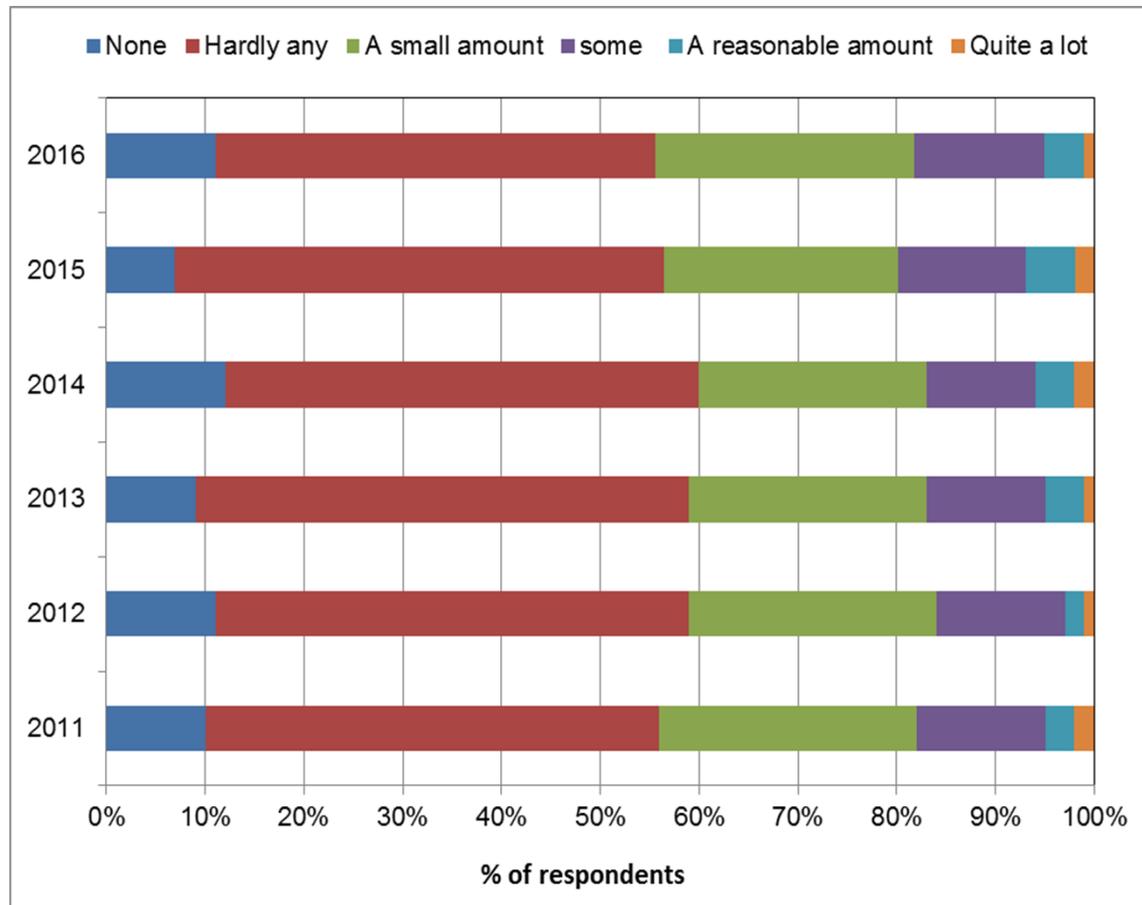
Since 2012 the Scottish Household Survey has included a question about methods used to dispose of food waste in the last week. This could include avoidable or unavoidable waste.

**The proportion of people who use a food caddy or equivalent has increased from 26% in 2012 to 46% in 2015.** There has been a similar decrease in the proportion of people disposing via general waste. These trends are likely to reflect the increasing availability of household food caddies and kerbside food recycling.

\* [Scotland's People: Results from 2015 Scottish Household Survey](#)

# Disposal of Uneaten Food

Uneaten food thrown away by quantity (self-reported): 2011-2016\*



NB: there have been methodological changes in data capture over time, so direct comparisons between years are not valid in every case.

55% of people say they throw away little or no uneaten food, and only 1% say they throw away quite a lot\*.

However, 2010 data suggested that food and kitchen waste accounted for almost a third (31.5%) of all household waste - by far the biggest share by waste type\*\*. This suggests that people are not always aware of how much food they are throwing out.

\* Zero Waste Scotland/ WRAP Consumer Food Waste Prevention Tracker Surveys (annual spring data)

\*\* [Zero Waste Scotland \(2010\) The Composition of Municipal Solid Waste in Scotland](#)

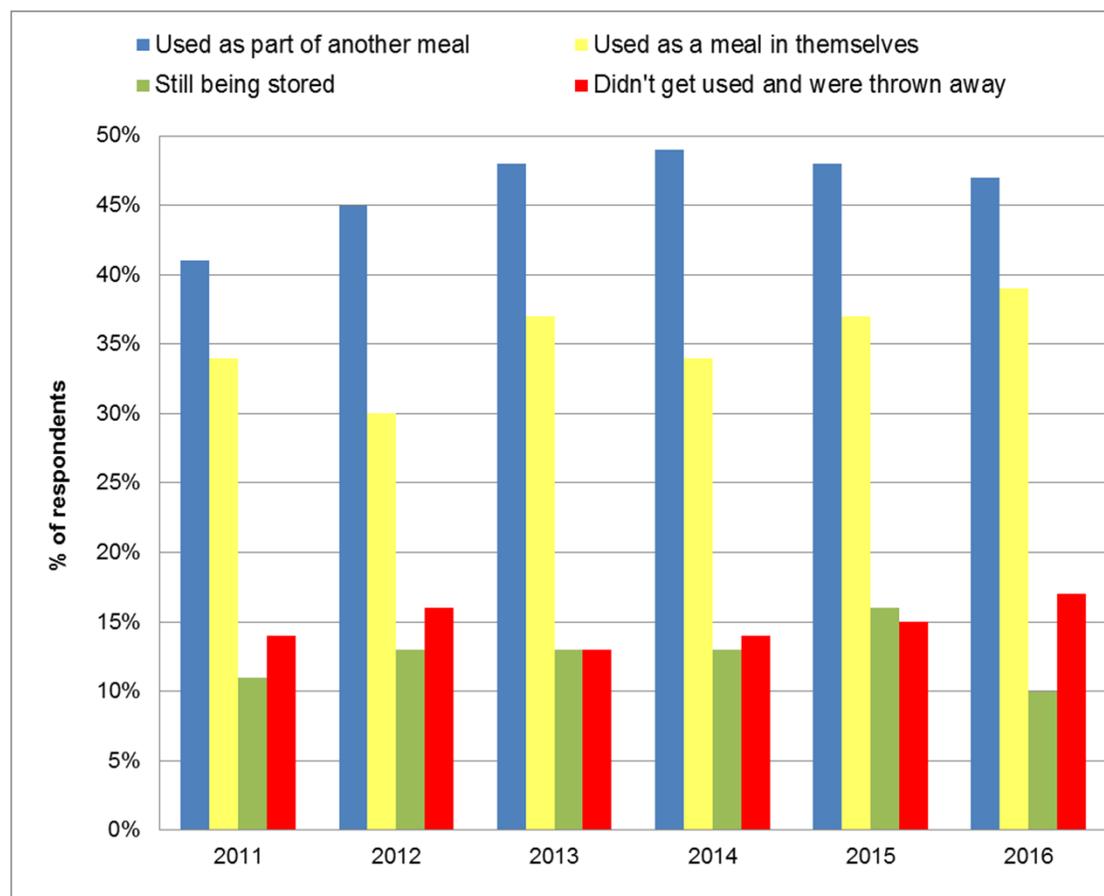
# Reusing Leftover Food

More people say they reuse leftover food than say they throw it away.

Almost half of Scots use leftovers as part of another meal, and more than a third use leftovers as a meal in themselves.

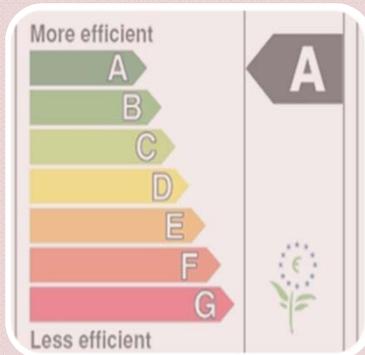
Around 1 in 6 people say they throw leftovers away\*\*.

Household usage of leftover food (self-reported): 2011-2016\*  
(NB: multiple responses were possible)



\* Zero Waste Scotland/ WRAP Consumer Food Waste Prevention Tracker Surveys (annual spring data)

# Key Behaviour Areas: Consumption



## Home Energy

- The systems that heat our homes
- Keeping the heat in
- **Managing home heating**
- Saving Electricity

## Personal transport

- **Becoming less reliant on the car**
- **Driving more efficiently**
- **Using alternatives to flying where practical**

## Food

- **Eating a healthy, sustainable diet, high in seasonal food.**
- **Avoiding food waste**

## Consumption

- **Reducing, reusing, recycling**

# Key Behaviour Areas - Consumption: Summary

- **Household Waste Generated:** there has been progress on the Key Behaviour Indicator for waste. The volume of waste collected by local authorities from private households, or deposited by householders at recycling centres, has fallen by 5% since 2011.
- **Reducing consumption:** around 1/5 of people buy second hand furniture items, but under 10% of people buy second hand electrical items.
- **Recycling:**
  - **day-to-day materials:** card/cardboard and paper are the most frequently recycled items (over 85%). Over 80% of people report that they recycle plastic bottles, garden waste, glass jars/bottles and food and drinks cans/tins. Kerbside recycling behaviours tend to reflect the availability of facilities.
  - **common household items:** donating to charity is the most popular option for clothes and textiles, but disposal at the tip is the most popular option for large appliances and electricals.

# Consumption: Reducing, Reusing and Recycling

Consumption accounts for around **11%** of Scottish households' GHG emissions.\*

Consumption emissions can be reduced by:

- **Reducing**: i.e. preventing waste through purchasing second hand goods and avoiding unnecessary packaging.
- **Reusing**: giving products a second use and only replacing when necessary.
- **Recycling**: recovering, and processing materials that would otherwise become waste, into the original or similar products.

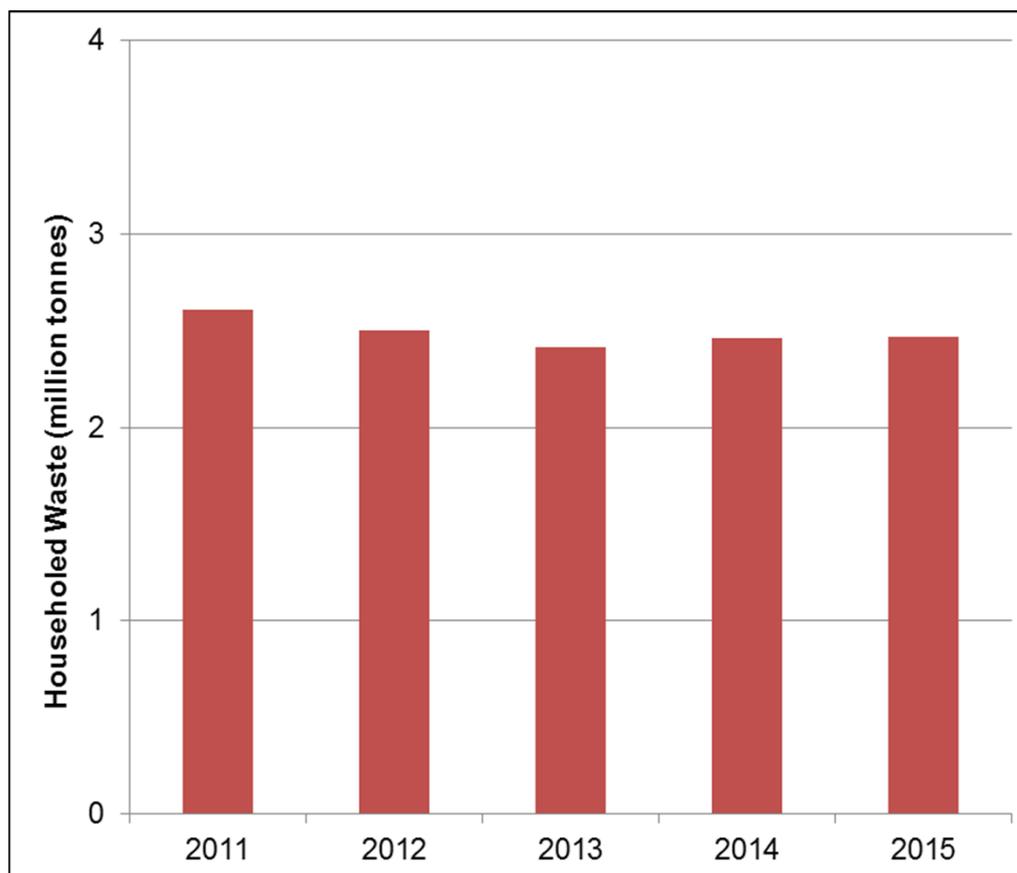
**Disposal of Waste** to landfill is the worst outcome for the environment.

\* [Scottish Government \(2016\) Low carbon behaviours framework: method to estimate Scotland's greenhouse gas consumption emissions by theme](#)

Consumption:  
Key Indicator

# Disposal of Waste: Household Waste Generated

Household Waste Generated: 2011 – 2015\*



This indicator measures household waste collected by local authorities from private households or deposited by householders at recycling centres.

Since 2011 there has been an overall decrease of 5 per cent in the amount of household waste generated.

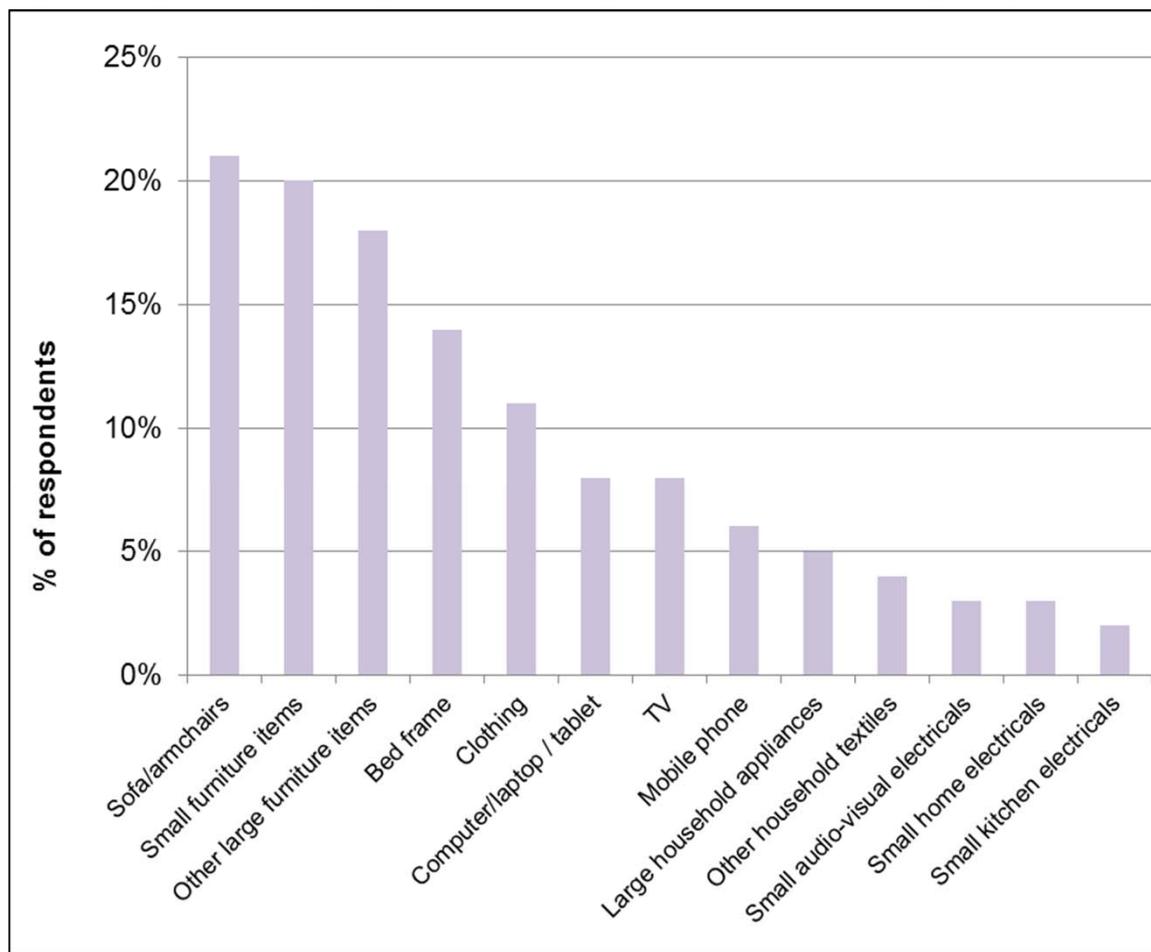
A reduction in waste generated could indicate greater resource efficiency and more sustainable consumption behaviour.

\* [Scotland Performs National Indicators : 'Reduce Waste Generated', SEPA data](#)

NB: prior to 2011, waste was measured using only Local Authority-Collected Municipal Waste data.

# Buying second hand household items

**Buying second hand goods by item: 2015\***  
(self-reported – people who bought item in the last year)



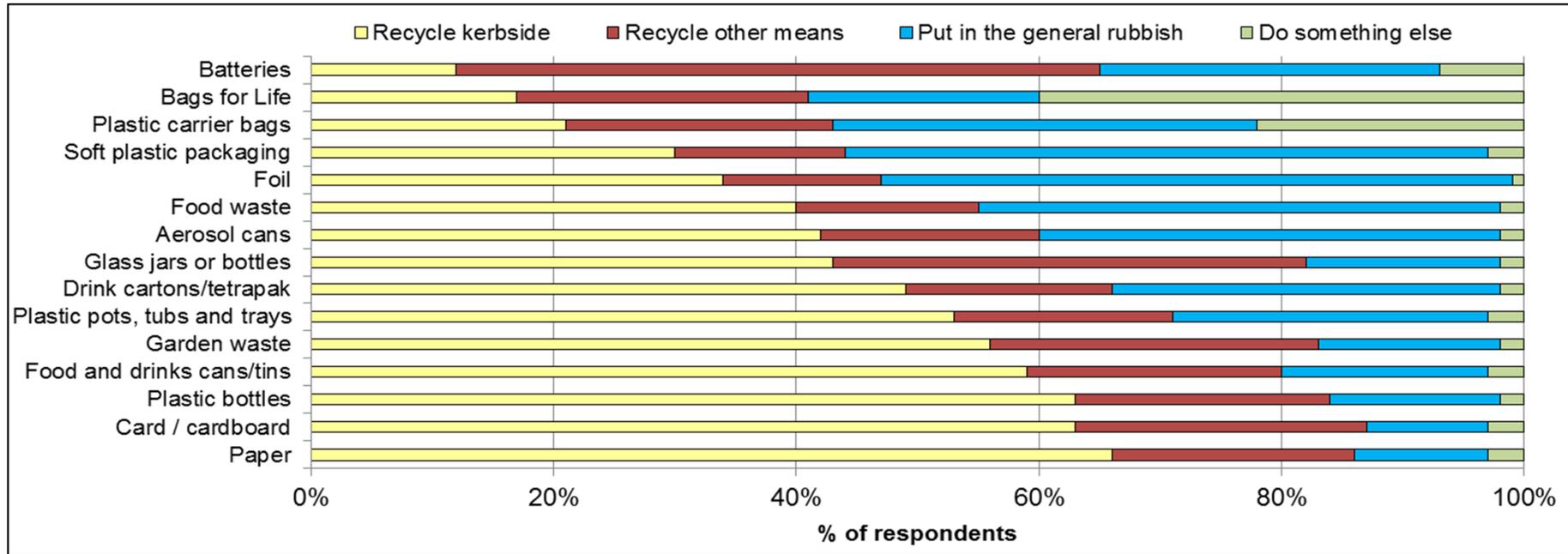
Furniture items are the most likely to be bought second hand, with around 1 in 5 of people buying these items in the last year choosing this option.

Only a small proportion of people (under 10%) currently buy second hand electrical items.

\* Zero Waste Scotland 3Rs Tracker Survey, 2015

# Recycling of day-to-day materials

How people dispose of different items, 2015\*  
(self-reported – last disposal method of those creating waste)

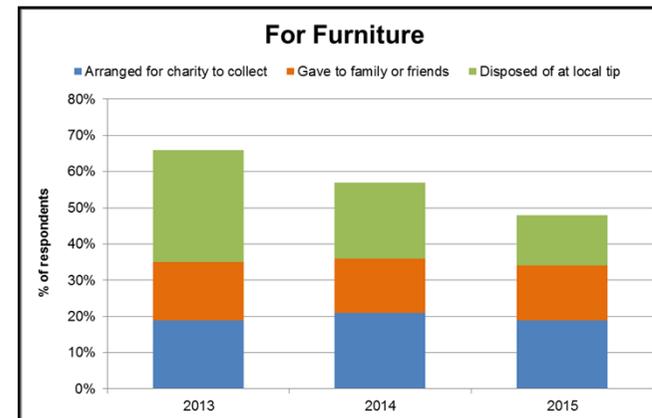
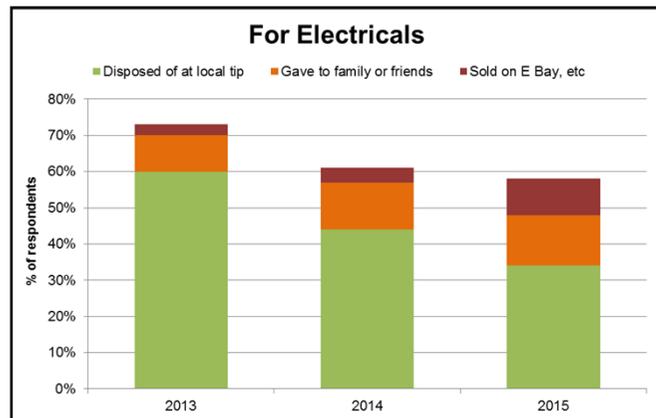
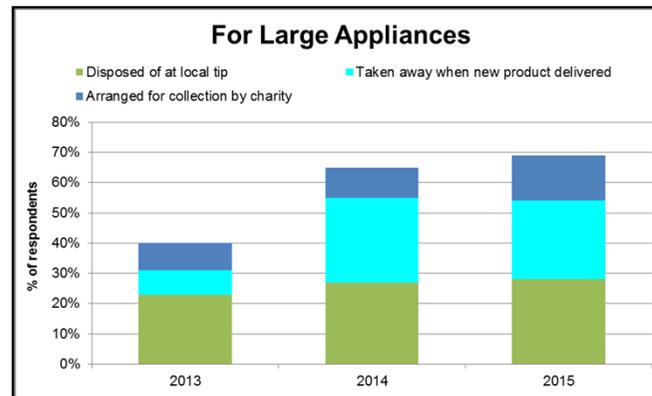
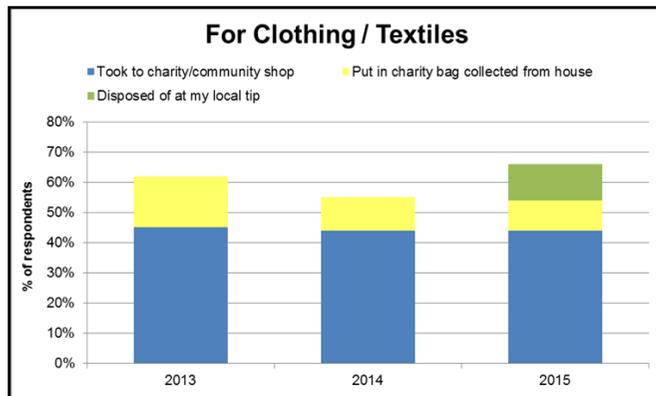


Card/cardboard (87%) and paper (86%) are the most frequently recycled items, with a high proportion recycled kerbside. Over 80% of respondents also recycle plastic bottles, garden waste, glass jars/bottles and food and drinks cans/tins. The figures for kerbside recycling broadly reflect the availability of this service. Soft plastic packaging (53%) and foil (52%) are currently the items most commonly put in the general rubbish. 43% of people also put food waste in their general rubbish.

\* Zero Waste Scotland 3Rs Tracker Survey, 2015

# Disposal of common household items

Disposal of common household items, 2013-15\*



These charts show different disposal pathways for common household items.

Donating to charity is the most popular option for disposing of clothes and textiles and, at a lower level, furniture.

Disposal at the tip is the most popular option for large appliances and electricals. Potential for reuse and recycling at the tip is site-dependent.

\* Zero Waste Scotland 3Rs Tracker Survey (spring data)



Key contacts and the data reported in this publication are available to download from the Scottish Government website as a separate Excel file.

Published: November 2016



Scottish Government  
Riaghaltas na h-Alba  
gov.scot

© Crown copyright 2016

**OGL**

This publication is licensed under the terms of the Open Government Licence v3.0 except where otherwise stated. To view this licence, visit [nationalarchives.gov.uk/doc/open-government-licence/version/3](http://nationalarchives.gov.uk/doc/open-government-licence/version/3) or write to the Information Policy Team, The National Archives, Kew, London TW9 4DU, or email: [psi@nationalarchives.gsi.gov.uk](mailto:psi@nationalarchives.gsi.gov.uk).

Where we have identified any third party copyright information you will need to obtain permission from the copyright holders concerned.

This publication is available at [www.gov.scot](http://www.gov.scot)

Any enquiries regarding this publication should be sent to us at  
The Scottish Government  
St Andrew's House  
Edinburgh  
EH1 3DG

ISBN: 978-1-78652-595-6 (web only)

Published by The Scottish Government, November 2016

Produced for The Scottish Government by APS Group Scotland, 21 Tennant Street, Edinburgh EH6 5NA  
PPDAS81912 (11/16)

W W W . g o v . s c o t