Measuring the Success of Scotland's National Food and Drink Policy

Food and Drink Indicators

Update on Progress

November 2012

Rural and Environment Science and Analytical Services (RESAS)
Environment and Forestry Directorate (ENFOR)
Scottish Government

The Scottish Government
Riaghaltas na h-Alba

Contents

Introduction

The Food and Drink Leadership Forum selected a set of indicators to monitor progress of Scotland's National Food and Drink policy. The indicators were selected as a result of a logic modelling process undertaken during 2010. For further information on the work of the Leadership Forum please see "Measuring the Success of Scotland's National Food and Drink Policy: Summary of Overall Approach to Monitoring and Evaluation".[1] A set of 9 headline and 9 supporting indicators were developed and this paper provides an update to these indicators.

For more detail on why the indicator was chosen, the desired changes and background data on sources used, please see "Measuring the Success of Scotland's National Food and Drink Policy: Food and Drink Indicators: Technical Notes". [2]

Data Notes

This paper uses the latest data, where available, presents data in nominal terms[3] unless stated otherwise and considers trends since 2007, where the data permits.

Comparability between 2007 and later years

SABS – Scottish Annual Business Statistics (SABS) is based on data from the Annual Business Survey (ABS) (formerly Annual Business Inquiry (ABI)) conducted by the Office for National Statistics (ONS). Data relating to 2008 onwards is on a Standard Industrial Classification (SIC) 2007 basis. Data relating to 2007 or earlier is on a SIC 2003 basis. Updates to the SIC are required to enable it to more accurately reflect the structure of the modern economy. As a result when SABS data is presented caution should be used when drawing conclusions based on the 2007 data presented. This is applicable, for example, for Headline Indicator 1.

Other sources – The issue of data comparability between 2007 and later years also applies to the data used for indicator 11 where the data used is sourced from the Interdepartmental Business Register (IDBR); and for indicator 12 where data is sourced from Business Enterprise Research and Development in Scotland (BERD) and SABS.

A red dashed line has been included in any charts where there has been a change in methodology between years.

Revisions

A number of data sets have been subject to revision by their publishers, and as such data for previous years may not match the indicators data published previously in "Measuring the Success of Scotland's National Food and Drink Policy: Food and Drink Indicators: Technical Notes" and "Measuring the Success of Scotland's National Food and Drink Policy: Summary of Overall Approach to Monitoring and Evaluation".

[1] Available at: http://www.scotland.gov.uk/Publications/2010/11/18090544/0
[2] Available at: http://www.scotland.gov.uk/Publications/2010/11/18090544/7
[3] This means that the data does not take account of the effect of inflation.

Summary of Food and Drink Indicators for Scotland

Headline Indicator		Why chosen	Assessment
1	Food and drink[4] Gross Value Added (GVA)	Measures the contribution of the sector to the overall economy in Scotland. *Desired change: increase*	**GVA in the food and drink growth sector[5] was £4.6bn in 2010[6], down from £4.7bn in 2008[7].**
2	Food and drink overseas exports	Exports can indicate that the food and drink sector is accessing foreign markets successfully and that demand for Scottish products is strong. *Desired change: increase*	**The value of food and drink overseas exports increased by 52% between 2007 and 2011 from £3.5bn to £5.4bn.**
3	Retail sales of Scottish food and drink brands in GB	The value of retail expenditure on Scottish brands contributes to the growth of the industry and reflects the spread, popularity and reputation of Scottish brands across GB. *Desired change: increase*	**The value of retail sales of Scottish food and drink brands in Great Britain over the period 2007 to 2012 increased by 28% from £1,401m to £1,797m.**
4	Scottish Dietary Targets	Targets are both food and nutrient based, these are part of the effort to try to tackle poor diet and obesity in Scotland. *Desired change: meet individual targets*	**Between 2001 and 2010 there has been a small increase in consumption of fruit and vegetables, brown bread and breakfast cereals. There have also been small decreases in consumption of saturated fat and non-milk extrinsic sugars (added sugars).**
5	Net greenhouse gas (GHG) emissions from agriculture and related land use	Rural land use is one of 6 chapters in the Report on Proposals and Policies on a low Carbon Scotland[8]. It sets out specific measures for reducing GHG emissions to meet Scotland's ambitious statutory targets. *Desired change: decrease*	**Net Scottish GHG emissions from agriculture and related land use activities decreased by 7.6% between 2007 and 2010 from 11.3 Mt CO_2 equivalent to 10.5 Mt CO_2 equivalent.**
6	Food safety	Food safety underpins consumer confidence in food production. Publically available information will drive up standards at food and drink premises. *Desired change: increase*	**In 2011/12 8,459 new businesses entered the Food Hygiene Information Scheme. In total there were 27,417 businesses in the scheme in 2011/12 with a pass rate of 87%. This compares to 2010/11 when 18,958 business were included in the scheme and the pass rate was 87%.**

[4] Food and drink includes agriculture, fisheries (including aquaculture) and food and drink manufacturing.
[5] Formerly known as a Key Sector.
[6] 2010 data is the latest available.
[7] From 2008, SABS is sampled on a SIC 2007 basis using revised methodology. GVA for 2007 was £4.2bn but caution must be used when comparing 2007 data with later years
[8] http://www.scotland.gov.uk/Publications/2010/11/18104445/0

7	Food imports	This indicator gives an indication of the extent to which we rely on overseas imports for food. This indicator could act as an early warning signal, monitoring changes could identify early signals of food supply disruptions for Scotland. *Desired change: if significant change acts as early warning*	**During the period 2007 to 2011 the value of overseas food imports into Scotland[9] increased by 44% from £0.67bn to £0.97bn. In volume terms, food imports increased 5% (-2% when animal feed is excluded) between 2007 and 2011.**
8	Land for food production in Scotland	Land has many competing uses – from farming and forestry to housing or industry. This indicator will monitor changes in the land available for food production, it is important for national food security to maintain capability to produce food. *Desired change: does not decrease*	**There has been little change in the total area on agricultural holdings between 2007 and 2012. Land used for crop production was 10.7% of total area for 2007 and 10.5% for 2012[10].**
9	Access to supermarkets and convenience stores	Access to food stores gives an indication of the accessibility to food in Scotland. *Desired change: higher levels in rural areas*	**In 2010 the share of the population within 15 minutes driving time to a food store in Scotland was 100% for urban and accessible rural areas in Scotland, while it was 90% for those in remote rural areas in Scotland.**

[9] This data only covers imports from overseas and does not take account of the movement of food between the different countries of the UK.

[10] This data examines current land use, however, this indicator attempts to monitor the potential to produce food in the future and not the current levels of production. The area of land used to produce crops at present is taken as a proxy for the ability to produce food in the future.

Supporting Indicator		Why chosen	Assessment
10	Food and drink labour productivity	Food and drink labour productivity can give an indication of how competitive the food and drink industry is relative to other industries or internationally. *Desired change: increase*	**Labour productivity of Scottish food and drink manufacturing overall decreased by 3.8% over the period 2008[11] to 2010.**
11	Food and drink manufacturing businesses by size	The number of food and drink companies based in Scotland gives an indication of how competitive the food and drink manufacturing industry is. Changes in the structure provides an indication of the scale of the industry. Scotland Food and Drink aim to increase the scale of the food and drink industry in Scotland. *Desired change: higher share of large businesses*	**Between 2008[12] and 2012, the structure of food and drink enterprises registered in Scotland remained broadly similar. In 2012, and in terms of employment, 84% of food and drink enterprises were small, 12% were medium and 3% were large[13].**
12	Research and development spend as proportion of food and drink manufacturing Gross Value Added	R&D has the potential to increase growth in the long run. Increased R&D in food and drink manufacturing could lead to increased growth and competitiveness. *Desired change: increase*	**Research and Development spending in food and drink manufacturing as a percentage of GVA increased from 0.19% 2008 to 0.28% in 2010[14].**
13	Food and drink spend by UK tourists	Tourism spend contributes to the industry's growth through increased food and drink sales and GVA. This also gives an indication of the reputation of Scotland as a land of food and drink. *Desired change: increase*	**In 2011, GB tourist expenditure on food and drink in Scotland was £604m. This is almost £100m higher than the 2007 level of expenditure reported for the UK.**
14	Expenditure on food and non-alcoholic beverages as a percentage of household expenditure by income decile	Food insecurity can be measured at different levels, including the household level. This indicator gives an indication of levels of food insecurity at the household level by showing affordability of food. *Desired change: lower share expenditure by income decile*	**For households in the lowest income decile (or the ten per cent of total households who earn the lowest incomes), 15.2% of their total expenditure was on food and non-alcoholic drink in 2010 compared to 16.0% in 2007. For the highest income decile (or the ten per cent of total households that earn the highest incomes) 9.7% of expenditure was on food and non-alcoholic drinks in 2007 and 2010.**

[11] From 2008, SABS is sampled on a SIC 2007 basis using revised methodology. Caution must be used when comparing 2007 data with later years.
[12] From 2008 the data is presented on a SIC 2007 basis. Caution must therefore be used when comparing 2007 data with later years.
[13] 2012 total does not sum to 100% due to rounding.
[14] For 2007 R&D spending as a percentage of GVA was 0.24%, however, this is based on data using SIC 2003 and is not directly comparable with data for later years.

15	Agricultural produce per capita	This is a measure of a country's ability to produce food to feed its population. When it is presented per capita it gives an indication of how much of this produce could be allocated to each person in the country. *Desired change: no significant decrease*	**Agricultural production per capita in Scotland increased by 12% between 2007 and 2010 from £308 per capita to £344 per capita.**
16	Food and packaging waste	Waste should be avoided at every stage of the food and drink supply chain without compromising food safety. This indicator will monitor changes in waste and give an indication of whether the sector is becoming more sustainable. *Desired change: decrease*	**Between 2006 and 2009, food and packaging waste decreased by almost 70% from 28,028 tonnes to 8,766 tonnes.**
17	GHG emissions from food and drink manufacturing	This indicator monitors the contribution of food and drink manufacturing to Scottish GHG emissions. This will also give an indication of whether the food supply chain is becoming more sustainable or not. *Desired change: decrease*	**GHG emissions produced by the food, drink and tobacco[15] processing sector have decreased by 11% between 2007 and 2010 from 594 kt CO_2 equivalent to 529 kt CO_2 equivalent[16].**
18	Participation in food and environment topic of Eco-Schools Scotland	Educating children and young people using the food and environment topic within Eco-schools will give an indication of the number of children and young people engaging with food and environment issues. *Desired change: increase*	**Between 2007 and 2012, the number of local authority schools participating in the Eco-Schools programme increased by 25% from 2,456 in 2007 to 3,073 in 2012.** **In 2011, 8.6% of registered schools were learning and teaching about food issues and in 2012 this had risen to 19.5%.**

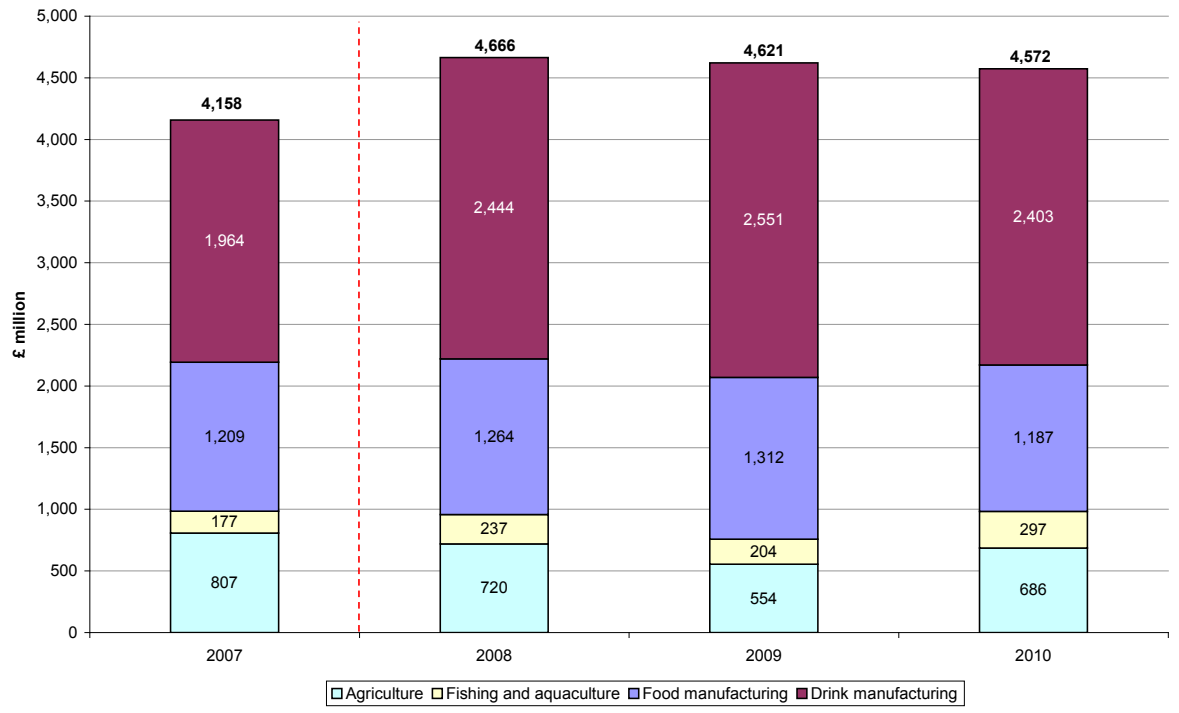
[15] Data is not available for food and drink processing excluding tobacco.
[16] Please note that this data is from a different source than used in previous publications for this indicator.

Annex 1: Charts for Headline Indicators

Headline Indicator 1 – Food and Drink Gross Value Added (GVA)

Food and Drink Key Sector GVA

Source: Office for National Statistics, Annual Business Survey (Complied by the Scottish Government) and Economic Report on Scottish Agriculture 2012



In 2008[17]:

- GVA for the food and drink key sector was £4.7 billion.
- Agriculture GVA was £720 million, fishing and aquaculture GVA was £237 million and GVA in food manufacturing was £1,264 million whilst drink manufacturing GVA was £2,444 million.

In 2010:

- GVA for the food and drink key sector totalled £4.6 billion.
- Agriculture GVA was £686 million, fishing and aquaculture GVA was £297 million and GVA in food manufacturing was £1,187m whilst drink manufacturing GVA was £2,403 million.

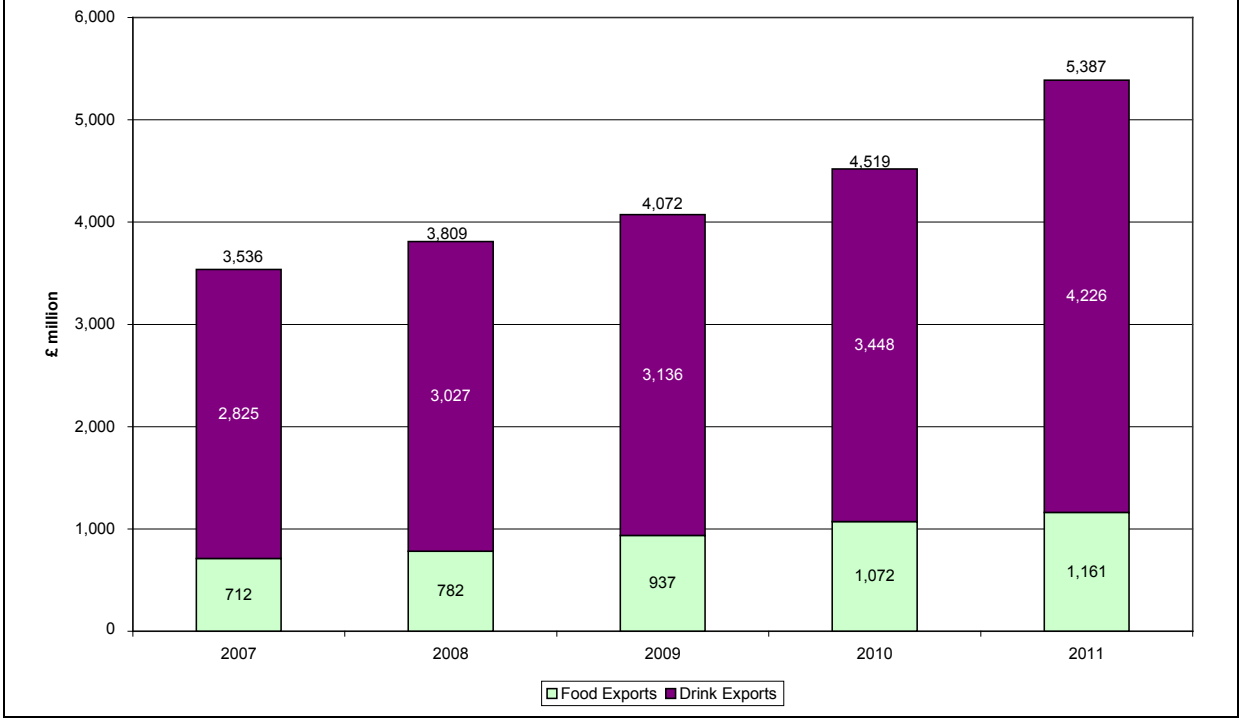
[17] From 2008, SABS is sampled on a SIC 2007 basis using revised methodology. Caution must therefore be used when comparing 2007 data with later years.

Headline Indicator 2 – Food and Drink Overseas Exports

Food and Drink Overseas Exports 2011*

Source: HMRC

Note: Figures at top of bars are total exports for food and drink



Changes:

- Overseas exports of food and drink increased by 52% from £3.5bn in 2007 to £5.4bn in 2011.

- Overseas exports of food increased by £450m between 2007 and 2011, an increase of 63%.

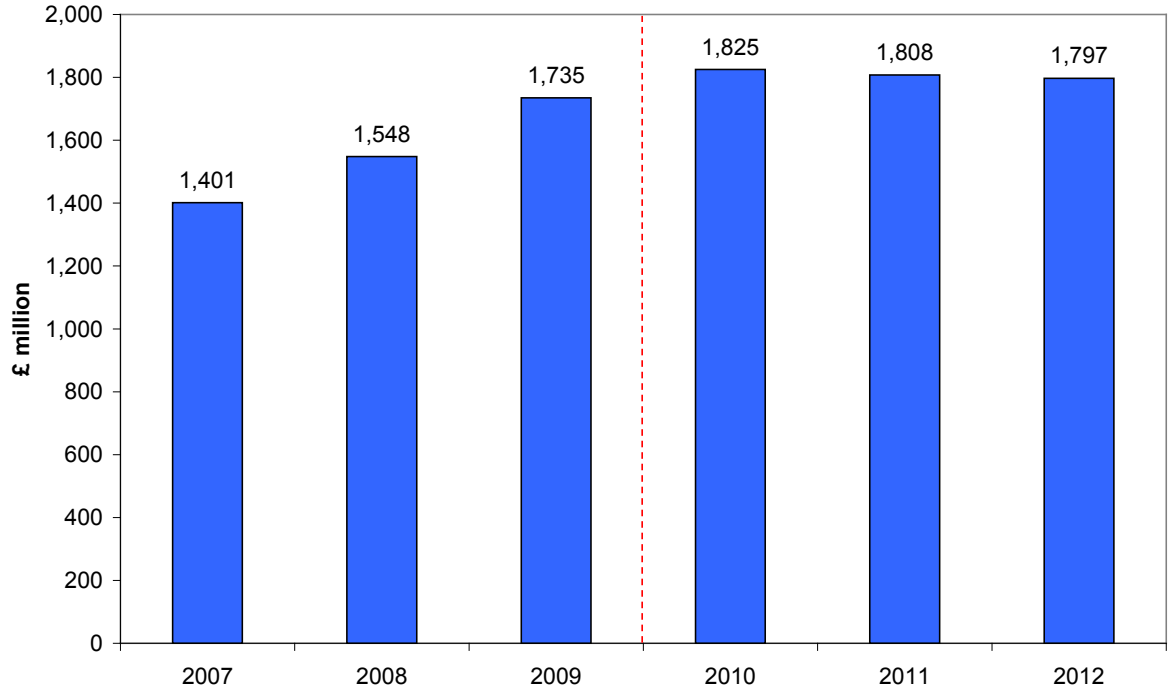
- Drink overseas exports exhibited an increase of 50% for the period 2007 to 2011. This increase totalled £1.4bn from £2.8bn in 2007 to £4.2bn in 2011.

* Food and drink exports are calculated in the following manner:
  - Food – exports from Scotland to overseas. UK Regional Trade Statistics (RTS) expressed in value terms (£). HMRC.
  - Drink – exports of Scotch whisky overseas. Overseas Trade Statistics (OTS) expressed in value terms (£). HMRC.
  - Food and drink exports include: live animals, animal feed, processed and fresh food and Scotch whisky. SITC codes 0 Food and live animals.
  - For Scotch whisky the following SITC codes are used to extract figures from before 2010: 22083032, 22083038, 22083052, 22083058, 22083072, 22083078. For 2010 onwards the following codes are used: 22083030, 22083041, 22083049, 22083061, 22083069, 22083071 and 22083079.
  - This indicator uses a combination of RTS figures for food and OTS exports of Scotch Whisky to calculate Scotland's food and drink overseas exports.

Headline Indicator 3 – Retail Sales of Scottish Food and Drink Brands in Great Britain

Retail Sales of Scottish Food and Drink Brands in Great Britain

Source: Kantar Worldpanel



Changes:

- The value of retail sales of Scottish brands in Great Britain increased by 28% or £396 million between 2007 and 2012, from £1.4 billion for 2007 to £1.8 billion for 2012.

- The value of grocery sales of Scottish brands in Great Britain over the period 2011 to 2012 decreased by -0.6% or £11 million.

Data Note: Caution should be used when drawing conclusions from the data presented above (particularly between pre and post 2010). Data is received from Kantar Worldpanel for the most recent three years. In the 2012 data set, data for 2010 and 2011 has been revised and the sample size increased by 20%. A dashed line has been included in the chart above to show the increase in the sample size.

Headline Indicator 4 – Scottish Dietary Targets (SDTs)

Food/Nutrient changes in relation to the Scottish Dietary Targets 2001-2010

Source: Estimation of food and nutrient intakes from Food Survey data in Scotland 2001-2010, FSA Scotland
Note: The changes between 2001 and 2010 have been calculated by FSA Scotland and the directions of changes has been determined to be statistically significant.

Target Food/Nutrient	Scottish Dietary Target	2001	2006	2007	2008	2009	2010	Statistically significant change between 2001 and 2010
Fruit and Vegetables	More than 400g per day	259g	276g	291g	285g	279g	286g	⇧
Bread (all types)	154g per day	111g	102g	97.9g	92.9g	94.7g	94.4g	⇩
Brown/ Wholemeal bread	More than 77g per day	18.2g	23.6g	23.5g	23.6g	21.4g	23.0g	⇧
Breakfast cereals (all types)	34g per day	19.6g	19.3g	22.3g	21.6g	23.2g	22.0g	⇧
Oil rich fish	88g per week	29.2g	38.2g	32.7g	32.9g	30.5g	28.3g	⇔
White fish	No decrease (per week)	96.4g	96.5g	98.2g	93.0g	92.8g	92.6g	⇔
Fat	<35% food energy	38.8%	38.7%	38.6%	39.0%	39.0%	38.7%	⇔
Saturated fat	<11% of food energy	15.5%	15.7%	15.3%	15.3%	15.1%	15.0%	⇩
NMES	Adults -no↑, Children <10%	15.5%	15.0%	14.9%	15.0%	14.8%	15.4%	⇩
Total complex carbohydrate	155g per day	146g	141g	147g	144g	145g	151g	⇔
Salt*	No more than 6g per day for adults		9.0g			8.8g		⇔

Between 2001 and 2010 for three of the food categories there has been a positive change in direction towards meeting the SDT:

- Fruit and Vegetable consumption rose from 259g per person per day to 286g.
- Brown/wholemeal bread consumption increased from 18.2g to 23.0g per person per day.
- The quantity of breakfast cereals consumed rose from 19.6g to 22.0g per person per day.

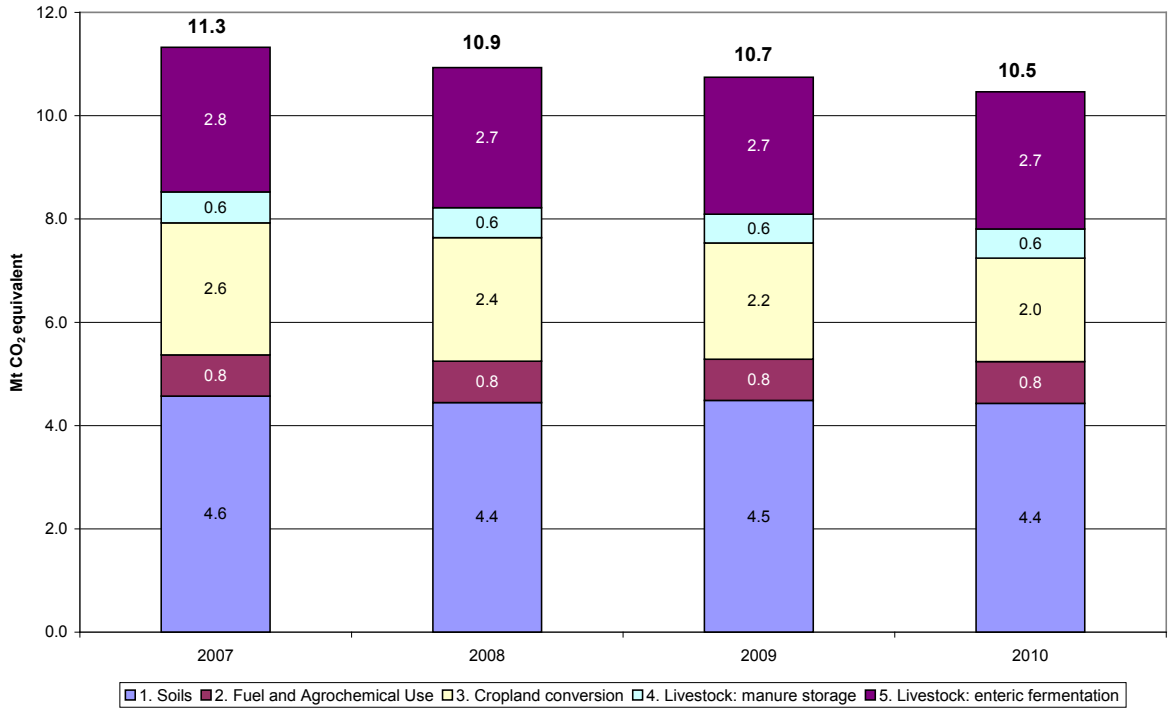
Additionally there were small but statistically significant decreases in saturated fat and non-milk extrinsic sugars (NMES) between 2001 and 2010.

Headline Indicator 5 – Net Greenhouse Gas Emissions from Agricultural and Related Land Use

Net Scottish GHG Emissions from Agricultural and Related Land Use Activities, 2007-2010

Source: Green House Gas Inventory, Scottish Government, Defra

Note: Figures at the top of the bar are the total for all categories



Between 2007 and 2010:

- Net Scottish GHG emissions, by source[18], from agriculture and related land use activities were reduced by 7.6% between 2007 and 2010 from 11.3 Mt CO_2 equivalent to 10.5 Mt CO_2 equivalent. The largest reduction in percentage and absolute terms was achieved in Cropland conversion which produced 21.7% fewer GHG emissions in 2010 compared to 2007, a reduction of 0.55 Mt CO_2 equivalent.

- Over the period 2009 to 2010 the overall reduction in GHG emissions was 2.6% with Cropland conversion achieving an overall reduction in emissions of 11.1% over the period.

[18] The emissions presented here are on a by source basis, so emissions are allocated to the source sector in which they occur. The categories 'Cropland conversion' and 'Soils' take account of removals of carbon from the atmosphere as well as carbon emissions.

Headline Indicator 6 – Food Safety

Food Hygiene Information Scheme Source: Food Hygiene Information Scheme, FSA Scotland		
	2010/11	**2011/12**
Number of businesses in scheme	18,958	27,417
% receiving pass rates	87%	87%

In 2010/11:

- Almost 19,000 businesses in Scotland entered the Food Hygiene Information Scheme in 2010/11, of these, 87% received pass rates.

In 2011/12:

- 27,417 businesses were included in the Food Hygiene Information Scheme amounting to 8,459 new entries to the scheme since 2010/11.

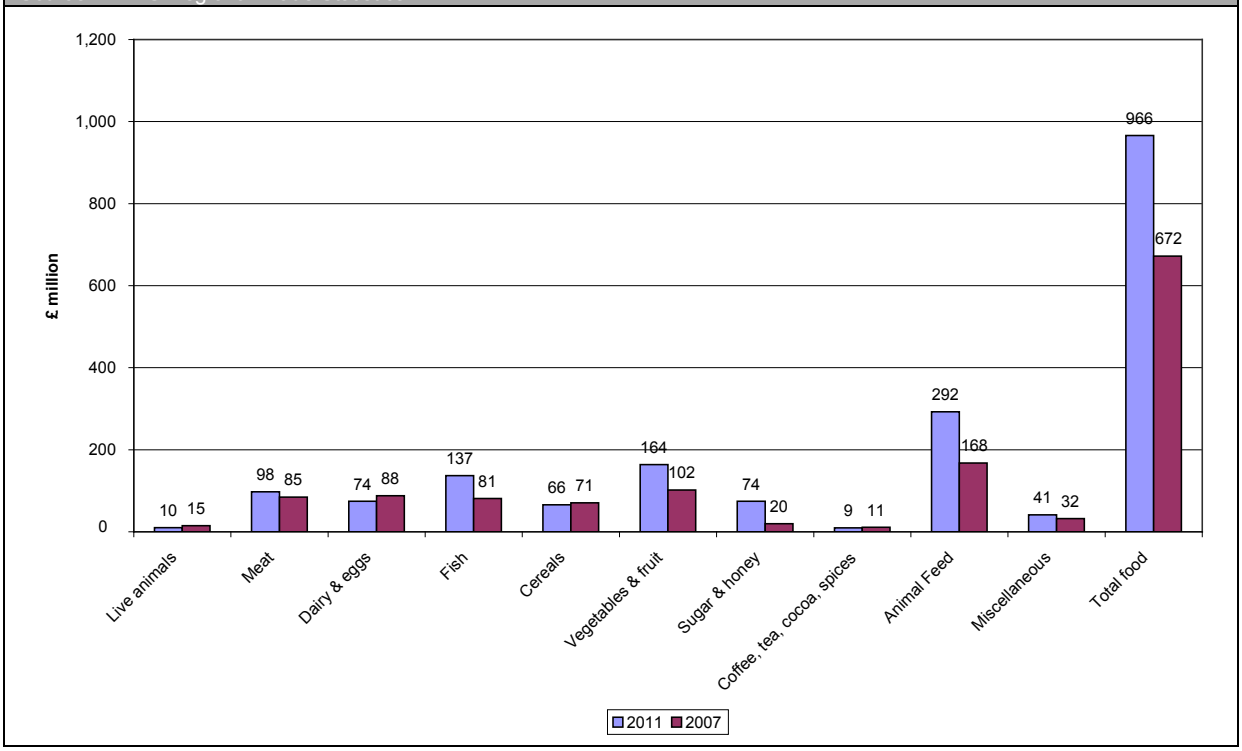
- The pass rate was 87%.

- The scheme is currently launched at 22 out of 32 Local Authorities, the remaining 10 will be launching the scheme mainly during this year and next. The businesses currently participating in the scheme represent approximately 55% of all businesses within the scope of the scheme.

Headline Indicator 7 – Food Imports

Overseas Food Imports in to Scotland, by value, 2007 and 2011

Source: HMRC Regional Trade Statistics



Origin of food imports into Scotland by food type and value in 2011

Food type	Value (£m)	% of all food imports	Top 5 countries					
Feed	292	30%	Argentina 38%	Brazil 25%	Netherlands 11%	Denmark 8%	US 4%	Other 14%
Fruit & veg	164	17%	Spain 23%	Netherlands 22%	Other Lat Amer and Caribbean 8%	Turkey 6%	Belgium 4 %	Other 37%
Fish	137	14%	Other West Eur 27%	Netherlands 19%	China 8%	Denmark 8%	Irish Rep 7%	Other 32%
Meat	98	10%	Netherlands 30%	Irish Rep 18%	Brazil 8%	Spain 8%	Poland 7%	Other 30%
Sugar	74	8%	France 29%	Belgium 28%	Germany 18%	Mauritius 12%	Sweden 3%	Other 10%
Dairy	74	8%	France 57%	Irish Rep 26%	Germany 8%	Belgium 3%	Netherlands 2%	Other 4%
Cereals	66	7%	France 56%	Other East Eur 6%	Romania 6%	Germany 5%	Italy 4%	Other 22%
Misc. edible products	41	4%	France 26%	Belgium 26%	US 13%	China 7%	Netherlands 6%	Other 22%
Live animals	10	1%	Irish Rep 89%	France 6%	Denmark 3%	Netherlands 2%	US 1%	Other 0.1%
Tea/coffee	9	1%	Irish Rep 31%	Germany 29%	Belgium 15%	Spain 7%	Netherlands 6%	Other 13%

Between 2007 and 2011:

- Overall, food imports increased in value by 44% from £672 million in 2007 to £966 million in 2011.

- Feed stuff for animals was the largest import by value in 2011 at £292m and accounting for 30% of food imports. This compares to 2007 where animal feed accounted for 25% of food imports. Between 2007 and 2011 imports of animal feed increased in value by £123 million or 73%.

- The categories that exhibited a decline in the value of imports were Live Animals, Dairy, Cereals and Tea, Coffee, & Spices.

Context:

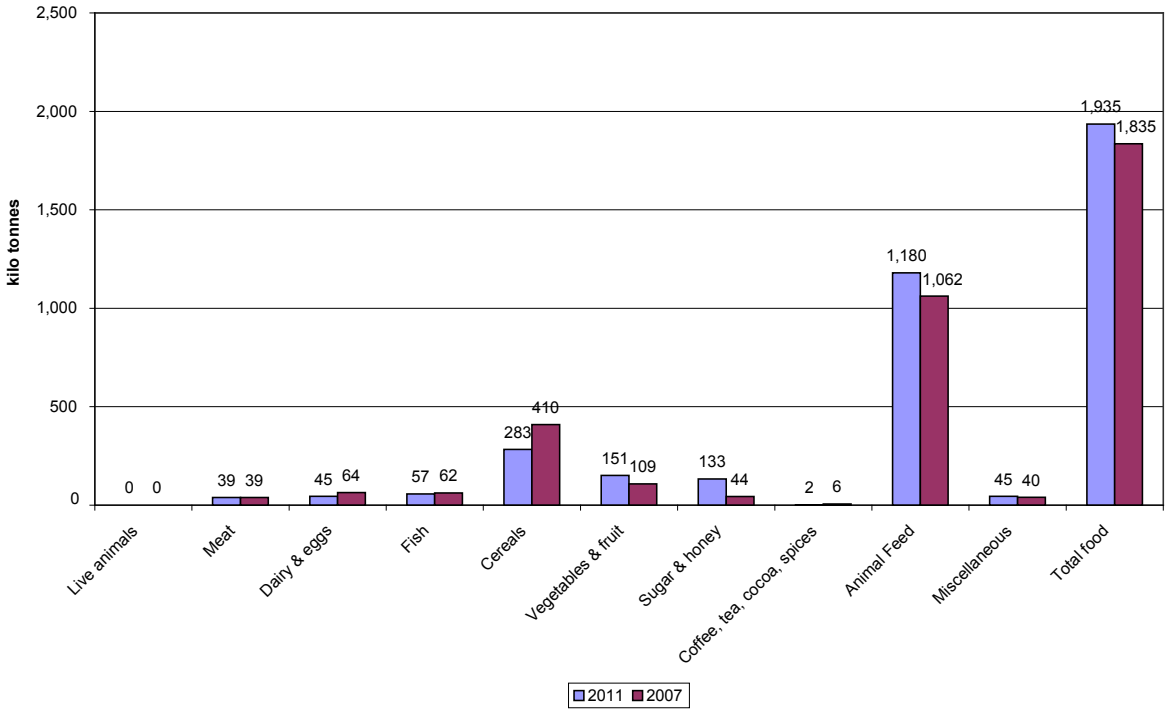
Scotland will import food from overseas indirectly via the rest of UK, however, data for the level of imports are not available. Imports from overseas to the UK increased by 37%, in value terms, between 2007 and 2011 by £8.1 billion to £30.1 billion for 2011. The volume of food imports into the UK as a whole decreased by 1% over the period. A large part of the difference between the change in the value and volume of imports can be explained by the effect of inflation and also by the reduction in the value of the pound over the period making it more expensive to import the same volume.

Food imports by volume:

- Total overseas food imports by volume to Scotland increased by 5% between 2007 and 2011, from 1,835 kilo tonnes to 1,935 kilo tonnes.

- Animal feed accounted for 61% of food imports by volume. Excluding animal feed the volume of food imports from overseas to Scotland decreased by 2% between 2007 and 2011.

The chart below shows the volume of overseas food imports in to Scotland for 2007 and 2011.

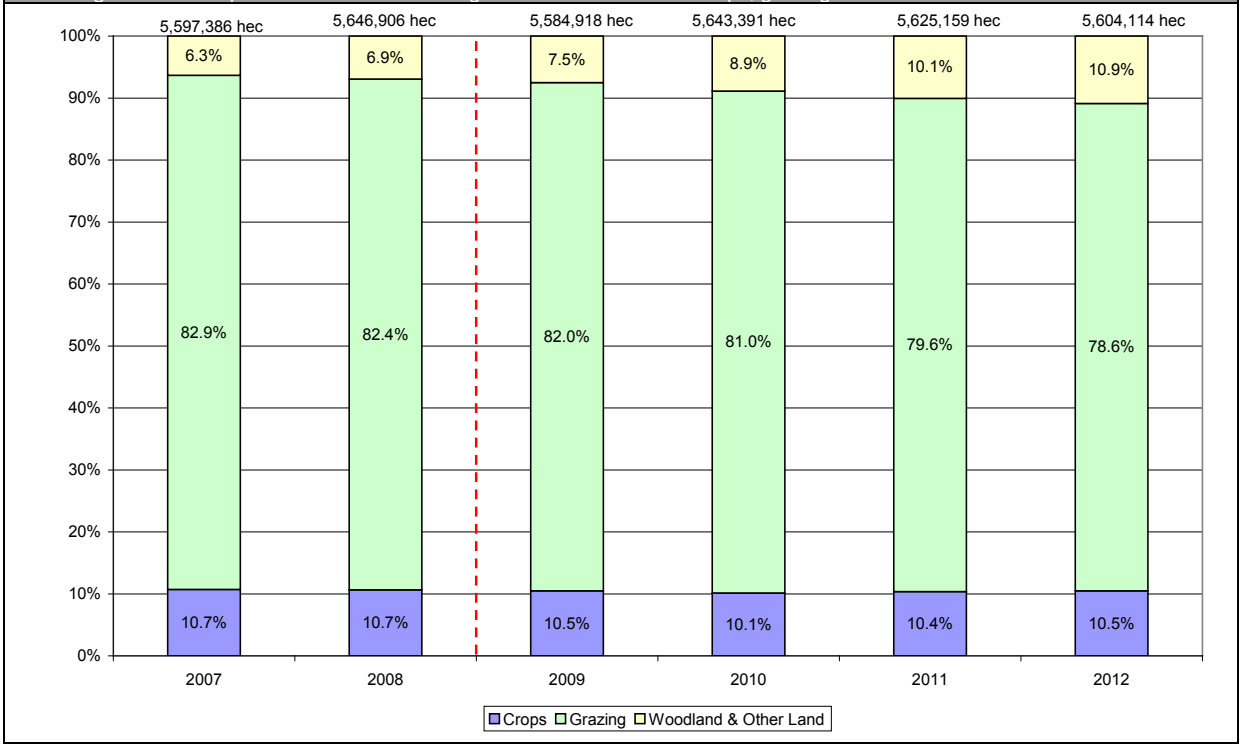


Headline Indicator 8 - Land for Food Production in Scotland

Percentage of total agricultural land used for crops, grazing and woodland in Scotland, 2007 – 2012[19]

Source: June Agricultural Census, Scottish Government

Note: Figures at the top show the total area of agricultural land used for crops, grazing and woodland.



Changes:

- The total area on agricultural holdings has remained relatively unchanged. In 2012 total area on agricultural holdings was 5.6 million hectares.
- The majority of this area was for grazing, either rough grazing (55%) or grass (24%).
- In 2007, 10.7% of agricultural land was used to produce crops and in 2012 10.5% of land was used to produce crops.
- 83% of agricultural land was used indirectly for food production (i.e. grazing) in 2007, this declined to 79% in 2012.

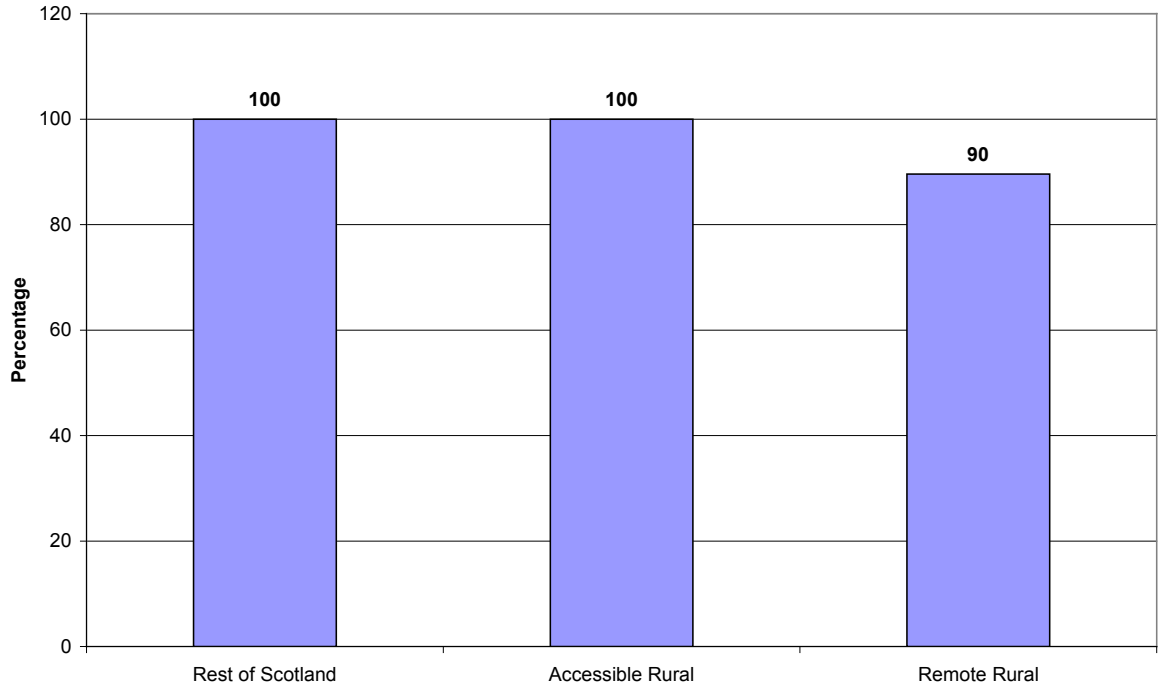
Please note that this data examines current land use, however, this indicator attempts to monitor the potential to produce food in the future and not the current levels of production. The area of land used to produce crops at present is taken as a proxy for the ability to produce food in the future.

[19] From 2009, data on land use was obtained from the Single Application Form (SAF). The use of SAF data has resulted in a step change in some of the land use results for 2009, especially for rough grazing and grass. This means that the trends between 2007 and 2012 for these land use categories do not represent genuine changes to land use and should be treated with caution.

Headline Indicator 9 – Access to Supermarkets and Convenience Stores

Percentage of population within 15 minutes driving time to a food store in Scotland, 2010

Source: Point X data (Ordnance Survey) using Drive Time Analysis Software, Scottish Government



- In 2010 the share of the population within 15 minutes driving time to a food store in Scotland was 100% for urban (indicated as rest of Scotland in the graph) and accessible rural areas in Scotland, while it was 90% for those in remote rural areas in Scotland.

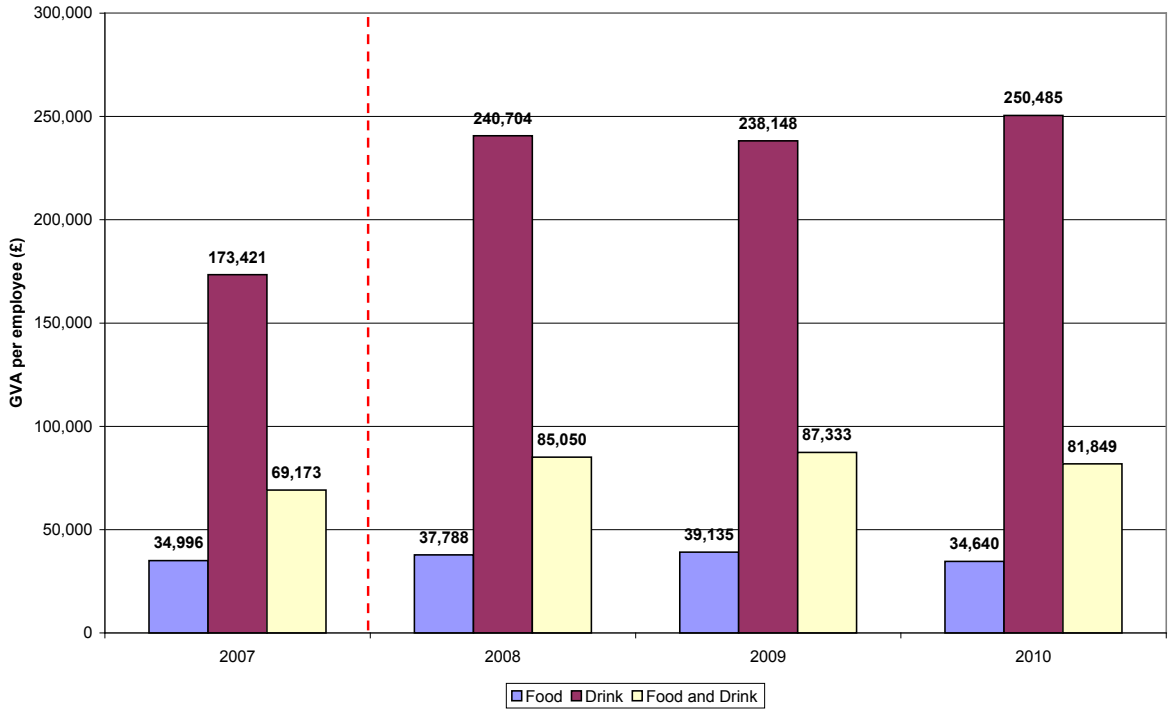
Please note that this data has not been updated since the first publication. This is due to the fact that this indicator is slow to change and requires a significant amount of resources to monitor. An update will be made available in time for the next update to the Indicators.

Annex 2: Charts for Supporting Indicators

Supporting Indicator 10 – Food and Drink Labour Productivity

Labour Productivity of Food and Drink Manufacturing (GVA per employee)

Source: Office for National Statistics, Annual Business Survey (Complied by the Scottish Government)



Between 2008 and 2010[20]:

- Labour productivity of Scottish food and drink manufacturing overall decreased by 3.8%.
- The overall decrease is due to a fall in labour productivity in food manufacturing, where productivity has decreased by 8.3% over the period.
- Labour productivity in drinks manufacturing increased by 4.1%.

[20] 2010 data is the latest available. From 2008, SABS is sampled on a SIC 2007 basis using revised methodology. Caution must therefore be used when comparing 2007 data with other years.

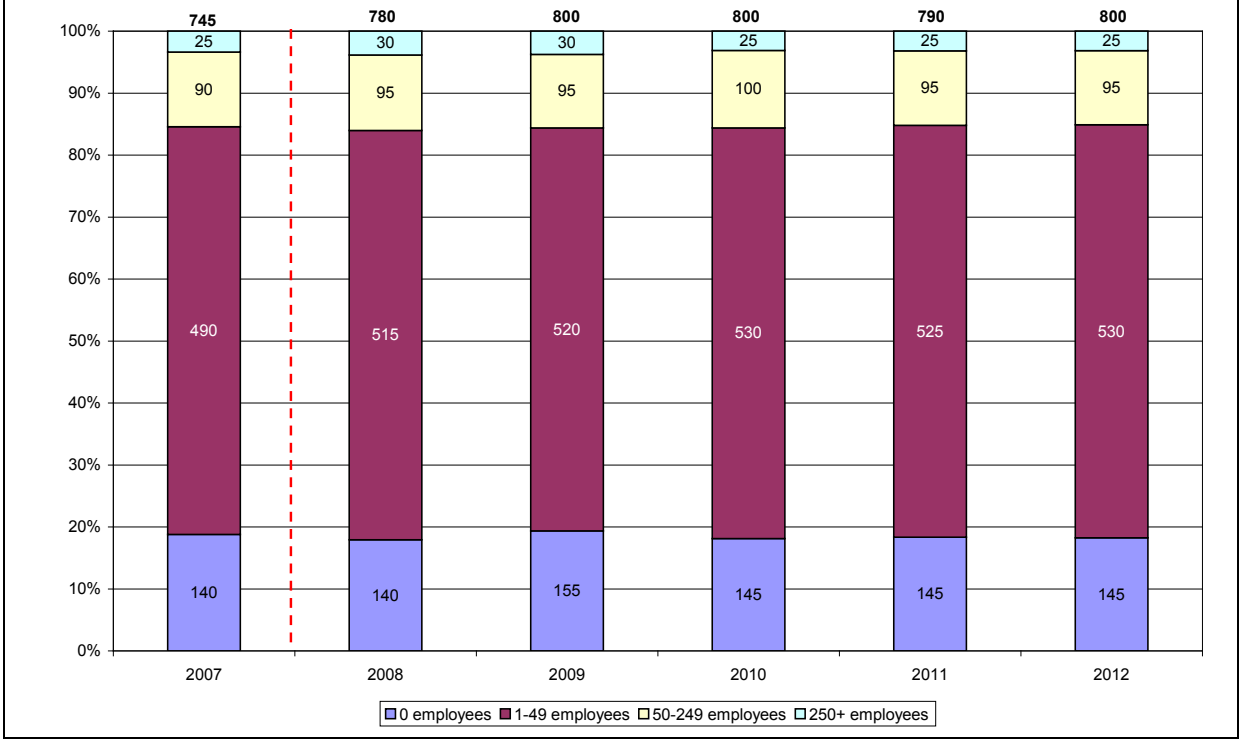
Supporting Indicator 11 – Food and Drink Manufacturing Businesses by Size

Food and Drink Manufacturing Enterprises based in Scotland by size

Source: Scottish Government, ONS (IDBR)

Notes:.

Graph scale is in percent but numbers have also been added as labels for additional information. The numbers of enterprises are rounded to the nearest 5. Totals may not equal the sum of the constituent parts due to rounding. The figures shown at the top of each bar are the total for all sizes of enterprises. Data for 2007 are based on SIC 2003 and data from 2008 onwards are on a SIC 2007 basis.



Between 2008[21] and 2012:

- The number of food and drink manufacturing companies registered in Scotland has remained mainly unchanged over the period. There were 800 registered enterprises based Scotland in 2012, 20 more than in 2008.

- Between 2011 and 2012, the number of food and drink manufacturing enterprises based in Scotland increased from 790 to 800.

- The size structure of food and drink manufacturing enterprises registered in Scotland has remained mainly unchanged over the period. The percentage of companies with zero employees remained at around 18%. The percentage of small companies (1 to 49 employees) represented about 66% of enterprises in 2008 and in 2012. The percentage of medium size companies (50 to 249 employees) was static over the same period at 12% while the percentage of large companies (250+ employees) remained around 3-4% over the period.

[21] From 2008 the data is presented on a SIC 2007 basis. Caution must therefore be used when comparing 2007 data with later years.

Supporting Indicator 12 – Research and Development Spend as a Proportion of Food and Drink Manufacturing Gross Value Added

Food and Drink Manufacturing R&D spend as a % of Food and Drink Manufacturing GVA Source: Business Enterprise Research and Development Scotland 2010, Scottish Government; SABS, Scottish Government				
£m	**2007**	**2008**	**2009**	**2010**
Total spending on R&D in food and drink manufacturing[22]	7.7	7.0	9.9	9.9
Total spending on R&D in manufacturing	447	412	445	415
Total spending on R&D	543	554	630	622
R&D spend as a proportion of food and drink manufacturing GVA[23]	0.24%	0.19%	0.26%	0.28%

Changes:

- R&D spend as a percentage of food and drink manufacturing GVA increased from 0.19%[24] of food and drink manufacturing GVA in 2008 to 0.28% of GVA in 2010.

- Total spending on R&D by the food and drink manufacturing sector increased from £7.0 million in 2008 to £9.9 million in 2010.

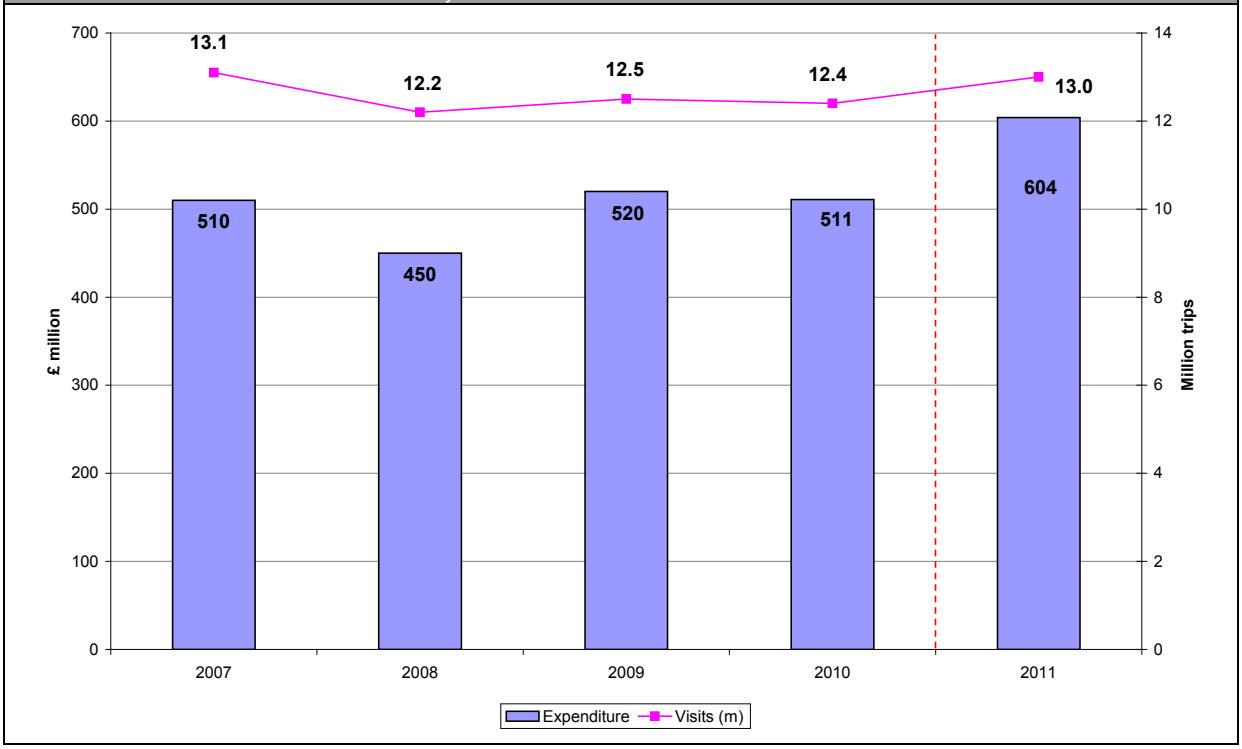
[22] Food and drink manufacturing R&D also include tobacco manufacturing.
[23] GVA data for 2007 are based on 2003 Standard Industrial Classification (SIC) and 2008 onwards is based on SIC 2007.
[24] The 2007 R&D spend figure has been revised since the Scotland Food and Drink targets were set.

Supporting Indicator 13 – Food and Drink Spend by UK Tourists

UK Tourist Spend on Eating and Drinking in Scotland and Number of Visits

Source: Tourism in Scotland, Visit Scotland

Note: Data for 2011 relates to GB tourists only.



Changes:

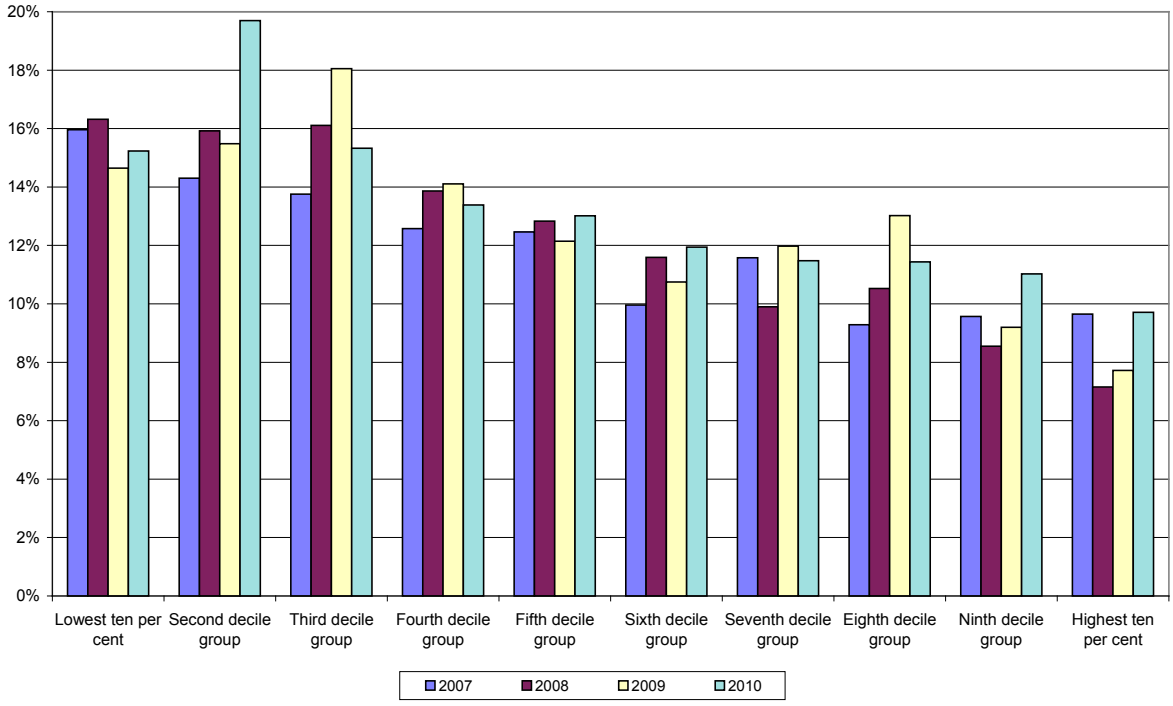
- The number of UK tourist visits to Scotland fell from 13.1 million in 2007 to 12.4 million in 2010[25].
- Visits by GB tourists in 2011 amounted to 13 million trips.
- GB tourist expenditure on food and drink in Scotland was £604 million in 2011. This is almost £100 million higher than spending by UK tourists in 2007.

[25] Data for 2011 relates to GB tourists only.

Supporting Indicator 14 – Expenditure on Food and Non-alcoholic Drinks as a Percentage of Household Expenditure by Income Decile

Household expenditure on food and non-alcoholic drinks, 2007-2010

Source: Expenditure and Food Survey, ONS



Changes:

- In 2010, the second income decile spent the largest percentage of their total expenditure on food and non-alcoholic drinks (19.7%) while in 2007, the lowest income decile spent the largest percentage of their total expenditure on food and non-alcoholic drinks (16.0%).

- In 2010 the 10% of total households earning the highest incomes spent the lowest percentage of their total expenditure on food and non-alcoholic drinks (9.7%). However, in 2007, it was the eighth income decile which spent the lowest percentage on food and non-alcoholic drinks (9.3%).

- The highest increase in expenditure was experienced by the 2nd income decile where expenditure on food and non-alcoholic drinks as a percentage of household expenditure increased by 5.4 percentage points, from 14.3% to 19.7% between 2007 and 2010.

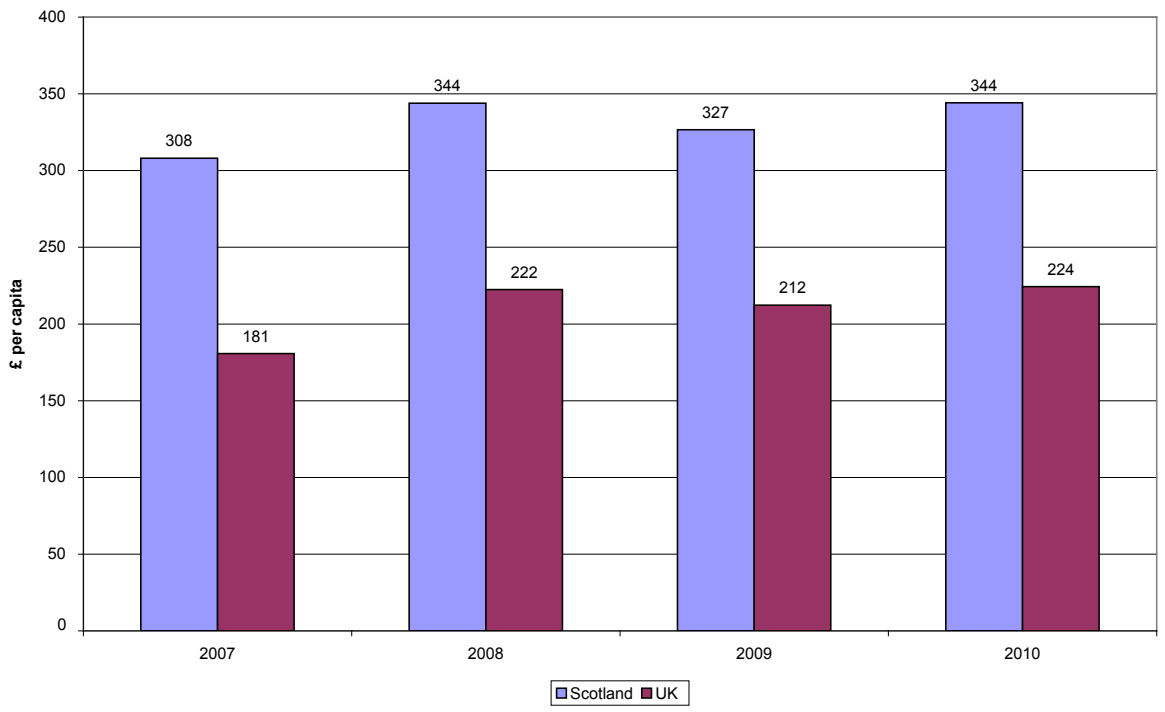
- The largest decline in expenditure on food and non-alcoholic drinks as a percentage of household expenditure was experienced by the lowest income decile from 16.0% to 15.2%.

- Over the period 2007 to 2010 the proportion of expenditure spent on food and non-alcoholic drinks by all household as a percentage of total spending increased by 0.9 percentage points.

Supporting Indicator 15 – Agricultural Produce for Human Consumption per Capita

Agriculture production for human consumption per capita, UK and Scotland, 2007-2010

Sources: Economic Report on Scottish Agriculture, RESAS, DEFRA, GROS, ONS



Changes:

- Agriculture production for human consumption per capita increased by 11.7% between 2007 and 2010 in Scotland. This compares to an increase of 24.1% for the UK over the same period.

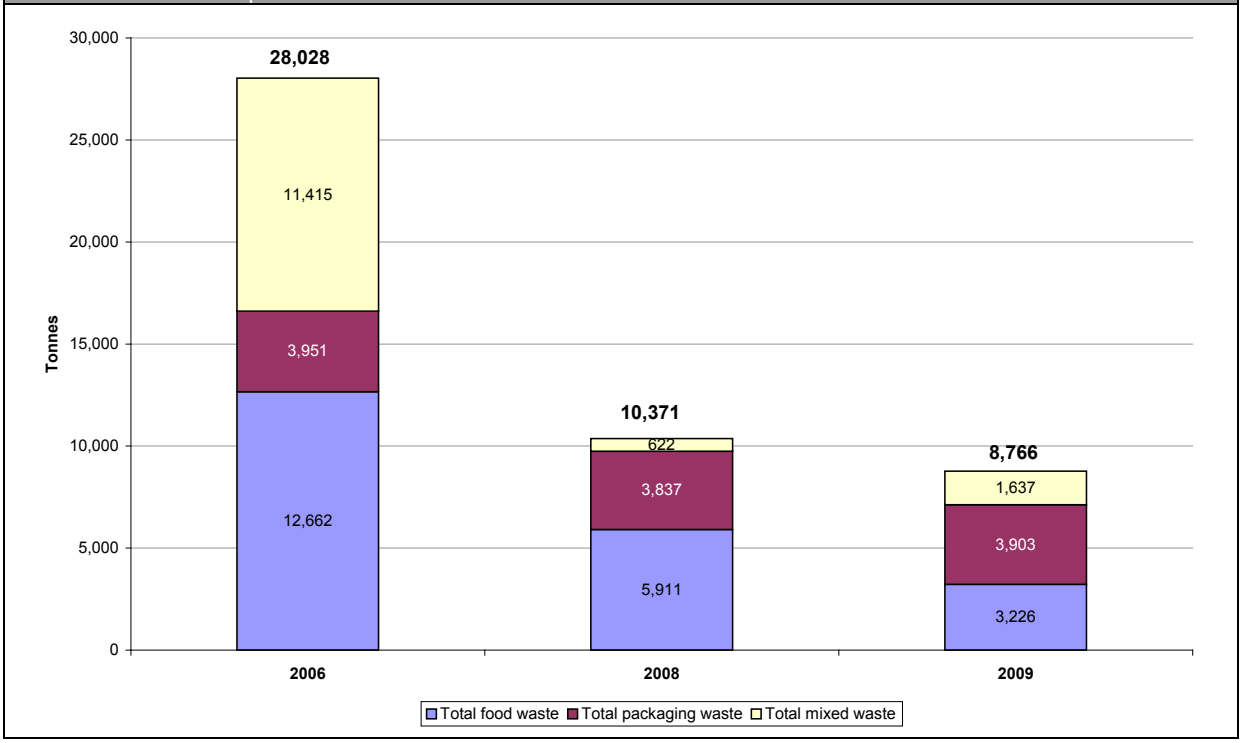
- Between 2009 and 2010, agriculture production for human consumption per capita increased by 5.4% for Scotland. The increase was marginally higher in the UK at 5.7%.

Supporting Indicator 16 – Food and Packaging Waste

Waste produced by reporting Food and Drink Federation member sites in Scotland, 2006, 2008 and 2009

Source: Mapping Waste in the Food Industry, Defra, FDF

Note: Totals shown at top of bar



Between 2006 and 2009:

- Food and packaging waste fell by almost 70% from 28,028 tonnes to 8,766 tonnes. This was driven by a fall in food waste from 12,662 tonnes in 2006 to 3,226 tonnes in 2009. Mixed waste also fell from 11,415 tonnes in 2006 to 1,637 tonnes in 2009, a fall of 86%.

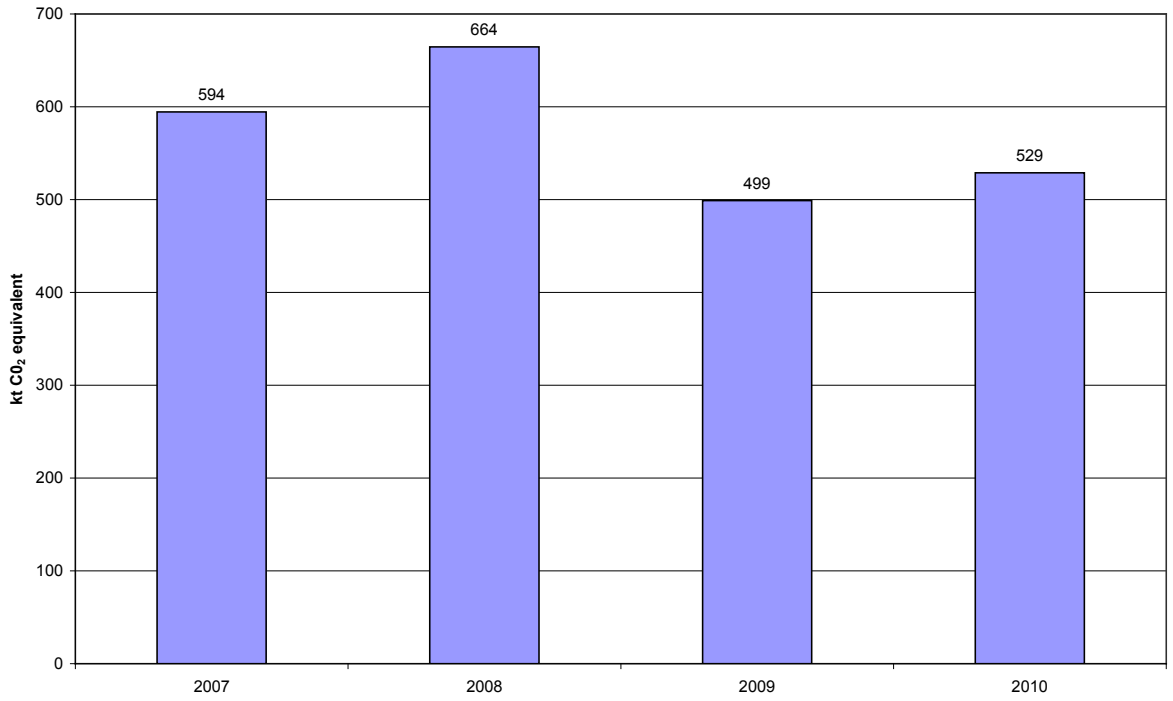
- In 2009, packaging waste made up the largest share of waste in the food and drink industry accounting for 45% of all food and drink waste. This was followed by food waste which accounted for 37% of total food and drink industry waste whilst mixed waste accounted for the smallest share at 19%.

Supporting Indicator 17 – Greenhouse Gas Emissions from Food and Drink Manufacturing

GHG emissions from Scottish food and drink processing, 2007-2010

Source: GHG Inventories for England, Scotland, Wales and Northern Ireland: 1990-2010, NAEI

Note: data includes tobacco processing



Changes:

- GHG emissions, by source, from food, drink and tobacco processing in Scotland decreased by 11% between 2007 and 2010, falling from 594 kt of CO_2 equivalent in 2007 to 529 kt CO_2 equivalent in 2010.

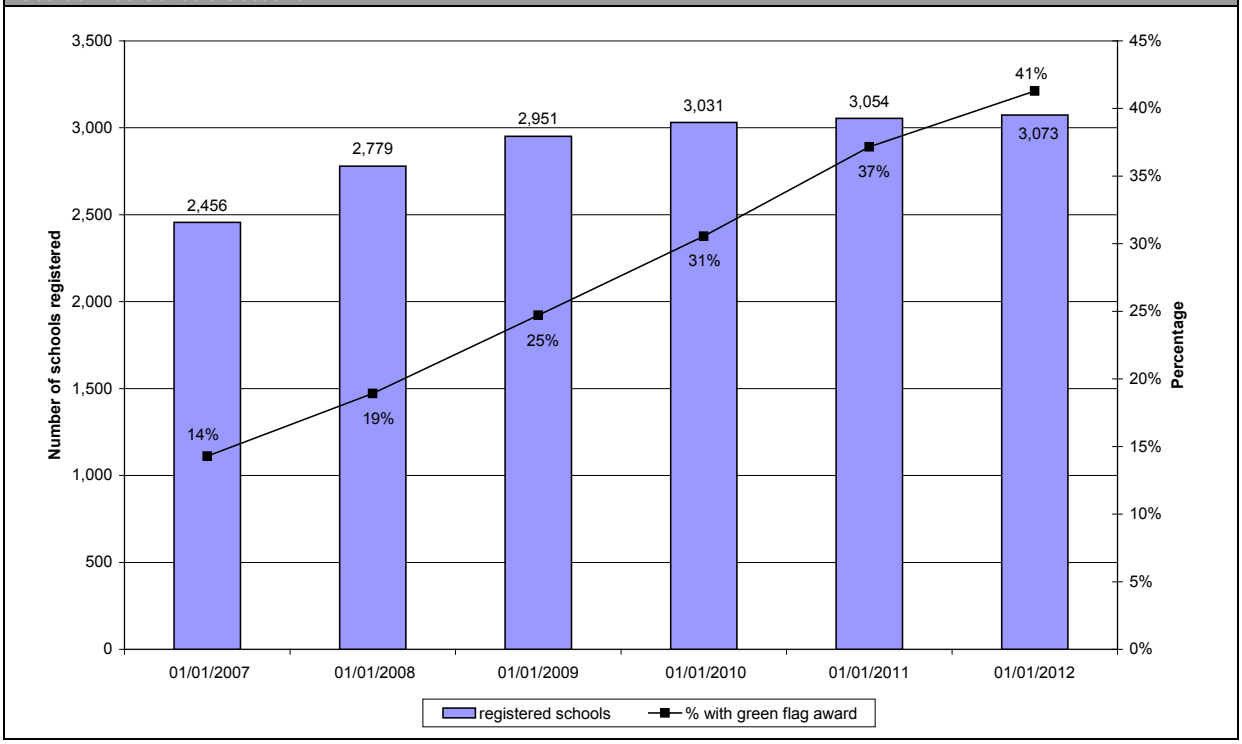
- GHG emissions were highest in 2008 at 664 kt CO_2 equivalent.

Please note that this indicator now uses data from National Atmospheric Emissions Inventory (NAEI). Previously data for the indicator was based on experimental statistics for Scotland, these have not been updated and there are no plans to update these in the future. The emissions are source based emissions only. Thus they do not account for emissions resulting from the generation of electricity that is used on site. They also do not include emissions resulting from the transport of food and drink.

Supporting Indicator 18 – Eco-Schools Scotland Food and Environment Topic

Registered Local Authority Eco-schools

Source: Eco-Schools Scotland



Between 2007 and 2012:

- As of 1 January 2012, there were 3,073 local authority schools registered in the scheme.

- Between January 2007 and January 2012 there was an increase in the proportion of local authority schools with green flag awards, from 14 per cent to 41 per cent.

- Data on participation in the Food and Environment topic is not yet available from the Eco-schools database. However, response to a postal survey sent out to schools found that in 2011 8.6% of registered schools were learning and teaching about food issues and in 2012 this increased to 19.5% of registered schools[26]. This represents an increase of 130 schools over the year.

Please note, the food and environment topic is not compulsory and was made available in March 2011.

[26] It is likely that there are more schools engaged in Food and the Environment learning, but who did not return the postal survey form.

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