

Technical Annex 6: Waste and F-gases

CCC indicators – waste & F-gases

In our 2014 Progress Report we set out an indicator framework for monitoring progress in waste and F-gases towards meeting the first four carbon budgets. Published statistics show waste emission reductions are ahead of these indicators, mainly due to the reduction in biodegradable waste going to landfill. F-gases have risen, but as discussed in Chapter 6 this could be reversed due to the 2015 EU regulations.

Overall, while the majority of waste emissions are ahead of our indicators to 2013, F-gas emissions have been rising rather than falling (Table 6.1). We will continue to monitor waste and F-gas emissions in our future progress reports.

F-gases

Box 6.1: National legislation on F-gases in other European countries

In addition to the EU regulation, some countries have adopted targets to phase out HFCs more quickly as well as to support alternative low-carbon refrigerants:

- In 2001 and 2002, Denmark introduced a series of bans and taxation, resulting in an overall fall in F-gas emissions coupled with a substantial increase in natural refrigerants in refrigeration and air conditioning equipment. Currently, Denmark is considering further restrictions on the use of HFCs.
- In 2013, Switzerland introduced bans on HFCs in certain medium and large capacity stationary applications, such as air-conditioning, commercial refrigeration and industrial refrigeration systems. The bans were agreed together with industry and have already been applied in commercial refrigeration, where the use of CO₂ has become a standard.
- Germany has been providing funding for research, development and demonstration projects using halogen-free gases. In 2012, the government offered investment grants of €15 million for natural refrigerants in commercial and industrial air conditioning and refrigeration.

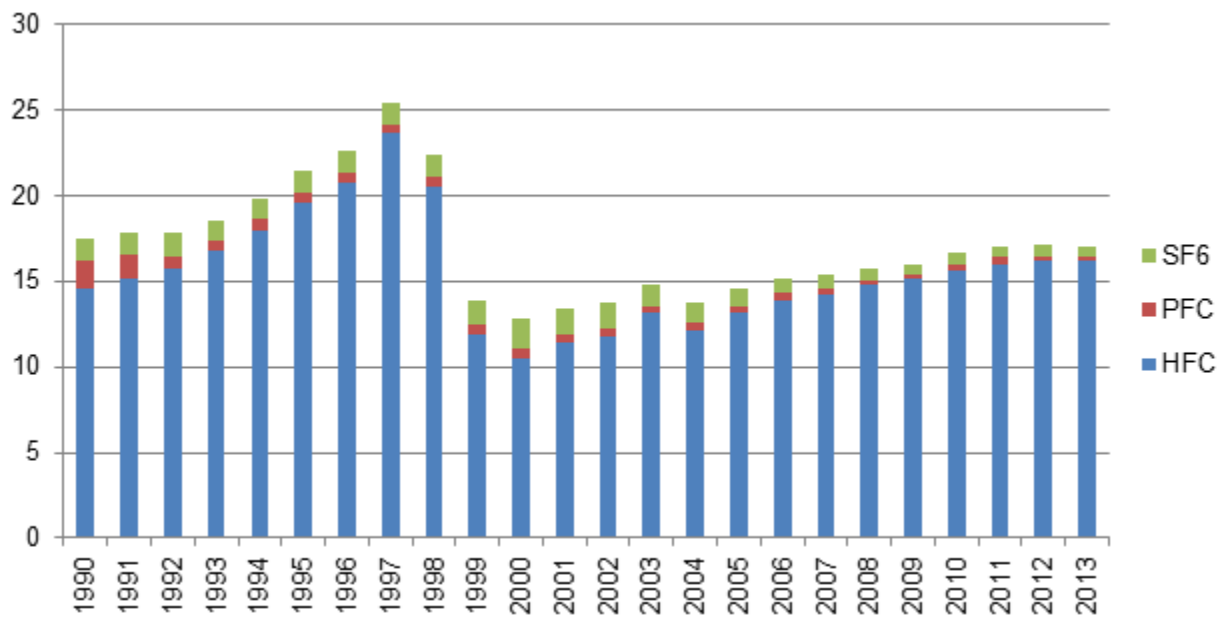
Four European countries have already introduced a tax on F-gases (Denmark, Norway, Slovenia and Spain), while some countries have investment grants and support schemes in place (Austria, Belgium, the Netherlands and Switzerland) or provide a tax relief (the UK, the Netherlands).

Given the experience in other EU countries, we recommend the UK government identifies further cost-effective F-gas abatement opportunities and any associated barriers. The Government should also scope out policy options that will realise these opportunities.

Source: Shecco (2014): Guide 2014: Natural Refrigerants Continued Growth & Innovation in Europe; Shecco (2013): Guide: HFC taxes & fiscal incentives for natural refrigerants in Europe.

The following figure presents UK F-gas emissions by type of gas in between 1990 and 2013.

Figure 6.1: F-gas emissions by type of gas (1990-2013, MtCO₂e)



Source: NAEI GHG inventory

Indicator table

Table 6.1: The Committee's waste and F-gas indicators (% change from 2007)						
Waste & F-gases		Budget 2	Budget 3	Budget 4	2013 indicative	2013 outturn
Headline indicators						
Waste*	CO ₂ e emissions	-22% to -34%	-32% to -51%	-39% to -63%	-12% to -14%	-52%
	CH ₄	-25% to -37%	-36% to -56%	-44% to -71%	-13% to -16%	-54%
	N ₂ O	-2%	+2%	+4%	-4%	+11%
	CO ₂	No more than +25%			<+25%	-23%
	Biodegradable waste to landfill	-38% to -84%	-39% to -97%	-39% to -97%	-32% to -41%	-45%
	Methane captured at landfill	Rising above current rate of 59%			>59%	61%
F-gases*	CO ₂ e emissions	-23%	-40% to -50%	-52% to -60%	-2%	+11%
Supporting indicators						
Waste						
Defra to agree responsibility deals with sectors specified in waste review (waste management, paper, packaging, textiles)		End 2015				

Defra to explore scope to strengthen incentives through the waste chain.	End 2017				
Defra to consider and publish an approach to increase methane capture rates towards best practice, with milestones and measures to ensure these are met.	End 2017				
Defra to publish specific strategies on how to reduce each of main biodegradable waste sources (specifically food, paper/card, and wood) from households and businesses, with milestones and measures to ensure these are met.	End 2016				
The Government to consider mandating UK-wide provision of separate food waste collection services by local authorities.	End 2016				
Defra to follow the examples of Scotland and Wales which plan to ban or divert biodegradable waste from landfill, by reconsidering bans on major sources of biodegradable waste, on a case by case basis.	End 2016				
F-gas					
Defra to ensure compliance with new EU F-gas regulation	Ongoing				
Source: CCC analysis. Note: * we will return and update these indicator trajectories in light of our advice for the fifth carbon budget.					