

National action across all sectors needed to reach greenhouse gas Effort Sharing targets'



National action across all sectors needed to reach greenhouse gas Effort Sharing targets

EU legislation on Effort Sharing covers emissions from a wide range of sectors, such as road transport, heating and cooling in residential and commercial buildings, agriculture and small industries. These sectors have significantly different emission drivers and reduction potentials. Reducing these emissions to meet national Effort Sharing targets requires a diversified and well-adapted policy mix at the national level. Having reported a large number of planned policies and measures under the Monitoring Mechanism Regulation in March 2019, EU Member States and the United Kingdom must now fully implement them to allow the EU to deliver on its decarbonisation objectives. This briefing provides an updated overview of sectoral trends, projections of greenhouse gas emissions, and planned policies and measures in the EU Effort Sharing sectors.

In 2018, Effort Sharing emissions were almost 11 % below 2005 levels - with differing contributions from each sector. While this collective reduction by the EU Member States and the United Kingdom is in line with the EU's greenhouse gas emission target for 2020, emission reductions in all Effort Sharing sectors need to accelerate if they are to contribute adequately towards the EU's 2030 emission target.

Measures addressing energy use for heating and cooling in the buildings sector helped deliver the largest contribution to overall reductions in Effort Sharing emissions between 2005 and 2018 (50 %). Such measures were in particular improvements in energy efficiency and the switch to less carbon intensive fuels for heating and cooling, including renewable energy sources.

Climate change mitigation

Conversely, very limited reductions were contributed by the transport sector during that period (8 %). Transport emissions increased every year since 2014, driven by growing demand in passenger and freight road transport. The EU Member States and the United Kingdom anticipate significant emission reductions in this sector from 2018 to 2030, to be achieved through a wide range of measures such as vehicle efficiency, low-carbon fuels and electric vehicles, a modal shift, an improved transport system, etc.

Small reductions (1 %) were also contributed by the agriculture sector. Support to farms addressing agriculture emissions, as well as organic farming and requirements on fertiliser use, are examples of measures that could help reduce emissions from agriculture. EU Member States and the United Kingdom indicate a limited potential for emission reductions in this sector.

Further monitoring and evaluation of policy effects at national level could help identify the most effective and cost-efficient measures able to deliver on EU and national decarbonisation objectives.

This briefing^[1] builds on the EEA's recent Trends and Projections report, which assesses progress towards the EU's climate and energy targets, and a briefing on national policies and measures for climate change mitigation. The findings are based on preliminary estimates of greenhouse gas emissions for 2018 and historic and projected greenhouse gas emissions, as well as a database of policies and measures that Member States reported to the EEA in March 2019 under the Monitoring Mechanism Regulation. The work also relies on the results of two detailed assessments of trends in the Effort Sharing sectors carried out by the European Topic Centre (ETC) for the EEA in 2017 and 2018.

Twice as large annual emission cuts needed in Effort Sharing sectors

Box 1: Effort Sharing legislation

The EU's Effort Sharing legislation aims to cut greenhouse gas emissions in the sectors that are not included in the EU Emissions Trading System (EU ETS). This represents a wide range of sources, such as petrol and diesel use for road transport, energy use for heating and cooling in households and commercial buildings, animal digestion and fertiliser use in agriculture, waste treatment and small industries. Altogether, these emissions make up about 58 % of total greenhouse gas emissions at EU level. The Effort Sharing legislation does not apply to emissions and removals from land use, land use change and forestry (LULUCF), which are covered by the Kyoto Protocol and from 2021 by the LULUCF Regulation.

The legislation sets national annual greenhouse gas emission targets for the periods 2013-2020 (Effort Sharing Decision, ESD) and 2021-2030 (Effort Sharing Regulation, ESR). These annual targets are different for each country:

The national emission targets for 2020 range from a 20 % reduction by 2020 (from 2005 levels) for the richest country to a 20 % increase for the least wealthy one, Bulgaria. Taken together, the national 2020 targets represent a 10 % reduction in EU Effort Sharing emissions compared with 2005, which is in line with the EU target of a 20 % reduction in all greenhouse gas emissions by 2020 (including those in the EU ETS), compared with 1990.

For 2030, the national emission targets range from 0 % (no change from 2005 levels) to 40 % below 2005 levels (applicable to Effort Sharing emissions only). These targets correspond to an EU reduction of 30 % from 2005 levels by 2030, as a contribution towards the current reduction target of 40 % below 1990 levels for all greenhouse gas emissions in the EU Member States and the United Kingdom.

Climate change mitigation

After a 14 % decline between 2005 and 2014, followed by three consecutive annual increases from 2015 to 2017, Effort-Sharing emissions in the EU Member States and the United Kingdom decreased by 0.9 % in 2018 to a level 10.8 % (309 Mt CO₂e) below that of 2005. This was below the corresponding target level for the period 2013-2020 (Figure 1).

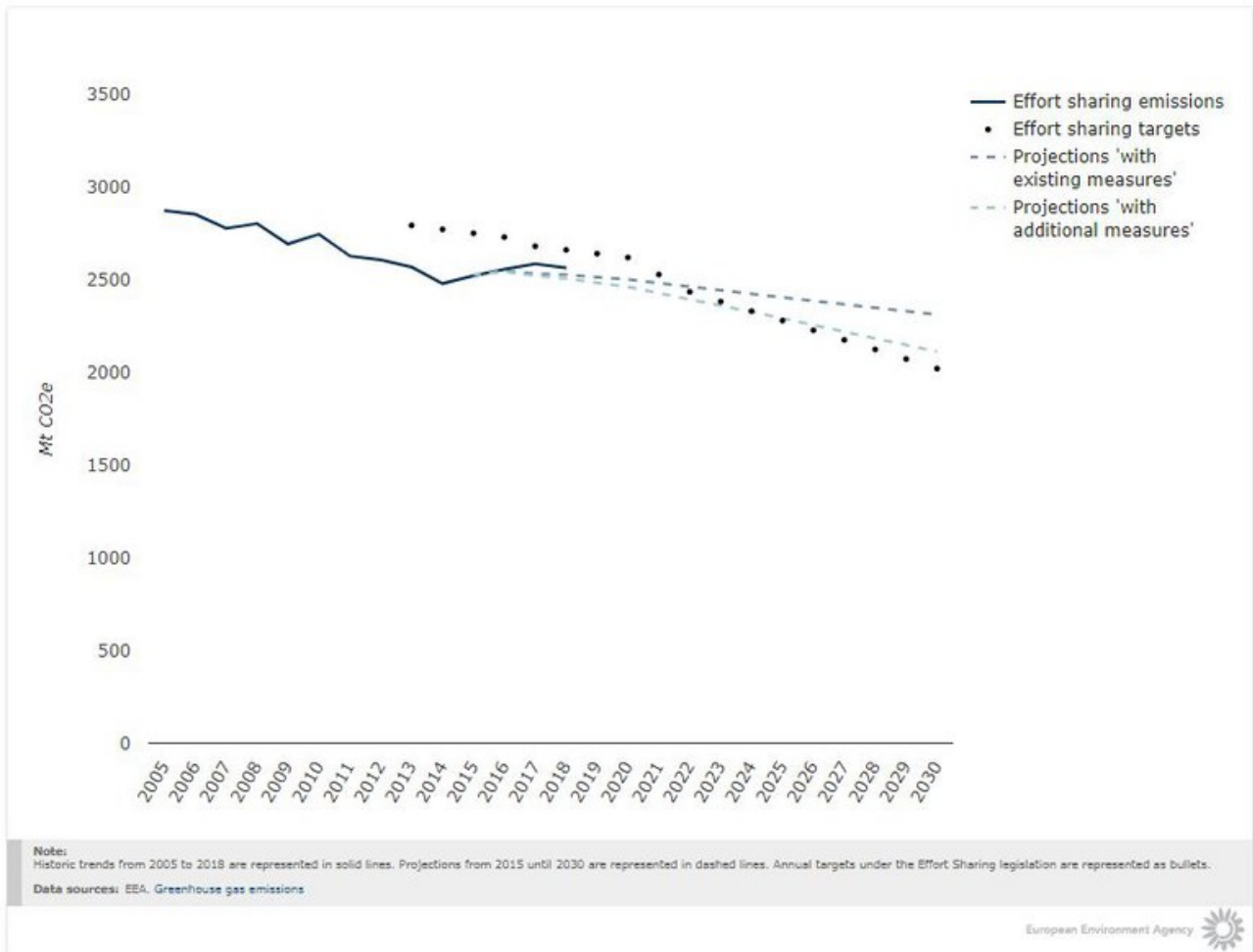
Between 2005 and 2018, the largest reduction in Effort Sharing emissions took place in the heating and cooling of buildings (155 Mt CO₂e) (Figure 2; Figure 3). Emissions were also reduced in the waste management sector (66 Mt CO₂e) and in small industries (61 Mt CO₂e).

The transport and agriculture sectors only contributed to small reductions in the Effort Sharing sectors (25 Mt CO₂e and 2 Mt CO₂e, respectively) during this period.

Today — more than halfway through the 2005-2030 period — the total reduction achieved so far in the Effort Sharing sectors represents only one third of the reduction needed by 2030 to achieve the target of a 30 % reduction compared with 2005 in these sectors. From 2018 onwards, the annual rate of emission reductions at EU level needs to nearly double to achieve the cuts foreseen under the Effort Sharing Regulation.

Climate change mitigation

Figure 1. Greenhouse gas emission trends, Effort Sharing targets and projections ‘with existing’ and ‘with additional’ measures, 2005-2030, EU-27 and the United Kingdom.



Source: Trends and projections in Europe 2019

Climate change mitigation

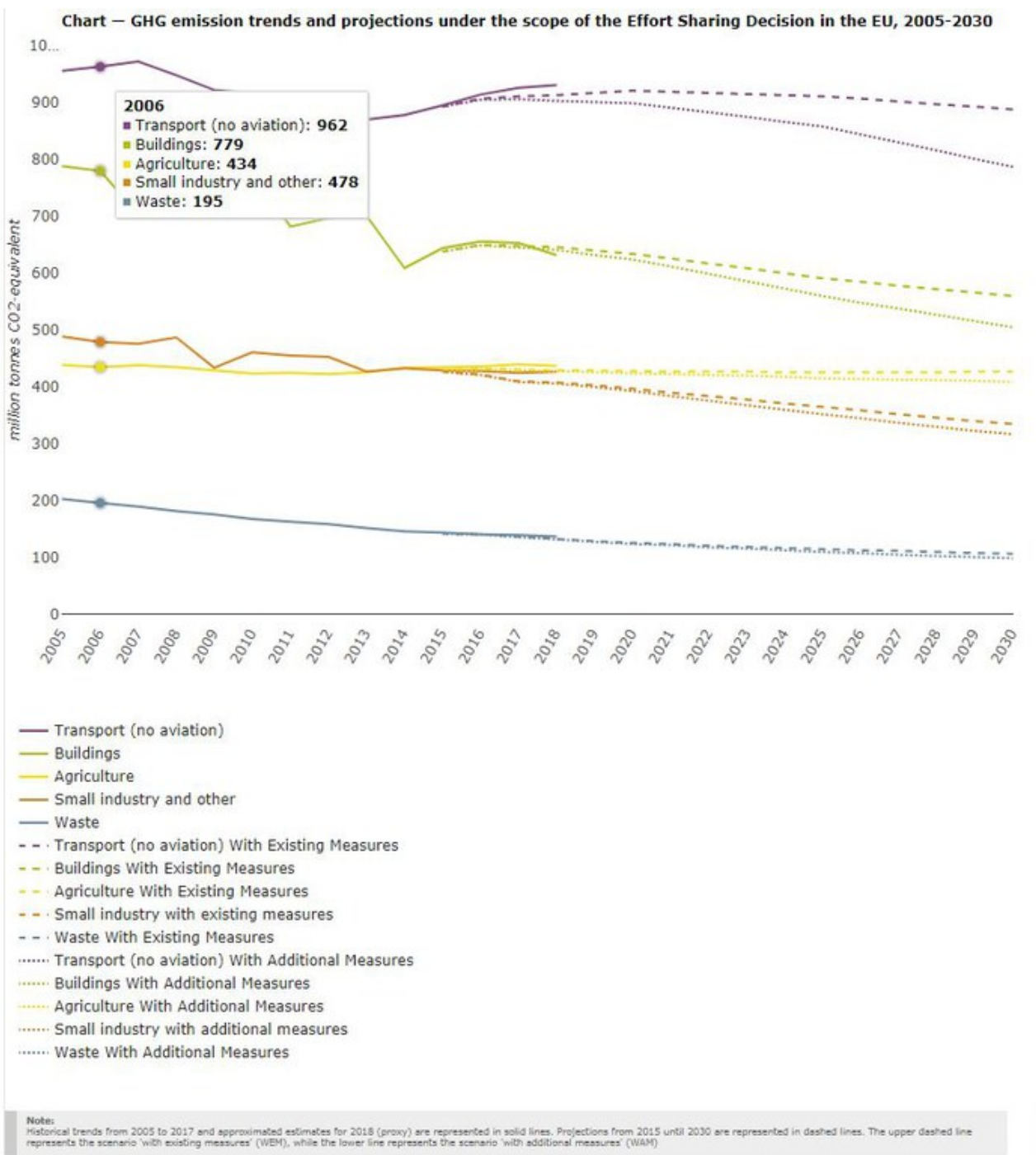
If Member States and the United Kingdom were to implement the additional policies and measures that are already planned, Effort Sharing emissions could decrease to a level 27 % below that of 2005 by 2030, according to projections reported by Member States and the United Kingdom to the EEA under the Mechanism Regulation in March 2019. Most of these reductions are expected in the transport, buildings and industry sectors, while agriculture remains the sector where countries do not foresee any significant change in emissions over the next decade.

The aggregated reduction in the Effort Sharing sectors would still fall short of the expected contribution from Effort Sharing sectors towards the EU's 2030 target. More action is therefore needed at a national level to decarbonise their economies further and faster.

The next section focuses on each of the main Effort Sharing sectors, highlighting key emission trends and the national climate policies that aim to reduce these emissions.

Climate change mitigation

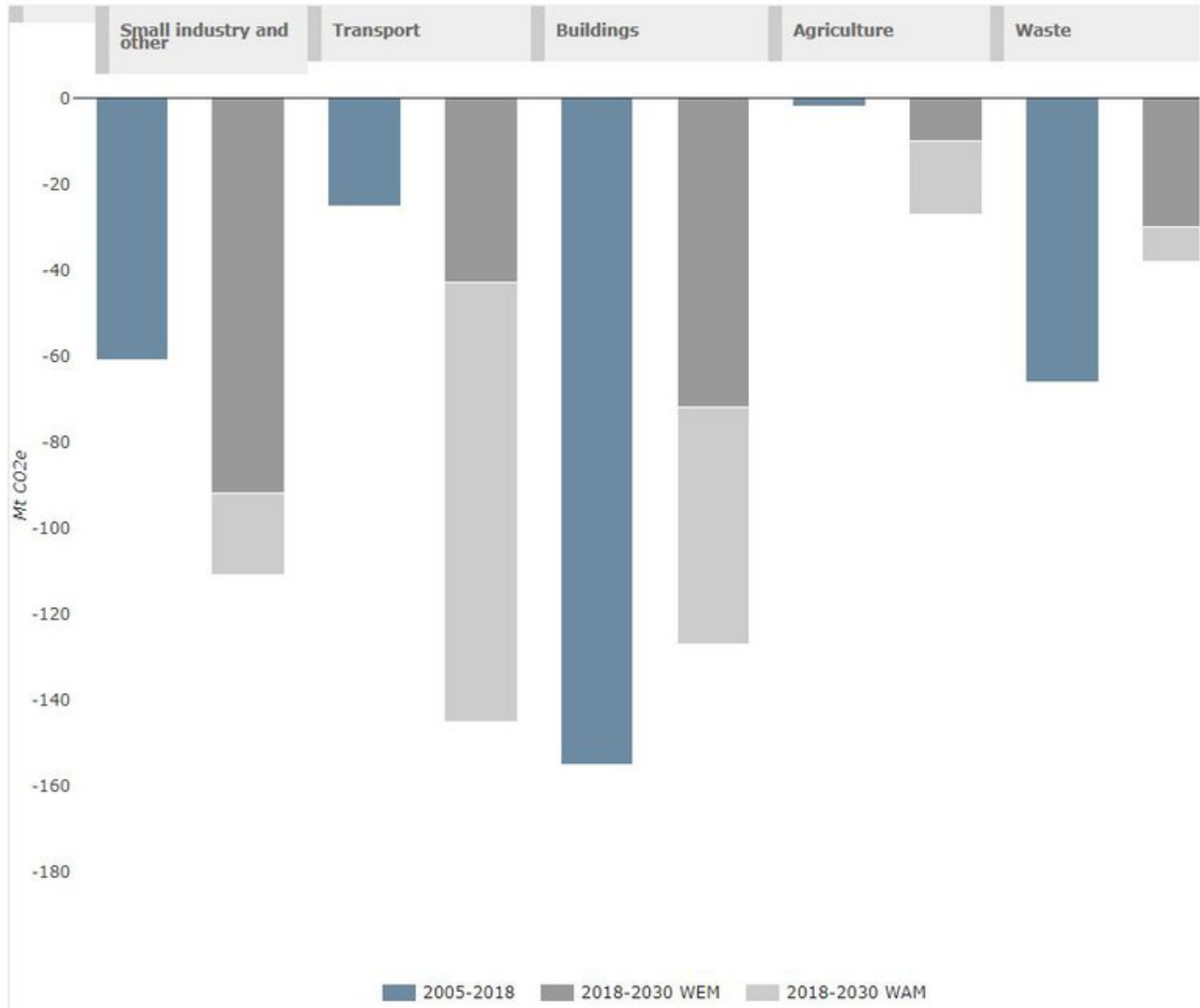
Figure 2. Greenhouse gas emission trends and projections from Effort Sharing sectors, EU-27 and the United Kingdom, 2005-2030



Source: Trends and projections in Europe 2019

Climate change mitigation

Figure 3. Past and projected reductions in Effort Sharing emissions in the EU-27 and the United Kingdom, 2005-2018 and 2018-2030



Note: WEM: 'with existing measures' projections; WAM: 'with additional measures' projections

Source: Trends and projections in Europe 2019

Climate change mitigation

Contrasting trends, projections and expectations across sectors

Transport

Transport — without aviation, which is covered by the EU ETS — is responsible for more than one third of emissions from the Effort Sharing sectors. It is the largest sector covered by Effort Sharing legislation. Transport has only played a minor role in curbing Effort Sharing emissions so far, with a reduction of just 25 Mt CO₂e between 2005 and 2018 (Figure 3). The sector's emission trend shows the key role played by this sector in driving total Effort Sharing emissions upwards since 2014, as a result of the growing demand for passenger and freight road transport (Figure 2). The net reductions achieved so far can be attributed to the improved energy efficiency of vehicles and the introduction of low carbon fuels.

Countries expect a significant change in transport emission trends, with large reductions expected, in particular in road transport. However, these projected reductions mostly rely on additional measures that are still to be adopted and fully implemented (Figure 3). Most of the 111 planned measures on transport* target

- the promotion of low carbon fuels or electric vehicles (34 measures),
- the promotion of a modal shift to more efficient, public or non-motorised transport systems (33 measures) and
- the promotion of vehicle efficiency improvements (27 measures).

Of these 111 measures, 34 are associated with quantified expected emission savings by 2030, as reported by eight Member States (Czechia, Estonia, Finland, Germany, Greece, Ireland, Lithuania and Spain). Estonia is the Member State reporting the largest expected reduction of its national transport emissions from transport policies by 2030. Estonia provided quantified reductions of transport policies such as the improvement of the efficiency of the transport system, the implementation of a passenger car registration system and annual road usage fees for passenger cars. Other examples of quantified policies and measures include energy-efficiency improvements of cars and vans and promoting the use of biofuels in the transport sector in Finland, as well as the implementation of incentives for the use of combined freight transport in Lithuania.

Heating and cooling in buildings

Heating and cooling activities of residential and commercial buildings are responsible for a quarter of greenhouse gas emissions in the Effort Sharing sectors, the second biggest source after transport. Fluctuations in weather conditions from one year to another (i.e. warmer or colder winters) are an important cause of annual variations in this sector's emissions. However, emissions over the period 2005-2018 show a clearly decreasing trend (Figure 2Figure 3). This can

Climate change mitigation

be linked to several policy-driven factors, in particular the increasing energy efficiency of buildings and the switch to less carbon intensive fuels, including renewable energy sources for heating and cooling.

Countries expect emission cuts from heating and cooling in the building sector to continue as a result of the further implementation of existing measures and the introduction of additional measures. In 2019, 18 Member States reported information to the EEA regarding 73 planned policies and measures targeting improvements in the energy efficiency of buildings*. These encompass the

- promotion of zero energy buildings,
- increasing the renovation rate in residential and commercial buildings,
- a fuel switch away from oil heating and the
- promotion of renewables in residential housing.

Agriculture

With 17 % of total Effort Sharing emissions at EU level, agriculture is the third largest source of emissions in the Effort Sharing sectors. With emission trends in this sector nearly constant between 2005 and 2018, this sector has hardly contributed to reductions in the Effort Sharing sectors (Figure 2). Projections indicate that countries plan rather low emission reductions in this sector (Figure 3).

In 2019, 12 Member States reported information on 55 planned policies or measures targeting greenhouse gas emissions from agriculture*. These measures most commonly aim at

- improving cropland management (19 measures),
- reducing fertiliser use and manure application on cropland (15 measures), and
- improving livestock management (10 measures).

Policies and measures reported are often related to the implementation of European policies such as the Common Agricultural Policy, the Nitrates Directive and the Renewable Energy Directive.

Five Member States (Finland, Germany, Ireland, Lithuania, and Spain), reported quantified reduction effects in 2030 for 14 of their planned measures. Lithuania reported measures expected to deliver significant reductions in its agriculture emissions (more than 10 %), including the provision of compensatory support to farms for emission-reducing activities, the development of organic farming and the amendment of mandatory requirements for the use of mineral nitrogen fertilisers. Spain reported quantified information on a measure supporting the improvement of animal waste management systems there.

Climate change mitigation

Small industry and other

This sector, referred to as 'small industry and other' in this briefing, covers emissions from energy industries, manufacturing and production industries, fugitive emissions and industrial processes that are not covered by the EU ETS. Fluorinated greenhouse gas emissions are also included. The sector saw emissions substantially decrease between 2005 and 2018 (-61 Mt CO₂e) (Figure 2). These reductions resulted primarily from improvements in energy efficiency.

Planned policies and measures addressing these emissions typically include energy efficiency measures for industrial installations and the promotion of renewable energy. Many of these measures also affect emissions covered by the EU ETS.

Waste

While the waste management sector is by far the smallest sector in terms of its contribution to Effort Sharing emissions, it delivered the second largest reduction in Effort Sharing emissions between 2005 and 2018 (-66 Mt CO₂e) (Figure 3) and the largest relative reduction (-33 %). These reductions were mainly driven by measures aiming to improve waste management, to limit the quantity of landfilled waste and improve landfill management, as well as better treatment technologies and enhanced recycling.

Countries expect limited additional emission reductions in this sector. Only 7 Member States reported information on 15 planned policies and measures, which include

- enhanced recycling (5 measures),
- improved waste treatment technologies (5 measures) and
- improved landfill management (4 measures).

Germany, Lithuania and Spain provided quantified expected reduction effects for 2030 as a result of 5 policies or measures. Effects included the minimisation of the amount of landfilled waste in Lithuania and a set of measures in Spain (prevention of waste generation, household composting, separate collection of organic matter for biological treatment and separate collection of other fractions such as paper, cooking oil and textiles for recycling, and the promotion of the use of renewable gases), which would reduce these countries' waste emissions by 35 % and 19 %, respectively.

Evidently, reported information on emission savings expected from national policies and measures in the Effort Sharing sectors remains insufficient. Further monitoring and evaluation of the effects of policy at national level is clearly needed to identify the most effective measures to achieve climate neutrality in the EU.

Climate change mitigation

More information on sectoral policies and measures mentioned in this briefing can be found in the EEA database on climate change mitigation policies and measures in Europe.

Footnotes

^[1]This report was produced without considering the United Kingdom's withdrawal from the European Union. Data reported by the United Kingdom are included in all analyses and assessments contained in the report, unless otherwise indicated.

* Reported to the EEA under the Monitoring Mechanism Regulation in March 2019

Climate change mitigation

Identifiers

Briefing no. 16/2019

Title: **National action across all sectors needed to reach greenhouse gas Effort Sharing targets**

PDF TH-AM-20-002-EN-N - ISBN 978-92-9480-217-0 - ISSN 2467-3196 -

doi: 10.2800/14946

HTML TH-AM-20-002-EN-Q - ISBN 978-92-9480-218-7 - ISSN 2467-3196 -

doi: 10.2800/01155

The withdrawal of the United Kingdom from the European Union did not affect the production of this briefing. Data reported by the United Kingdom are included in all analyses and assessments contained herein, unless otherwise indicated.

Published on 10 Mar 2020