

Kick-starting the journey towards a climate-neutral Europe by 2050



Country fact sheet: Denmark

EU Climate Action Progress Report 2020

1. Total greenhouse gas emissions

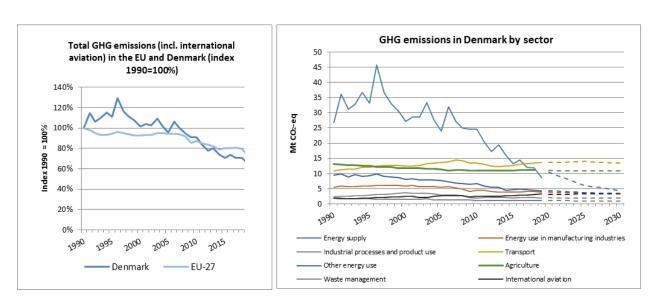


Figure 1: Left hand side: Total greenhouse gas emissions (incl. international aviation) 1990-2019 (index 1990 = 100 %). Right hand side: Greenhouse gas emissions by sector¹ – historical emissions 1990-2018, proxy 2019, projections WEM 2020-2030 (Mt CO₂-eq).

¹ The sectors in the figure correspond to the following IPCC sectors: Energy supply: 1A1, 1B and 1C. Energy use in manufacturing industries: 1A2. Industrial processes and product use: 2. Transport: 1A3. Other energy use: 1A4, 1A5 and 6. Agriculture: 3. Waste: 5. International aviation: memo item.

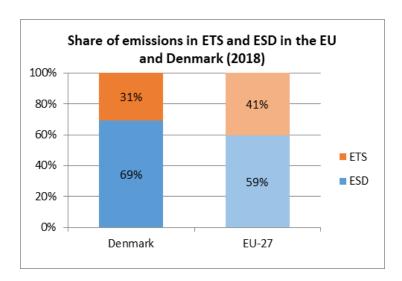


Figure 2: Share of emissions covered by the ETS and the ESD (2018).²

2. ETS emissions

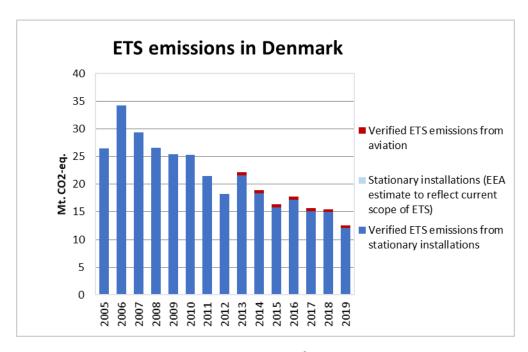


Figure 3: ETS emissions 2007-2019 (Mt CO₂-eq).³

² Excluding international aviation, CO₂ from domestic aviation and NF₃.

³ The scope of ETS was extended from 2013. To reflect the current scope of ETS, estimates made by EEA are included in the figures from 2005 to 2012. The estimates cover only emissions from stationary installations.

3. Emissions in Effort Sharing sectors

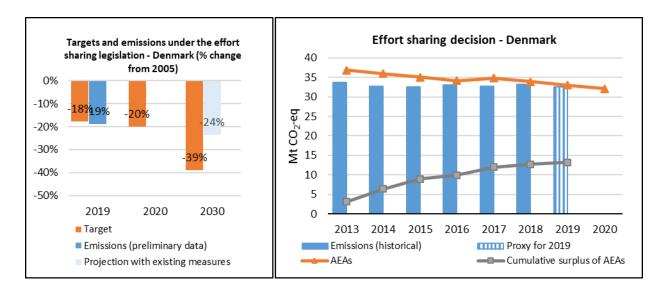


Figure 4: Left hand side: Emissions and targets under the Effort Sharing Decision/ Effort Sharing Regulation 2019, 2020 and 2030 as percentage change from 2005. Right hand side: Emissions, annual emission allocations (AEAs) and accumulated surplus/ deficit of AEAs under the Effort Sharing Decision 2013-2019 (Mt CO₂-eq).

Denmark, reported Denmark, accounted 8 8 6 6 4 4 Mt CO2-eq. Mt CO2-eq. 2 2 0 0 -2 -2 -4 -4 -6 -6 -8 -8 2013 2014 2015 2016 2017 2018 2013 2014 2015 2016 2017 2018 Afforestation / Reforestation Deforestation Forest Management

Grazing Land Management

Total

4. Land use, land use change and forestry

Cropland Management

Figure 5: Reported and accounted emissions and removals from LULUCF (Mt CO₂-eq.)⁴

Reported quantities under the Kyoto Protocol for Denmark show net emissions of, on average, 4.3 Mt CO₂-eq for the period 2013 to 2018. In this regard, Denmark represents -1.1% of the annual average sink of -396.7 Mt CO₂-eq of the EU-27. Accounting for the same period depicts net average annual credits of 3.1 Mt CO₂-eq, which corresponds to 2.7% of the EU-27 accounted sink of -114.1 Mt CO₂-eq. There is a pattern of increasing reported net emissions with years 2014 and 2017 diverging from this general trend. Accounted net credits replicate this pattern, being highest for 2014 and decreasing thereafter. Denmark is one of three EU Member States with average net emissions and one of six EU Member States that show net emissions for at least one year. Denmark elected to report and account for Cropland Management as one of six EU Member States and for Grazing Land Management as one of five EU Member States.

The dominating reported activity is Cropland Management with emissions. Removals by Forest Management are prominent for 2013 and 2014 but turned into small emissions thereafter. Denmark is one of five EU Member States with emissions by Forest Management for at least one year. One reason for this development is the aging of forests, removing less CO_2 from the atmosphere. Emissions by Grazing Land Management are of moderate importance. Removals by Afforestation/Reforestation and emissions by Deforestation vary and play a minor role in the overall emission budget of the LULUCF sector. There are 0.01 and 0.03 Mt CO_2 -eq of emission by Afforestation/Reforestation for 2013 and 2015, respectively; normally Afforestation/Reforestation reports removals and Denmark is the only EU Member State with such singularity. Activities with dynamics are Cropland Management with fluctuating emissions and Forest Management with the change from removals to emissions.

⁴The differences between reported and accounted emissions from LULUCF under the Kyoto Protocol are described in the 'explanatory note on LULUCF – accounted and reported quantities under the Kyoto Protocol'.

Credits by Forest Management dominate the accounts for 2013 and especially 2014 but become small debits in the following years. Denmark is one of 13 EU Member States with debits by Forest Management for at least one year. Credits by Cropland Management are prominent and dominate the accounts as of 2015 with particularly high credits in 2013 and 2017. Credits by Afforestation/Reforestation are noteworthy for 2015 and 2017. Credits by Grazing Land Management and debits by Deforestation are very small.

Data sources

Figure 1: Annual European Union greenhouse gas inventory 1990–2018 (EEA greenhouse gas data viewer: https://www.eea.europa.eu/data-and-maps/data/data-viewers/greenhouse-gases-viewer). Approximated EU greenhouse gas inventory 2019 (European Environment Agency). Member States national projections, reviewed by the European Environment Agency.

Figure 2: Verified ETS emissions abstracted from European Union Transaction Log 30.06.2020 (EEA ETS data viewer: https://www.eea.europa.eu/data-and-maps/dashboards/emissions-trading-viewer-1). ESD data from European Commission: Commission Implementing Decision (EU) on greenhouse gas emissions for each Member State for the year 2018 covered by Decision No 406/2009/EC of the European Parliament and of the Council (forthcoming).

Figure 3: abstract from European Union Transaction Log 30.06.2020 (EEA ETS data viewer: https://www.eea.europa.eu/data-and-maps/dashboards/emissions-trading-viewer-1).

Figure 4: European Commission: Commission Implementing Decision (EU) on greenhouse gas emissions for each Member State for the year 2018 covered by Decision No 406/2009/EC of the European Parliament and of the Council (forthcoming). Approximated EU greenhouse gas inventory 2019 (European Environment Agency). Member States national projections, reviewed by the European Environment Agency.

Figure 5: European Commission based on data accounted and reported by Member States under the Kyoto Protocol.