

# Country fact sheet: Denmark

## 1. Total greenhouse gas emissions

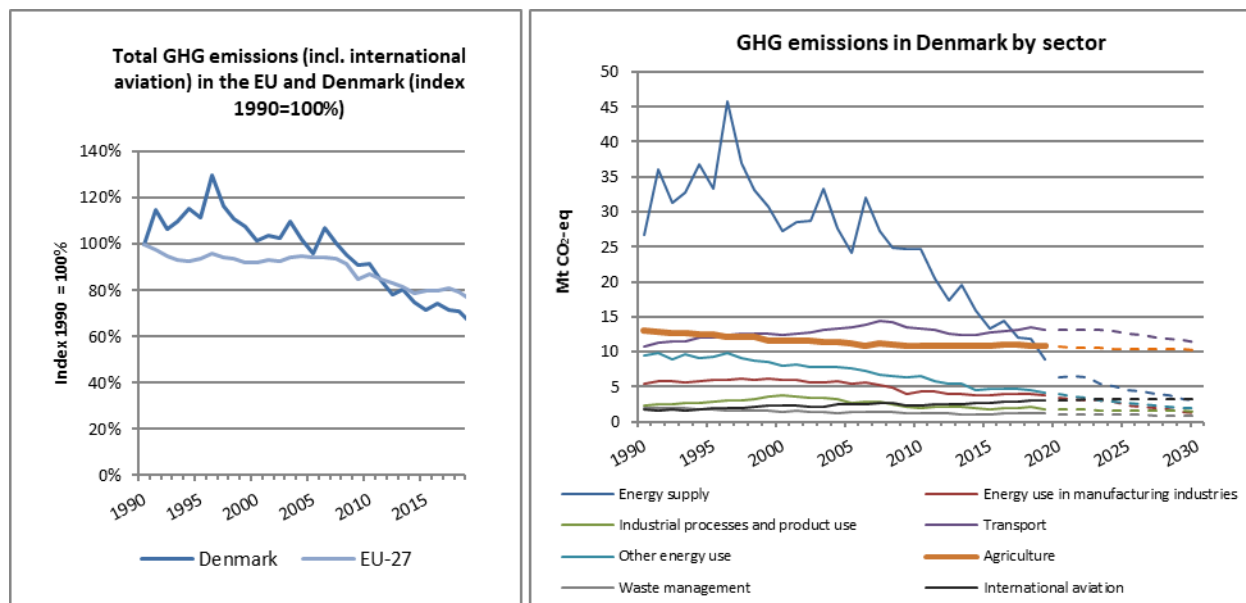


Figure 1: Left hand side: Total greenhouse gas emissions (incl. international aviation) 1990-2020 (index 1990 = 100 %). Right hand side: Greenhouse gas emissions by sector<sup>1</sup> – historical emissions 1990-2019, proxy 2020, projections WEM 2021-2030 (Mt CO<sub>2</sub>-eq).

<sup>1</sup> 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: 1.D.1.a.

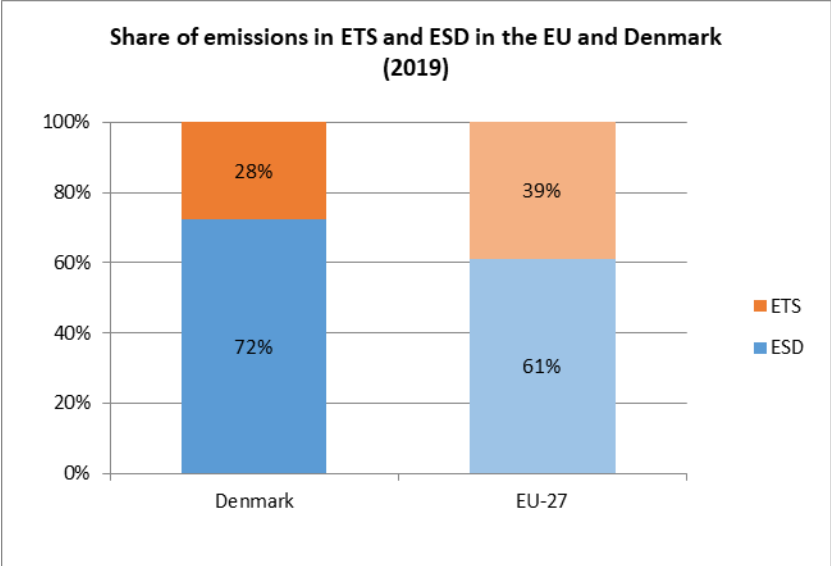


Figure 2: Share of emissions covered by the ETS and the ESD (2019).<sup>2</sup>

## 2. ETS emissions

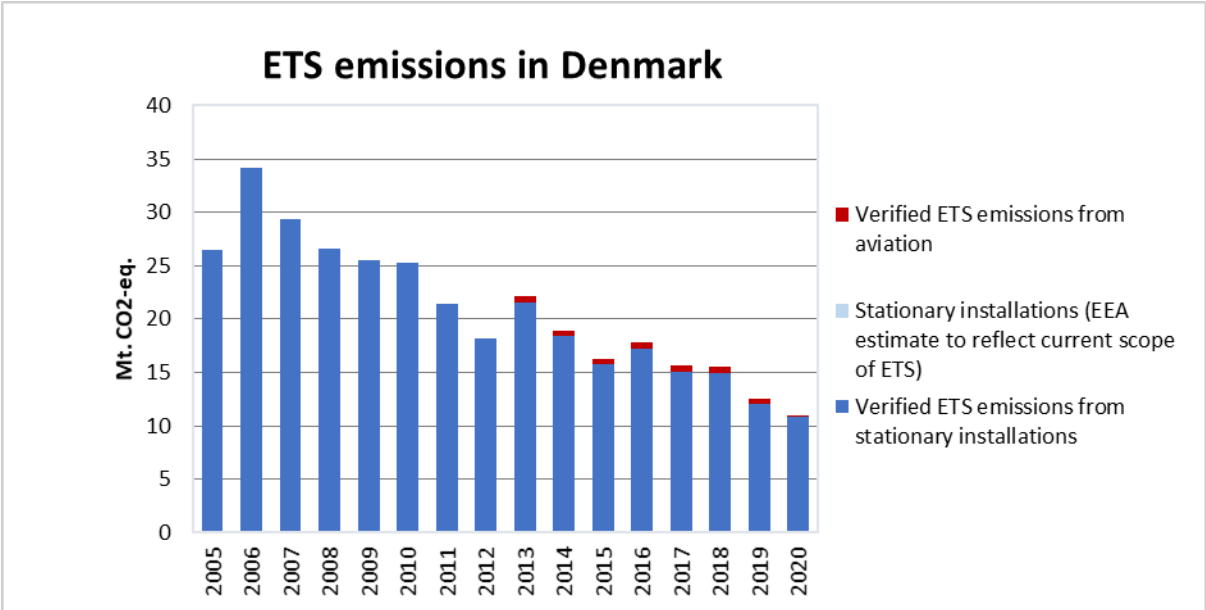


Figure 3: ETS emissions 2005-2020 (Mt CO<sub>2</sub>-eq).<sup>3</sup>

<sup>2</sup> Excluding international aviation and NF<sub>3</sub>.

<sup>3</sup> 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

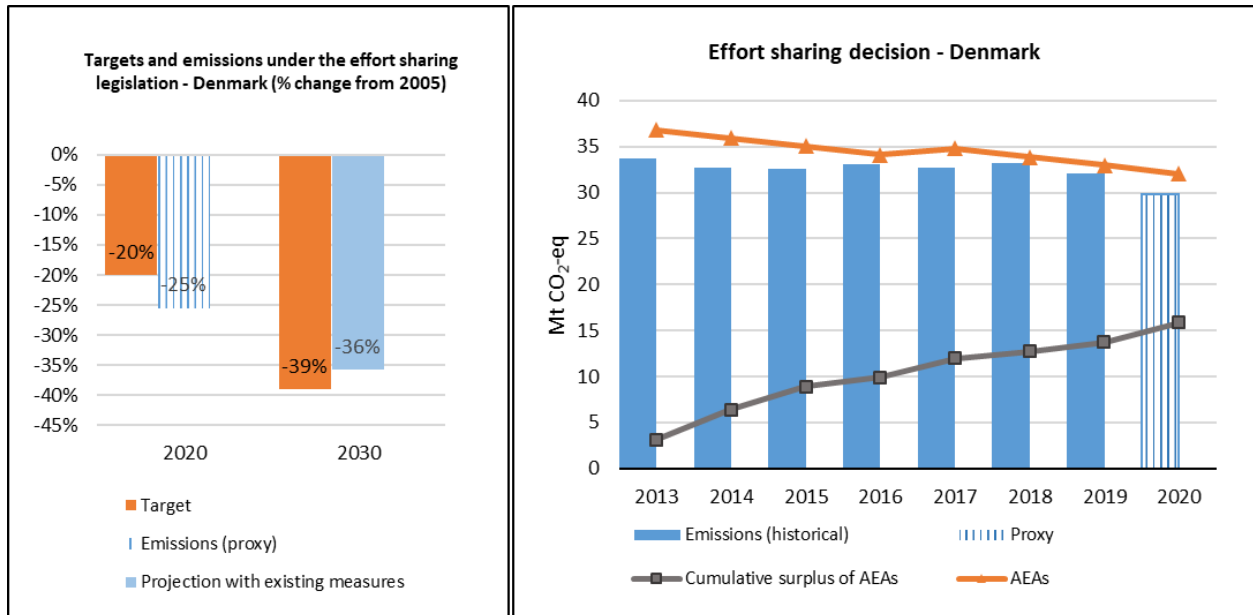
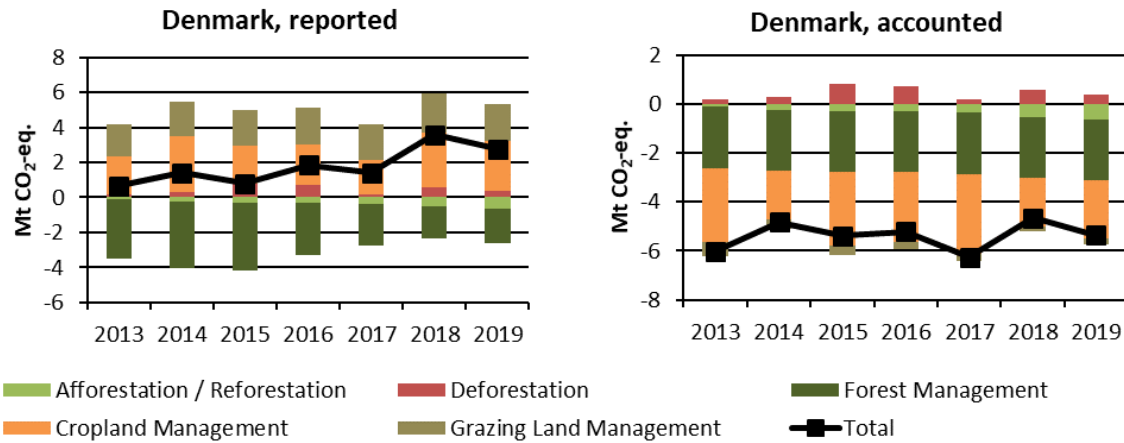


Figure 4: Left hand side: Emissions and targets under the Effort Sharing Decision/ Effort Sharing Regulation 2020 and 2030 as percentage change from 2005. Right hand side: Emissions, annual emission allocations (AEAs) and accumulated surplus/ deficit of AEAs under the Effort Sharing Decision 2013-2020 (Mt CO<sub>2</sub>-eq).

## 4. Land use, land use change and forestry



**Figure 5: Reported and accounted emissions and removals from LULUCF (Mt CO<sub>2</sub>-eq.)<sup>4</sup>**

Reported quantities under the Kyoto Protocol for Denmark show net emissions of, on average, 1.8 Mt CO<sub>2</sub>-eq for the period 2013 to 2019. In this regard, Denmark represents -0.5% of the annual average sink of -344.9 Mt CO<sub>2</sub>-eq of the EU-27. Accounting for the same period depicts net average annual credits of -5.4 Mt CO<sub>2</sub>-eq, which corresponds to 4.7% of the EU-27 accounted sink of -115.0 Mt CO<sub>2</sub>-eq. There is an overall increasing pattern of reported net emissions. Accounted net credits show no clear trend. 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.

In the period of 2013 to 2016 the dominating reported activity is Forest Management with removals, which is superseded by emissions by Cropland Management and Grazing Land Management in subsequent years. Removals by Forest Management decreased since 2016. One reason for this development is the aging of forests, removing less CO<sub>2</sub> from the atmosphere, along with increased harvest. Emissions by Grazing Land Management increase over time, and emissions by Cropland Management are particularly high in 2014 and 2018. Removals by Afforestation/Reforestation and emissions by Deforestation vary and play a minor role in the overall emission budget of the LULUCF sector.

Credits by Forest Management and Cropland Management dominate the accounts. In this preliminary simulated accounting exercise potential credits by Forest Management of, on average, -3.2 Mt CO<sub>2</sub>-eq per year are capped to -2.5 Mt CO<sub>2</sub>-eq per year. Denmark is one of six EU Member States that exceed the cap of 3.5% from total emissions excluding LULUCF in the base year (1990). Credits by Afforestation/Reforestation are noteworthy for 2018 and 2019. Credits by Grazing Land Management and debits by Deforestation are very small.

<sup>4</sup>The 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'.



## Data sources

Figure 1: Annual European Union greenhouse gas inventory 1990–2019 (EEA greenhouse gas data viewer: <https://www.eea.europa.eu/data-and-maps/data/data-viewers/greenhouse-gases-viewer>). *Approximated EU greenhouse gas inventory 2020* (European Environment Agency). Member States national projections, reviewed by the European Environment Agency.

Figure 2: Verified ETS emissions extracted from European Union Transaction Log 01.07.2021 (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 covered by Decision No 406/2009/EC of the European Parliament and of the Council for the year 2019 for each Member State* (forthcoming).

Figure 3: extract from European Union Transaction Log 01.07.2021 (EEA ETS data viewer: <https://www.eea.europa.eu/data-and-maps/dashboards/emissions-trading-viewer-1>).

Figure 4: European Commission: *Commission Implementing Decisions on greenhouse gas emissions for each Member State for the years 2013-2019 under the Effort Sharing Decision* ([Implementation of the Effort Sharing Decision \(europa.eu\)](#)). *Approximated EU greenhouse gas inventory 2020* (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.