

# Competitiveness of Danish industry in the EU ETS

## Comparisons of CO<sub>2</sub> emissions intensities

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### **Execute summary**

*Danish manufacturing facilities in the EU Emission Trading System on average emit over 12% less carbon dioxide (CO<sub>2</sub>) emissions than average European facilities.*

The European Emission Trading System (EU ETS) was launched in 2005 to cost-effectively reduce greenhouse gas emissions in industry and the power sector. The EU ETS covers about 370 Danish facilities, mostly consisting of generators of power and heat.

The Danish Energy Agency together with Ecofys carried out an investigation to get a better view on today's performance of Danish industry. The study investigated how much CO<sub>2</sub> these facilities would emit, if they would emit as much CO<sub>2</sub> per unit of production as the average European facility in the EU ETS. The study covers all Danish manufacturing facilities, excluding the production of electricity, in the ETS.

The study uses a novel approach in which historical production by companies is derived using recently published data on future amounts of free emission allowances. These amounts are based on historical production levels and together with publicly available data on emissions allow estimating emissions per unit of production. Where possible, estimates have been improved using publicly available information, such as benchmark curves or sector studies. The resulting emissions per unit of production on EU level were then combined with detailed Danish industry data which is available to the DEA.

Results show that, while results vary between industry subsectors, Danish facilities on average use less fuel and emit less CO<sub>2</sub> per unit than the average European facility. Consequently, Danish manufacturing industry as a whole avoids fuel and CO<sub>2</sub> cost, which is beneficial for its competitive position within Europe. Based on the period 2007 - 2010, the difference amounts to over 12%.

The better performance is caused by the use of more efficient production processes, the use of renewable energy such as biomass and cogeneration of heat and power. Further improvements are still possible and would avoid even more fuel use, emissions and related costs.