



Did you know that ...

**The electricity sector has contributed to the transformation of the energy system in the EU, and the carbon dioxide emissions from the electricity generation have been reduced significantly. All of this reduction has happened in Eastern Europe, the emission reduction in Western European electricity generation is small**

**(but Sweden, in contrast, has had low emissions in electricity production during the whole period of 1990 – 2012)**

The emissions of greenhouse gases have declined by more than 1100 Mtonnes CO<sub>2</sub>-eq./year (20 %) in EU 28 during the period 1990 – 2013, and now they amount to approximately 4500 Mtonnes CO<sub>2</sub>-eq./year. This is a significant reduction, which means that EU already today has reached the 20 % target for 2020.

Largest is the reduction of carbon dioxide with 700 Mtonnes CO<sub>2</sub>-eq./year, but the reduction of methane and dinitrogen oxide emissions is also substantial, about 200 Mtonnes CO<sub>2</sub>-eq./year each.

**The reduction of carbon dioxide emissions**

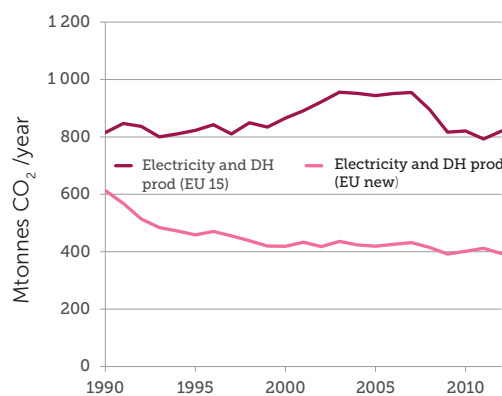
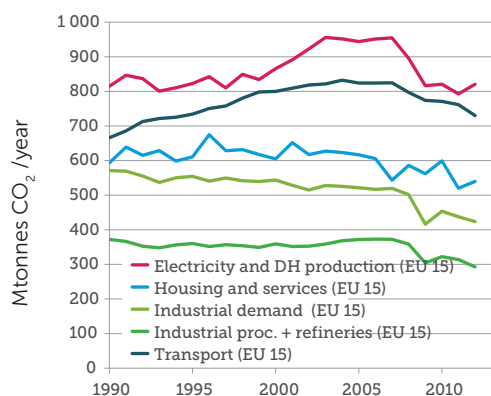
The new EU Member States in Eastern Europe have contributed with two thirds of the reduction of carbon dioxide emissions, and the countries in Western Europe (EU 15) with a third. This is remarkable in itself since the amount of emissions in Western Europe was twice as large as those in Eastern Europe by 1990<sup>1</sup>.

The carbon dioxide emissions from the electricity sector<sup>2</sup> have been reduced by around 200 Mtonnes CO<sub>2</sub>-eq./year since 1990. All of this reduction has taken place in the electricity generation in Eastern Europe. The carbon dioxide emissions from the electricity generation in Western Europe (EU 15) has not declined at all since

1990. Quite the contrary, these emissions increased up to 2007, by about 20 %, and after that they declined rapidly as a consequence of the economic downturn after the economic crisis.

The electricity sector is the only of the stationary sectors in EU 15 that has not shown a reduction of emissions. The emissions in the industry sector have been reduced by over 20 % and in the construction sector they have declined by more than 10 %.

At the same time, the electricity demand has grown in these sectors. If we compare the specific emissions – expressed as the amount of CO<sub>2</sub> emissions per energy unit (produced or used) – in the different sectors, the reduction looks more similar between them. Then, it is obvious that all sectors, including the transport sector, have had a reduction of the specific emissions by approximately 15 % from 1990 to 2012.



The development of the carbon dioxide emissions in Western Europe (EU 15), between 1990 and 2012, for the different sectors (left figure). The development of the carbon dioxide emissions in the electricity and the district heating sectors in Western Europe (EU 15), and Eastern Europe (EU new), respectively (right figure).

<sup>1</sup> In forthcoming issues of the "Did you know that..." sheets, we will give a more detailed presentation of the differences in emission reductions between Eastern and Western Europe, as well as the reasons behind the reduction and the differences.

<sup>2</sup> The EU's statistics also include district heating production.