



5 July 2013

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Communications Sweden***Division for Energy**Deputy director**Fredrik von Malmborg**Telephone +46 8 405 19 59**E-mail fredrik.von-malmborg@gov.se*European Commission
Directorate General for Energy
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Belgium**Answer to question in EU Pilot file 5049/13/ENER**

Background

Sweden reported its indicative national energy efficiency target according to article 3 of the energy efficiency directive (EED) in the first annual report according to article 24.1 of the EED, dated 18 April 2013.

Sweden's indicative target is defined as an energy intensity target focussing on primary energy per GDP unit. This is in line with how Member States are allowed to define their target. The EED also requires Member States to express those targets in terms of an absolute level of primary energy consumption and final energy consumption in 2020 and shall explain how, and on the basis of which data, this has been calculated.

Since the Swedish target is focussing on energy intensity, the target can be met at different absolute levels of primary energy consumption and final energy consumption, depending on the GDP level. In Sweden's report, different levels of primary and final energy consumption at target fulfilment are reported based on different assumptions of GDP development.

Supplementary information asked by the Commission

Sweden has set an indicative national energy efficiency target in accordance with Articles 3 and 24 of the Energy Efficiency Directive (2012/27/EU). However, Sweden has not complied with the requirement of this Directive to express this target **unambiguously** in terms of an **(one)** absolute level of primary and an **(one)** final energy consumption in 2020. Sweden is asked to provide a clarification to respond to the above.

Reponse

In order to facilitate the Commission's comparison of different indicative national energy efficiency targets it seems necessary to provide information on **one** level of primary and final energy consumption respectively, related to the Swedish indicative energy efficiency target for 2020.

As reported, Sweden's indicative target is to reduce the energy intensity by 20 per cent from year 2008 to year 2020. Using the same definition of primary energy consumption as in the EED, the primary energy consumption in Sweden amounted to 534 TWh in year 2008. Sweden's GDP amounted to 3263 billion SEK (2009 prices). Thus, the energy intensity in year 2008 was 164 Wh/SEK (GDP_{2009}). To reach the target, the energy intensity in year 2020 must be 131 Wh/SEK (GDP_{2009}) or lower.

Between year 2008 and year 2012, the annual GDP growth rate in Sweden has been 1.4 per cent on average. Assuming the same average annual growth rate to year 2020 implies that GDP_{2009} will be 3855 billion SEK (2009 prices) in 2020. Hence, the primary energy consumption in year 2020 should indicatively be 505 TWh or lower for the Swedish energy intensity target to be met.

To estimate the corresponding level of final energy consumption, there is a correlation between primary and final energy consumption if losses from nuclear power plants are corrected for:

$$0.90 = \frac{\text{Final Energy Consumption}}{\text{Primary Energy Consumption} - \text{Losses in Nuclear Power}}$$

The annual losses in Swedish nuclear power amounts to 131 TWh on average. This gives an indicative final energy consumption of 352 TWh in year 2020.

If the Commission is to compile tables with energy consumption levels related to the indicative targets of EU member states, Sweden urges that it is clearly indicated that the above levels are indicative and based on the assumption that GDP grows 1.4 per cent on average between year 2008 and year 2020.