



EUROSTAT QUALITY PROFILE

Indicator (definition)	Combined heat and power generation: Percentage of gross electricity generation stemming from combined heat and power generation.
Eurostat Unit	Energy statistics
Other Commission DGs	DG Environment DG Energy and Transport
European Statistical System Working Group (WG)	Energy Statistics Committee
Date	July 2008

1. Overall assessment of accuracy and comparability (Description of quality grades under the following link: http://circa.europa.eu/Public/irc/dsis/structind/library?l=/general_information/quality_profiles/annex_enpdf/EN_1.0_&a=d)

A
 B
 C
 Indicator to be developed

Data is collected from reliable sources applying high standards with regard to the methodology and ensuring a high degree of comparability across countries. Restrictions in accuracy and comparability over time are related to the construction of the indicator as such rather than to shortcomings with regard to data production and they are well documented and explained.

2. Objective and relevance of the indicator:

The Integrated Guideline N°11 "To encourage the sustainable use of resources and strengthen the synergies between environmental protection and growth" says Member States should "give priority to energy efficiency and co-generation".

Combined heat and power (CHP) or cogeneration is a technology used to improve energy efficiency through the simultaneous generation of heat and power in the same process, the type of which can be either gas turbine with heat recovery, steam backpressure turbine, steam condensing-extraction turbine, internal combustion engine or a combined cycle. Heat delivered from CHP plants may be used for process or space-heating purposes in any sector of economic activity including the residential sector. CHP thus reduces the need for additional fuel combustion for the generation of heat and avoids the associated environmental impacts, such as CO₂ emissions.

Restriction of the indicator's relevance and other characteristics which may lead to restrictions in using it in monitoring and reporting

CHP statistics depend strongly on the methodology used, since it is technically complicated to separate CHP electricity from the total electricity generated in CHP plants. The methodology, which has a large impact on the statistics, has evolved in the course of pilot projects for collecting CHP data starting from the early 90's.

Currently, there is a legal obligation for the Member States to submit statistics on CHP to the Commission, under the Directive 2004/8/EC. Guidelines for implementation of the Directive are under preparation by a Committee. Only after the guidelines are finished and the Member States report according to the guidelines the indicator can be used in the Annual Progress Report without reservations.

3. Data availability: details

(t₁: earliest reference year available; t₂: latest reference year available in July 2008)

	EU Member States	ACC/CC	USA and Japan	EFTA
t ₁	1994: BE, DK, DE, IE, EL, ES, FR, IT, CY, MT, NL, AU, PT, FI, SE, UK 1997: LU	2004: TR	-	2006: IS, NO

	2002: CZ, EE, LV, LT, HU, PL, SI, SK 2004: BG, RO			
t ₂	2006	2006	-	2006

Comments (including information on time series): No data is available for 1995, 1999, 2001 and 2003.

4. Overall accuracy

- High
- Restricted (sources, errors, methodology, etc.)
- 2002 CHP statistics in EU-15 were collected in a specific project funded by the DG TREN SAVE programme. The statistics for the new Member States were collected in the framework of the Phare programme. The method used to calculate CHP electricity in the 2002 project is based on the same principles as applied in the Directive 2004/8/EC to promote cogeneration in the EU. The overall efficiency of a CHP unit is used as a measure to determine whether the electricity generation is fully CHP or not. If the overall efficiency is above a threshold set at 75% (85% for steam condensing extraction turbines and combined cycle units), all the electricity generated is considered as CHP electricity. On the other hand, if the overall efficiency is below the threshold, the amount of CHP electricity, E_{CHP} is calculated as follows: $E_{\text{CHP}} = C \cdot H$, where C is power-to-heat ratio characteristic to the plant and H is CHP heat generation of the plant. Data is collected at plant level applying either real C factors or default C values defined in the methodology for different types of plants. The use of the threshold may negatively influence accuracy. In the Directive 2004/8/EC the efficiency thresholds are set at levels defined by the Member States at least to 75% (80% for steam condensing extraction turbines and combined cycle units). The 2003 and 2004 statistics are compiled using the efficiency thresholds of the Directive.

5. Comparability across countries

- High
- Restricted
- Since the methodology used by the countries is the same the figures are comparable across countries. The data are collected by competent national authorities, which are either NSIs or ministries. In most cases the coverage of the surveys is very good and only exceptionally secondary sources or estimations are used. In Malta there is no CHP generation.

6. Comparability over time

- High
- Restricted
- The methodology has evolved over time, i.e. there is no reliable time series available, not even for those countries which were included in the first surveys in the early 90's.

7. Development perspective for improving the quality of this indicator (including as far as possible an indication of the burden on Member States and respondents.)

According to Directive 2004/8/EC, Member States should submit statistics on CHP to the Commission starting from the reference year 2003: generation, capacities and fuels used for cogeneration. However, only detailed guidelines for the implementation of the Directive, including the methodology for CHP statistics, will allow to develop fully comparable CHP statistics.

8. Contribution to quality of the set/potential to qualify for an integrated policy analysis

The indicator is essential to monitor the objective of giving priority to energy efficiency and co-generation in the European Union.

Relevant European legislation:

Directive 2004/8/EC on the promotion of cogeneration based on a useful heat demand in the internal energy market

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