



# Screening meeting Energy 16 May 2006, Brussels



## European energy policy and CHP

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# Green Paper on energy efficiency (1)

2005	Start because of priority of Commissioner Piebalgs
22.06.05	Green Paper published
Till end of March 2006	Consultation
Till June 2006	Action plan

Parallel activities:

Amsterdam Forum, Energy und Transport Forum,  
High Level Group



# Green Paper on energy efficiency (2)

## Why?

- Improvement of cost effective energy efficiency beneficial for the economy (20 % savings in 2020)
- Less waste of rare resources and less emission of greenhouse gases (Kyoto commitments)
- Security of energy supply

## Who?

- All Sectors in energy production and end-use, industry and services, households und buildings, transport

## How?

- Directives, objectives, financial incentives, information and training, integration of efficiency with other initiatives



# Green Paper on a European energy strategy

## **Priorities of the European energy strategy:**

- Completion of the internal energy market
- Security of supply
- Sustainable, efficient, diverse energy mix
- Global warming
- Energy technology plan and innovation
- Common external energy policy



# Instruments for EU energy policy

## **Legislative measures: EU Directives**

- Electricity from renewable energy sources (RES)
- Biofuels
- Labelling of appliances
- Minimum efficiency requirements for appliances
- Energy performance of buildings
- Cogeneration (CHP)
- Ecodesign (Energy Using Products, including boilers)
- Energy end-use efficiency and energy services

## **Programmes**

- 6<sup>th</sup> RTD Framework Programme
- Intelligent Energy – Europe (including SAVE, ALTENER)



# Promotion of cogeneration : A short overview (1)

- Adoption of Directive 2004/8/EC on 11 February 2004, originally complete transposition in Member States by 21 February 2006 (but delayed because of comitology)
- Informal indicative target: share of CHP-electricity from 11 % in 1998 to 18 % in 2010
- It includes harmonised definitions, guarantee of origin, access to the electricity grid, identification and elimination of administrative barriers, possibility of support systems for high efficiency CHP, analysis of the national potential in Member States and statistical requirements



# Promotion of cogeneration : A short overview (2)

- A study has been launched to help the implementation process (committee procedure or “comitology”) of:
  - Annexes II and III on reference values for energy savings and calculation methodology
  - Annex IV for guidelines for the analysis of the national potential of Member States
- Planning:
  - November 2004                      Kick-off meeting for study
  - 03.03.2005                          First committee meeting
  - 01.07.2005                          Second committee meeting
  - 01.02.2006                          Third committee meeting
  - July 2006                              Fourth committee meeting



# Promotion of cogeneration : A short overview (3)

- Supportive actions:
  - 26.01.2005 Workshop on CHP statistics (Eurostat with DG TREN)
  - 30.06.2005 Workshop on Guarantees of Origin (DG TREN), followed up by development of a common model for the EU in cooperation with the AIB
  - Workshops for new Member States (JRC with DG TREN)





# Promotion of cogeneration : Current activities

- After the committee meeting on 01.02.06 work in progress:
  - Drafting a Commission Decision on reference values for ISC and a vote by written procedure
  - Preparing a common Guarantee of Origin in cooperation with the AIB
  - Member States are screening CEN-CWA14 on CHP and the amendments suggested by the consultants
  - Discussions with Member States and Stakeholders on reference values and transposition issues



# Promotion of cogeneration : The Directive (1)

- Article 1 defines the purpose of the CHP Directive: to increase energy efficiency and improve security of supply by creating a framework for promotion and development of high efficiency cogeneration of heat and power based on useful heat demand and primary energy savings in the internal energy market, taking into account the specific national circumstances especially concerning climatic and economic conditions.
- Article 2 defines the scope of the CHP Directive: basically all renewable and fossil fuels and CHP technologies in use and all sizes.





# Promotion of cogeneration : The Directive (2)

- Article 3 provides detailed definitions. Some important issues:
  - the inclusion of mechanical energy as the equivalent of electrical output
  - “useful heat” is based on an economically justifiable demand for heat or cooling
  - gross electricity production to calculate the overall efficiency
  - the use of net calorific values of fuels
  - the introduction of efficiency reference values for the separate production of heat and power which is substituted



# Promotion of cogeneration : The Directive (3)

- Article 4 deals with establishing efficiency reference values, originally before 21.02.2006
- It describes what factors have to be included in the matrix (fuel, year of construction)
- It describes the need to base the reference values on a well-documented analysis which takes into account possible relevant variables
- It describes a procedure for the revision in the future



# Promotion of cogeneration : The Directive (4)

- Article 5 of the CHP Directive requires Member States to put in place a scheme for Guarantees of Origin of electricity from high-efficiency CHP (CHP-GO)
- The CHP-GO will be based on the reference values, already informally agreed in the CHP committee on 01.02.06
- Member States have to do it themselves or through bodies independent of generation and distribution (sellers) within 6 months from the official adoption of these reference values
- Schemes for CHP-GO are not necessarily linked to national support schemes for CHP, but this is allowed



# Promotion of cogeneration : The Directive (5)

- Article 6 requires Member States to establish an analysis of the national potential for the application of high-efficiency CHP
- It shall be based on sound data, according to Annex IV
- Identification of all potential for heating and cooling demands, suited for high-efficiency CHP, as well as fuels for CHP
- It includes a separate analysis of barriers for high-efficiency CHP, like price structure of fuel, grid issues, administrative procedures, internalisation of external costs
- The first report by Member States not later than 21.02.2007



# Promotion of cogeneration : The Directive (6)

- Article 7 allows support schemes for high-efficiency CHP but support will have to be in line with the Articles of the Treaty and the guidelines on state aid
- Member States can choose their own support system, but it will be evaluated by the Commission
- The Commission will assess the experiences with different support mechanisms for high-efficiency CHP, especially for realising the national potential
- The Commission will report on the effects of support schemes not later than 21.02.2007



# Promotion of cogeneration : The Directive (7)

- Article 8 deals with the electricity grid and tariff issues for high efficiency CHP electricity (like in earlier Directives)
- Member States have the option to facilitate micro and small scale high-efficiency CHP in particular, subject to notification to the Commission





# Promotion of cogeneration : The Directive (8)

- Article 9 requires Member States to evaluate the existing legislative framework regarding authorisation procedures for high-efficiency CHP units, including
  - the design of CHP units matching useful heat demand
  - reduction of administrative barriers
  - streamlining procedures
  - establishing objective transparent rules
- Member States should also indicate the stage reached for coordination between government bodies, planning, mediation in disputes



# Promotion of cogeneration : The Directive (9)

Articles 10 and 11 deal with reporting obligations:

Member States shall provide:

- statistical data (already going on for some years in the EU)
- analysis of the national potential (instead of targets)
- progress reports on increase in high-efficiency CHP
- reports on Guarantee of Origin schemes
- reports on administrative procedures
- notifications on support schemes

The Commission:

- analyses, screens and reports as well to the Council and the European Parliament



# Promotion of cogeneration : The Directive (10)

- Article 12 allows for alternative calculations in Member States with restrictions in time or special requirements to be met (mainly to phase out current support schemes in some Member States)
- For many requirements of the Directive (Guarantees of Origin statistical purposes) there is no possibility for alternatives



# Promotion of cogeneration : The Directive (11)

- Article 13 describes the review procedures for the threshold values, the detailed calculation guidelines and the power to heat ratio in the Annexes II and III of the Directive
- Article 14 is the legal basis for the work of the CHP committee
- Article 15 describes the transposition requirements



# Promotion of cogeneration : The Directive (12)

- Article 16 amends Directive 92/42/EEC on boiler efficiency
- Article 17 states that the Directive entered into force on 21.02.2004, the date of publication in the Official Journal
- Article 18 states that the Directive is addressed to the Member States



# Promotion of cogeneration : The Directive (13)

- There are four annexes to the CHP Directive:
  - Annex I states the technologies covered by the Directive
  - Annex II gives detailed information on the calculation methodology, to be complemented by detailed guidelines to be established by the CHP committee
  - Annex III is on the methodology for determining the efficiency of the cogeneration process, to be complemented by efficiency reference values established by the CHP committee
  - Annex IV is on criteria for analysis of the national potential for high-efficiency CHP, worked out in a practical format by the CHP committee



# Promotion of cogeneration : Reference values for electricity

		1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006-2011
Solid	Hard coal	39.7%	40.5%	41.2%	41.8%	42.3%	42.7%	43.1%	43.5%	43.8%	44.0%	44.2%
	Lignite	37.3%	38.1%	38.8%	39.4%	39.9%	40.3%	40.7%	41.1%	41.4%	41.6%	41.8%
	Peat	36.5%	36.9%	37.2%	37.5%	37.8%	38.1%	38.4%	38.6%	38.8%	38.9%	39.0%
	Wood fuels	25.0%	26.3%	27.5%	28.5%	29.6%	30.4%	31.1%	31.5%	32.8%	32.9%	33.0%
	Solid waste	20.0%	21.0%	21.6%	22.1%	22.6%	23.1%	23.5%	24.0%	24.4%	24.7%	25.0%
Liquid	Oil	39.7%	40.5%	41.2%	41.8%	42.3%	42.7%	43.1%	43.5%	43.8%	44.0%	44.2%
	Liquid bio fuels	39.7%	40.5%	41.2%	41.8%	42.3%	42.7%	43.1%	43.5%	43.8%	44.0%	44.2%
	Liquid waste	20.0%	21.0%	21.6%	22.1%	22.6%	23.1%	23.5%	24.0%	24.4%	24.7%	25.0%
Gaseous	Natural gas	50.0%	50.4%	50.8%	51.1%	51.4%	51.7%	51.9%	52.1%	52.3%	52.4%	52.5%
	Refinery gas	39.7%	40.5%	41.2%	41.8%	42.3%	42.7%	43.1%	43.5%	43.8%	44.0%	44.2%
	Biogas	36.7%	37.5%	38.3%	39.0%	39.6%	40.1%	40.6%	41.0%	41.4%	41.7%	42.0%
	Coke oven gas	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%





# Promotion of cogeneration : Reference values for heat

		Steam <sup>*</sup> /hot water	Direct use of exhaust gases
Solid	Hard coal	88%	80%
	Lignite	86%	78%
	Peat	86%	78%
	Wood fuels	86%	78%
	Solid waste	80%	72%
Liquid	Oil	89%	81%
	Liquid biofuels	89%	81%
	Liquid waste	80%	72%
Gaseous	Natural gas	90%	82%
	Refinery gas	89%	81%
	Biogas	70%	62%
	Coke oven gas	80%	72%







# Promotion of cogeneration : Indicative time line

***CHP statistics to be submitted by MS before 31 December on the year before***

***21 February 2006 - The Commission to establish harmonised reference values and detailed guidelines; MS have to apply these***

21 August 2006 The Commission requests MS progress reports

21 August 2006 MS to apply a system of Guarantee of Origin

21 February 2007 MS report progress of implementation to the Commission

***21 February 2008 The Commission review's the application of the Directive***

21 August 2010 the Commission request MS progress reports

1 January 2011 MS apply standard methodology annex II & III

21 February 2011 MS report progress of implementation to the Commission

***21 February 2011 The Commission reviews harmonised reference values***

***21 February 2012 The Commission reviews the application of the Directive***

***21 February 2015 The Commission reviews harmonised reference values***



# Promotion of cogeneration : Context and future

- Biomass Action Plan
- Grid access (like RES)
- Other Directives (Buildings, Energy Services)
- Action plans following the Green Papers
- Initiatives for RES-Heating and Cooling (DHC)



# Staying informed...

- **DG TREN Website**

[www.europa.eu.int/comm/energy/demand/  
index\\_en.htm](http://www.europa.eu.int/comm/energy/demand/index_en.htm)

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