



Trigenerazione/Trigeneration



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Cogeneration Clean – Clever – Competitive – Compelling



EU Energy Policy update



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H₂IT - L'associazione Italiana Idrogeno e Celle a Combustibile



Nasce come Associazione nel 2004 e fa parte della FAST, Federazione Associazioni Scientifiche e Tecniche e dell'Associazione europea dell'idrogeno.

Si propone di:

- ◆ essere un portavoce per gli attori che operano nel settore; ENEL, ENI, Edison, Sapio , Sol, Linde , Plug Power, Dantherm/Ballard, SAATI , CESI,
- ◆ individuare e coordinare le attività sull'idrogeno a livello nazionale;
- ◆ facilitare lo sviluppo delle infrastrutture per l'idrogeno:
- ◆ stabilire un collegamento con le iniziative a promosse a livello europeo; vice presidente COGEN Europe, partecipa in 5 progetti europei.

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COGEN Europe



European Association for the Promotion of Cogeneration

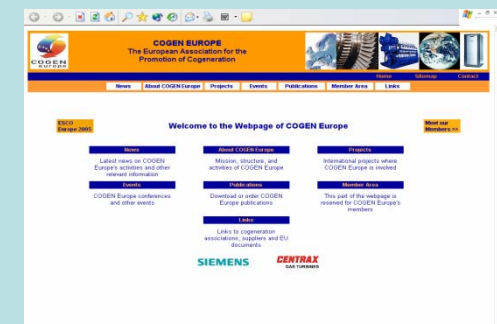
- Representing the interests of the supply chain in the cogeneration heat and electricity market
- Providing timely and appropriate information for policy makers on issues affecting cogeneration.
- An advocacy organisation participating in the European Union's legislative process

Structure

- National Members
 - National Promotional Organisations - **19**
- Company Members - **93**
 - Gas and Electricity Utilities, Equipment Manufacturers and Suppliers, Consultancies Operators, Industrial and commercial end users

Participation

- **CENELEC working groups**
- **EU Parliament lobby**
- **EU Commission, consultation and comitology**
- **IEE projects and COGEN working groups**



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CHP Climate in Europe 2008



- Commissioner Andris Piebalgs at COGEN Europe session Jan 30, 2008:
 - Support of next two presidencies for climate and energy package;
 - Committed to taking proposals to strengthen energy efficiency in last 1.5 years of office;
 - Stressed that it is important to work on this topic NOW as we have the Commissions attention
 - Highlighted that completing the directive is important and industry must make sure that their interests are known.
 - New Energy Efficiency unit (possibly) more staff.
- IEA highlighted they have large concerns about fossil fuel conversion efficiency;
- Claude Turmes, MEP highlighted there are very powerful lobbies working in Brussels. Cogeneration needs to be more visible.

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EU Policy and Legislation Environment



Energy Services Directive

Environmental Technologies Action Plan

Infrastructure Directive

Intelligent Energy - Europe

WEEE and RHS Directives

State Aid Guidelines

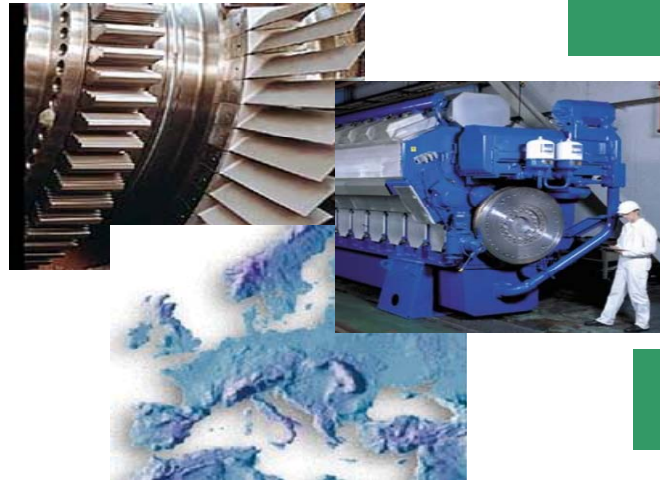
RES-H Initiative

Energy Taxation Directive

Electricity Directive

CHP Directive

Buildings Directive



Renewables Directive

Energy Package

Large Combustion Plants Directive

Emissions Trading and Linking Directives

FP7

Action Plan Energy Efficiency
Gas Directive

Sixth Environment Action Programme

Clean Air for Europe (CAFE) Programme

IPPC Directive

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COGEN EU 2007: Commission Lobbying



- Cogeneration
 - » CHP Directive (2004/8/EC)
- Emissions Trading Scheme
 - » Directive review (2003/87/EC)
- Energy Policy
 - » Energy and Climate Package : Renewables energy ;Energy efficiency and end use, Environmental state aid.
 - » Strategic Energy Technology Roadmap (SET)
- Energy Efficiency
 - » Directive on energy end-use efficiency and energy services (Directive 2006/32/EC):
 - » Energy Efficiency Action Plan COM(2006)545
 - » Buildings Directive(2002/91/EC)
- Electricity
 - » Directive 2003/54 Internal electricity market. 2001/77/EC Promotion of electricity produced from renewable sources.
- Pollution
 - » IPPC Review

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2008



- Currently 11 separate pieces of energy legislation at a key stage in the European Commission;
- COGEN Europe will focus lobbying on:
 - (Ongoing) CHP Directive, Energy and Climate package, ETS, Member state energy efficiency action plans, IPPC, SET plan.
 - (New) Buildings Directive Review, Action plan for Energy Efficiency 2006.
- COGEN Europe will focus promotion:
 - IEA DH and Cogeneration Collaborative
 - G8 ongoing activities on Climate Change
 - EU Parliament Energy Efficiency Watch

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Environmental State Aid Guidelines Review



- The State Aid review.
 - There is aid for energy efficiency
 - There is specific aid for cogeneration
 - The aid is aligned with that for renewables
 - The threshold for additional scrutiny of aid exceeds 5 million Euros or capacity if cogeneration plant is above 200MW
 - CHP Directive 2004/08/EC referenced
 - Support for cogeneration studies introduced
 - Operating support for plant currently operating which meets the Directive criteria
 - Capital support for cogeneration projects
 - Operating support for cogeneration project

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Directive promotion of high efficiency cogeneration



- 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)
- It includes
 - harmonised definitions* (micro-CHP <50kWe)
 - 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*



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Members States obligations



Member States provide:

- national potentials (instead of targets)*
- statistical data*
- progress reports*
- reports on Guarantee of Origin schemes*
- reports on administrative procedures and measures to eliminate barriers*
- notifications on state aid (for high efficiency CHP only)

*: in principle relevant for micro-CHP



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Commission obligations



The Commission:

- does analysis, screens reports and notifications
- reports to Institutions (EP, Council)
- investigates complaints (important role for industry, consumers, stakeholders)
- controls if support schemes respond to the criteria for high efficiency cogeneration; only such schemes will be entitled for state aids
(in cooperation with DG Competition)
- develops new initiatives



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Comitology process



- A study has been launched to help the implementation process (committee procedure) 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 |
| • 03.07.2006 | Fourth committee meeting |
| • 13.12.2006 | CHP expert meeting |
| • 06.03.2007 | Fifth committee meeting |
| • 13.12.2007 | Sixth committee meeting |



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Work in progress for the CHP Directive



- Realised:
 - Official adoption of the harmonised efficiency reference values by the Commission on 21.12.06
 - Publication in the OJ on 06.02.07
 - Development of a common Guarantee of Origin in cooperation with the AIB
- Conferences and other dissemination activities (brochure)
- In progress:
 - Preparations for a seventh committee meeting
 - Discussions with Member States and Stakeholders on
 - guidance for decision on reference values
 - detailed guidelines
 - transposition issues



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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%



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Reference values for heat



		Steam*/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%



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Detailed Guidelines



- Need to have guidelines for full implementation of the CHP Directive:
 - States and explains the main definitions of the directive
 - Defines the boundaries of CHP units
 - Tells how to implement annexes II and III
 - Provides details for the determination of electricity from cogeneration (Annex II)
 - Provides details for the determination of efficiency of the cogeneration process (Annex III)

The “reference values” and the “Guidelines” are fundamental elements for Members States to complete the transposition of the Directive; their adoption is therefore important



Guarantees of Origin (1)



- 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, officially adopted by the Commission on 21.12.06
- Schemes for CHP-GO are not necessarily linked to national support schemes for CHP, but this is allowed.





Guarantees of Origin (2)



- 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
- After this it is up to the Member States and their designated competent bodies to join the AIB CHP-GO system. But there will be a push for harmonisation of CHP-GO in 2007-2009 under the EEAP.





Accompanying measures



- Supportive actions:
 - 26.01.2005 Workshop on CHP statistics (Eurostat with DG TREN)
 - 30.06.2005 Workshop on Guarantees of Origin (DG TREN)
 - Workshops for Member States (JRC with DG TREN)
- Other actions:
 - Scrutiny of legislation and support systems for CHP
 - Scrutiny of CHP projects co-funded by the EU, EIB, EBRD
 - Contacts with market players and stakeholders
 - Exploring new developments (micro-CHP, trigeneration, Biomass Action Plan)



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Cogeneration in perspective and future



- Biomass Action Plan, Forestry Action Plan
- Grid access: Infringement procedures (RES)
- Other Directives (Buildings, Energy Services)
- Action plans following the Green Papers
- Proposal for RES-Heating and Cooling and RES-E
- Financing from: IEEA, FP6/7, DG REGIO, EIB, EBRD, World Bank



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Micro-cogeneration in perspective and future



- CEN Workshop Agreement on grid connection
- CEN European Norm for micro-CHP appliances (IEE)
- Minimum Efficiency Requirement (IEE)
(Eco-design measure? Separate Directive?)
- Review of Grid access Regulation 1228
(ELEP, DG-GRID studies)
- Role for Member States, European Heating Industry, Notified Bodies, installers, Energy Agencies, ESCOs, gas industry, regulators, grid operators, consumers, ...



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Micro-cogeneration in perspective and future



- CHP initiative for Call for proposals in IEE relevant for micro-CHP:
 - practical transposition of the CHP Directive (training, best practice, barriers and procedures, ...)
 - grid connection and minimum efficiency
 - support schemes
 - training for installers of micro-CHP



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Promotion of energy end-use efficiency and energy services



(2)

Contents:

- Clear definitions
- Savings target for energy end-use in Member States (9%/9 yr)
- Savings obligation for public sector
- Obligation on energy suppliers to offer energy efficiency improvement measures or energy services
- Promotion of Energy Service Companies, quality energy auditing, improved metering and billing, innovative tariffs and certification of providers
- Measures for Third-Party Financing, performance contracting and possible energy efficiency funds



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Time line



Original 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 for 2007

21 August 2006 MS to apply a system of Guarantees of Origin (originally)

21 February 2007 MS report progress of implementation to the Commission

6 August 2007 MS to put in place a system for Guarantees of Origin (real)

21 February 2008 The Commission reviews the application of the Directive

21 August 2010 the Commission requests 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



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Strategic Energy Technology Plan



- High points:
 - Calls for a step change in energy efficiency
 - Technology Map
 - Separate section on CHP
 - CHP current installations and potential identified
- Low points
 - Incorrect statements about the efficiency of electricity generation from cogeneration
 - Fundamental lack of focus on Heat

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Renewables Framework Directive



- Strong support for biomass
- Specific reference to District heating without reference to cogeneration
- Recognises that support should be given preferentially to biomass particularly where it is used in cogeneration plants.
- Sets high efficiency targets for combustion of biomass
- Some alignments between CHP Directive and Renewables needs to align around GOO.
- Allows biomass may receive both CHP and renewables credits/supports but unclear on this point
- Opens door for recommending the most efficient use of biomass

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Likely Timetable to publish the Guidelines for CHP Directive 2004/08/EC



- Commission aim to circulate draft of the guidelines Q1 2008 for comments before final editing.
 - Comments on Commitology requested by 15 January
 - COGEN Europe expert meeting Feb 6th Brussels
- Further stages:
 - Inter departmental review of guidelines
 - 3 month review period in Parliament
 - Final publishing
- Estimated completion (CE) December 2008



Spring and Summer 2008



- CHP Directive Guidelines completion
- ETS Review and Renewables Directive move to Parliament and Council for consideration; February 26 first discussions in EP;
- IPPC moves to Council for consideration;
- Phase 3 of energy market liberalisation;
- Energy Efficiency unit established in DG TREN : responsible for Buildings Dir, Energy Services Dir , Action Plan on Energy Efficiency, and CHP Directive.
- Energy Commissioner says he will concentrate in his last 1.5 years on energy efficiency action.

- G8 meeting in Japan (June 2008)
- Review of Buildings Directive;
- Energy Efficiency Action Plan : efficiency for micro-chp and district heating schemes.

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The Message for 2008



Go after national potential!

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