

Position paper on the Energy Efficiency Directive

23 September 2011



COGEN Europe welcomes the European Commission's actions to ensure that Europe's poor progress towards its 20% energy savings target must be corrected. The new Energy Efficiency Directive (EED) combining the scopes of the Energy Services Directive 2006 and the CHP Directive 2004 highlights that energy efficiency gains can be made along the full energy supply chain.

To make the EED effective in its aim of generating real growth in cogeneration in Europe COGEN Europe recommends that the EED should:

- **Maintain the full methodology and primary energy measures** of the Directive 2004/8/EC to support investor confidence and the smooth growth of the sector;
- Reinststate within this new Directive the lapsed links between the Renewable Energy Directive and the CHP Directive including **priority of dispatch** as highlighted in the European Commission's proposal of June 2011;
- Require Member States to **develop effective heat plans with clear enabling and support measures** such that cogeneration rapidly becomes the default option for thermal electricity generation and industry is encouraged to generate electricity for its own and public use;
- **Require Member States** either through linking their heat plans to the exiting provisions of the text or through new provisions **to commit to a timescale** for implementing the identified growth plan for cogeneration;
- Encourage the deployment of **micro-CHP** by simplifying the associated authorisation processes and supporting in the metering and billing provisions the range of new supply and load management opportunities which micro-CHP enables.

COGEN Europe is the European association for the promotion of cogeneration. 11% of Europe's electricity is provided by cogeneration plants today. COGEN Europe represents 70 members which are National COGEN organisations, Pan European Companies and associated members and the interests of 100,000 European employees in the cogeneration sectors. The EU has a large unexploited cogeneration potential that is economical but not realized due to market and regulatory barriers.

COGEN Europe comments on the COM (2011) 370:

1) COGEN Europe welcomes the important continuity between the EED text and the CHP Directive 2004/8/EC. This sends a clear signal of policy commitment and consistency of approach by the European Commission which is welcome to existing and new investors. COGEN Europe highlights the following points which must be maintained within the EED arising from the existing legislation 2004/8/EC:

- **Maintain primary energy savings as the metric throughout the Directive:** using primary energy savings as the metric links directly to Europe's 2020 energy savings target (which is quoted in terms of Primary Energy) and is appropriate for a Directive which deals with the full energy supply chain;
- **Maintain the methodology established under CHP Directive 2004/8/EC of calculating high efficiency cogeneration including reference values and the associated guidelines (Annex I & II of EED).** The methodology has successfully clarified and standardised the meaning of high efficiency cogeneration and has been thoroughly reviewed and agreed by the Member States. Member States, investors and their advisors have developed detailed expertise of and experience in designing and operating plant in accordance with this methodology. It's continuity removes investor risk and supports the aim of the new EED to strengthen the sector. New legislation which is not firmly bedded in the existing methodology risks investor anxiety and additional financial risk.

2) COGEN Europe welcomes that the EED re-instates lapsed legislative links (2001/77/EC and 2003/54/EC) established by the European Parliament in its CHP Directive 2004/8/EC and which recognises the need to guarantee the transmission and distribution of cogenerated electricity. Cogeneration is a highly efficient use of primary fuel. This requires that both the heat and the electricity are put to a useful purpose and that neither is wasted.

- **Grid connection and project authorisation remain the most frequently quoted barriers by cogeneration project developers¹.** The wider deployment of cogeneration requires removal of the remaining difficulties encountered in physical connection of new plant to the electricity grid. Lack of public information on the structure of the existing network, non-transparency and lack of perceived "fairness" in tariffs charged to cogenerators, length of time to process applications and to authorise projects all are regrettably still significant issues for new cogenerators. The elements now contained in article 12 &

¹ Observatory and Dissemination Europe 2009-2011, CODE Project (IEE/07/564/SI2.499462), <http://www.code-project.eu/>.

Annexe XI establish that a practical and fair set of conditions for cogenerators should be established under which timescales, costs and risks of new projects are clarified;

- **Priority access and dispatch for cogenerated electricity.** All cogeneration processes are embedded in society. The efficient cogeneration designer must follow the heat demand and the plant must generate electricity accordingly. Cogeneration plants are embedded in schools, hospitals, industry, commerce and agriculture primarily supplying heat. It follows, therefore, that at times or in cases where all the electricity generated cannot be used on site, the remainder must be put on the grid and dispatched as and when it is generated. Both the heat and the electricity must be used effectively.

3) COGEN Europe welcomes the provisions in Article 10 recognising the importance of heat in Europe's overall energy demand and within that the need to use cogeneration more widely as the default approach:

- **The requirement for the development by member states of national heating and cooling plans** for “Developing the potential for the application of high-efficiency cogeneration and efficient district heating” builds on the **cogeneration potentials studies already carried out** by member states under the CHP Directive 2004/8/EC. These plans linking to the regional and local plans of Member States will develop awareness of the existence of large heat users which singly or grouped can benefit from cogeneration. These plans can usefully be linked to article 10 paragraph 2 and to the authorisation of power plant (article 10 paragraph 3 onwards). Member States should be required to explicitly link the projections and enabling measures under the heat and cool plan (Annex VII par.1 (f)) to their plans for expanding CHP and their national energy savings target;
- **The requirement of utilities and industry to consider in detail using cogeneration rather than condensing plant** is a strong move to address the huge inefficiency of traditional condensing electricity generation. **Today** the thermal plants on the electricity network are operating at an **average efficiency from generation to end use of less than 40%**. Aided by the national heating and cooling plans, utilities seeking authorisation for new build or refurbishment will identify large heat customers, and many smaller heat consumers as customers of embedded cogeneration and heating networks. Considering the remote location of many existing power plants the most practical CHP application on these brown field sites may be providing heat as steam to an industrial process nearby. **There is no doubt that potential heat loads exist.** Member States in their national potential assessments² under the CHP Directive 2004/8/EC

²CODE European Potentials for cogeneration, December 2009, <http://www.code-project.eu/wp-content/uploads/2010/02/290110-CODE-European-summary-report1.pdf>

identified above 100 GWe of additional economic CHP. Industry studies (e.g. Eurelectric Power Choices³) and the EED impact assessment also supports this;

- **The required national heat and cool plans will play a key role** if the provisions of article 10 are to result in the required outcome of primary energy savings. Hence **the measures mentioned in Annex VII** must be demonstrably capable of producing a shift to an energy strategy where CHP is the default mode of operation for all new electricity capacity and all new industrial sites requiring heat⁴. The measures **must create the necessary authorisation processes and assist both utilities and industry** to develop good business models around their cogeneration or district heating plant. This will involve measures addressing elements of the heat market and measures encouraging institutions to provide affordable capital. Measures to help parties realistically managing shared risk in the case of a utility/third party contract, will need to be developed and strengthened;
- **The requirement for an industrial facility with a thermal input greater than 20 MW to use cogeneration is welcome.** Industrial facilities normally require more heat than power and efficient heat provision will be achieved by employing a CHP plant with excess electricity sold via the grid. Similarly industries with a high demand for electricity should logically first apply cogeneration to their own main processes, generating electricity for their own use and then consider selling heat to a third party either as steam to another industry or as low temperature heat to district heating. Many individual industrial players will see risks in taking on a cogeneration plant. This is because CHP involves more complex technology than a heat only boiler and selling to the electricity market is an additional risk;
- **The measures in Annex VII must include at Member State level a sufficiently stable policy structure** to help mitigate these risks and to encourage industry and utilities to move into cogeneration. Furthermore, in order to encourage the new models of use of cogeneration **real progress in developing a market for energy services is necessary.**

4) The Article 10 presumption that new and upgraded electricity generating capacity will be CHP is at risk of being neutralised by inappropriate application of the cost benefit analyses referred to in paragraphs (4), (6), and (8). Cost benefit analyses must be carefully designed to include the full benefits of cogeneration many of which accrue at the member state, electricity network and societal level. The assumptions used in the analysis must be well documented and transparent.

³ "Power Choices" Eurelectric, June 2010.

⁴ It is inevitable that cogeneration will not be appropriate in all industrial applications. Industries requiring heat at above 400 deg C, for example are not suited to cogeneration.

5) There is little in the EED text that is working to achieve **measurable growth** in cogeneration. **Articles 10 and 12 could achieve some improvement** but the absence of **timescale** in either of these means that the rate of progress will be hugely variable.

- The Member State national heating and cooling plans must link directly and explicitly to a contribution by cogeneration to the Member State's energy savings objective based on and linked to the Member States own assessment of the cogeneration potential.

6) **Micro-CHP is an innovative and highly efficient energy solution for homes** in which Europe is currently leading the market globally. Micro-CHP is a **particularly good solution** for tackling energy efficiency improvement in the **mature building stock** of many European member states particularly with a large installed base of gas boilers and difficult construction footprints.

- **Article 12** must include a provision for network operators to allow installers to adopt an **"install and inform" process for the installation of a micro-CHP unit** rather than requiring a lengthy permitting procedure. This process has been successfully proven and adopted in the UK and the Netherlands;
- **Article 8** must strengthen the elements around billing and metering relating to the citizen, and **enabling new business models to emerge**. Distributed generation of electricity even at the individual citizen level is now a reality. As more individuals and entities become engaged in generating electricity and heat and use new approaches to procure both, more flexible ownership models of multiple co-ordinated electricity generators providing services of supply and energy storage will start to emerge. This will enable valuable new services for the smart grid and the higher penetration of renewables. The text in Article 8 needs to enable the emergence of these markets.
