



HELLENIC REPUBLIC
MINISTRY OF DEVELOPMENT



Progress report on the Harmonization procedure of
Directive 2004/8/EC in Greece regarding High Efficiency
Cogeneration of Electricity and Heat

November 2008

1. Activities undertaken between 2005-2008

The harmonization procedure regarding the CHP directive 2004/8/EC in Greece includes a number of actions undertaken by the Greek Ministry of Development which are described below.

The first initiative was the definition of feed-in tariffs for high efficiency CHP which was included in Law 3468/2006. In this Law the permitting procedure for high efficiency cogeneration installations was defined, as well as the level of feed-in tariffs for high efficiency CHP derived from conventional fuels or from RES. The new Law for renewable energy sources and CHP was voted into legislation on June 6, 2006. When this Law 3468/2006 (Govt. Gazette 129/A/27.6.2003) "Generation of Electricity with Renewable Energy Sources and High Efficiency CHP and other Provisions", came into effect, a new legal framework was introduced for issuing generation, installation and operating permits for electricity generation using renewable energy sources and high efficiency CHP, for the purpose of supporting the implementation of investments in renewable sources of energy and high efficiency CHP sectors. This law came into effect on the 27th of June 2006.

Since then the Hellenic Transmission System Operator is purchasing the electricity produced by high efficiency CHP installations based on the electricity absorbed from the grid from such installations.

The second phase of the harmonization procedure was the temporarily named "New CHP Law". A preliminary discussion has taken place in the Greek Parliament in July 2008 and the final discussion is starting on the 2nd of December and the whole process of passing the law will be completed about 10-12 days after.

The history behind the formulation of this Law is as follows:

- | | |
|---------------------------------|--|
| 21 st of April 2005 | : A Harmonization Committee was established |
| 23 rd of August 2006 | : A draft of the new Law was submitted to the government by the Harmonization Committee. |
| 20 th of July 2006 | : A working group for the preparation of a Legal Document was established. |

- 4th of June 2007 : The Legal Document was delivered to the Ministry of Development.
- July 2008 : A draft of the new Law was submitted to the parliament for preliminary elaboration.
- 2nd of December : Final Discussion for voting the Law was initiated in the Greek Parliament

A study on the National CHP Potential was conducted by the Ministry of Development between August 2006 and August 2007. A pool of 20 National experts on CHP and energy systems analysis participated in this study. The Centre of Renewable Energy Sources (CRES) which is the National Energy Agency in Greece, supervised by the Ministry of Development, was the implementing organisation. This study was sent to the European Commission at the end of August 2007 as an "Advanced Draft under Approval"

However, due to the elections of September 2007 and the dramatic change in oil prices in 2007-8 the report on the National CHP Potential had to be revised and a new version was prepared in November 2008.

2. Administrative Barriers for CHP in Greece

2.1 Permitting Procedure for CHP Systems

Various civil service branches are involved in different phases of the permit process for CHP installations, such as the prefectural and local authorities, offices of different Ministries with differing structures, which for such complex projects create significant delays in evaluating a CHP investment, especially in its beginning stages.

In the so-called "Phase B", a noteworthy delay occurs, especially concerning the approval of the environmental impact study for CHP systems by the Ministry of Environment, Spatial Planning and Public Works. It is observed that the approval of the environmental impact study is a time consuming process which, in many cases, takes up to 6 months.

In order to assist small or very small CHP, a proposal was prepared by the Ministry of Development to facilitate the permit process for such units, in order to be exempted from submitting a Preliminary Environmental Impact Study, as long as the proposed equipment

has been tested for the amount of reduction in NO_x in the manufacturer's specifications and is certified by laboratory measurements of the CHP system (test bed results).

This can be done, if the Ministry of Environment recognizes and analyzes the two basic categories of CHP systems:

- 1) Those which require environmental assessment and a regular monitoring process have an installed capacity of more than 1MWe and are installed in industrial areas or in cities, mainly in the tertiary sector.
- 2) Those which require environmental assessment, once for each type of technology and thereafter a follow up sampling procedure is required. This concerns standardized small and very small CHP units up to 1MWe.

The Ministry of Environment, should it accept and qualify the above mentioned key-arguments, can begin without any further delay the process of evaluation and rating of CHP systems by category and set scientifically sound levels for air pollutant emissions from these systems. In this way, a longstanding problem in the environmental licensing of CHP systems will be solved, since all the organizations involved in licensing, both in Athens and the Regions, which now play an important role, according to the provisions of Law 3469/2002, will have clear regulations for preliminary environmental assessments of CHP and high efficiency CHP.

Until Law 3468/2006 came into effect, other permits, except for preliminary environmental assessment, which are approved by the Regulatory Authority for Energy (RAE) and the Ministry of Development, had a fixed approval process and did not create any particular problems for the investor. However, the recently enacted Law 3468/2006 transfers responsibilities to the Regions. Up to now there has been no significant experience with the time required for approval of permits for the operation of CHP systems by the Regions, as Law 3468/2006 requires.

2.2 Other Institutional Barriers

There is a lack of ESCOs in the Greek market which could better promote certain CHP applications. It is anticipated that the harmonization of Greece with Directive 2006/32/EC will help in this direction.

The enactment of TPF will partially solve the problem of the ownership of the equipment during operation, but only for auto-producers. A corresponding regulation which will include

independent producers will improve the situation so that time consuming procedures will not be required for safeguarding the ownership of the equipment of the independent investor, which is located on the premises of the consumer of the thermal energy generated.

2.3 Coordination of the Responsible Organizations

The organizations responsible for the penetration of cogeneration and the development of related activity are mainly the Ministry of Development, the Public Power Corporation (PPC), the Operator of the Transmission of Natural Gas, the Public Gas Corporation, RAE and Hellenic Transmitting System Operator (HTSO), as well as the private sector in the form of prospective consumers and the companies which support the construction, installation, sale and maintenance of the mechanical equipment for cogeneration.

The Ministry of Development, as the national body for energy strategy and policy, is interested in reducing the dependence on imported fuels, increasing energy efficiency and meeting the environmental goals associated with the use of energy, especially in the framework of recent European legislation. Cogeneration covers these goals to a great extent and promoting it on a national level is justifiable. In addition, the transition from oil to natural gas, which is a consequence of cogeneration, in most cases is greatly desired for reducing dependence on petroleum.

Lastly, RAE and HTSO are interested in supporting cogeneration given that it is the suitable technology for “distributed generation” which can solve problems of load management.

The Gas Distribution Companies are the most interested in increasing the market share for gas, and consequently have a favourable view of the wider use of CHP, a technology which is based on the use of natural gas.

Besides the main responsible organizations, there are others, which if they are rationally included in a National Action Plan, could contribute to its success. These are the entire banking system, leasing companies, local authorities and the Ministry of the Environment.

To ensure the implementation of a robust policy for CHP, the Ministry of Development, as the leading authority for energy, has taken the initiative to inform all the bodies involved on the problems of CHP which are related to their responsibilities and coordinate them for the implementation of a programme to support CHP policy. This was done by organizing a series of meetings of the responsible bodies with the investors in the context of the 3rd Community

Support Framework Programme (3rd CSF), so that the problems are understood by all sides and a common effort at solving them will be organized.

3. Guarantees of Origin

As mentioned above based on Law 3468/2006 the HTSO is paying to the high efficiency co-generators the feed-in tariffs foreseen in the Law. For the time being the fact that these installations are high efficiency CHP installations is verified by reports submitted by the owners of such installations to the Ministry of Development. A problem occurs under this procedure related to the fact that there is a need for legal definition of CHP which is a task that will be completed during December 2008, through the new CHP Law and the need for a certification of electricity produced by high efficiency CHP, which requires monitoring of the thermal part of each high efficiency CHP installation.

The certification of electricity derived from high efficiency CHP is foreseen in the context of the establishment of a new entity for "Monitoring Energy Efficiency and RES" which will be technically supported by the Centre for Renewable Energy Sources. A study has been already conducted to define the operation of this entity and a steering Committee was established to accelerate all the necessary procedures.

Having the appropriate infrastructures available (already established at CRES) the new entity will allow the Ministry of Development to be in a position to grant the foreseen under Directive 2004/8/EC guarantees of origin for CHP, along with coordinating other aspects of monitoring and promoting energy efficiency, rational use of energy, RES and CHP in Greece.