

# **Currently effective legal regulation of the cogeneration of heat and electricity in Hungary**

(report in accordance with Article 10(1) of Directive 2004/8/EC of the  
European Parliament and of the Council, containing the elements listed in  
Article 9(1)-(2))

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## **I. LEGISLATIVE FRAMEWORK**

Effective legislation on combined heat and power production is as follows:

### **Acts**

- Act LXXXVI of 2007 on electricity (hereinafter referred to as the ‘Electricity Act’)
- Act XVIII of 2005 on district heating services

### **Government Decrees**

- Government Decree 389/2007 (XII. 23.) Korm. on the mandatory off-take and purchase price of electricity from energy obtained from renewable energy sources or waste and of cogenerated electricity
- Government Decree 273/2007 (X. 19.) Korm. on the implementation of certain provisions of Act LXXXVI of 2007 on electricity
- Government Decree 157/2005 (VIII. 15.) Korm. on the implementation of Act XVIII of 2005 on district heating services
- Government Decree 382/2007 (XII. 23.) Korm. on official construction licensing procedures in the electricity industry

### **Ministerial Decrees**

- Decree 119/2007 (XII. 29.) GKM on electricity system use fees
- Decree 110/2007 (XII. 23.) GKM on the calculation method for determining the amount of high efficiency cogenerated electricity and useful heat
- Decree 91/2007 (XI. 20.) GKM on the public administration service fee rates payable to the Hungarian Energy Office and on the rules of payment of administrative service and supervisory fees

## II. GENERAL DESCRIPTION

In accordance with Directive 2004/8/EC on the promotion of cogeneration based on useful heat demand in the internal energy market, Hungary has created its certificate of origin scheme for electricity from **high efficiency cogeneration processes of heat and power based on useful heat demand** (hereinafter referred to as '**cogeneration**'). Pursuant to Directive 2003/54/EC concerning common rules for the internal market in electricity, establishing, operating or increasing the capacity of electricity generating equipment, as well as the suspension of production or the closing-down of generating equipment is subject to an authorisation procedure; such activities may be performed on the basis of an authorisation issued by the Hungarian Energy Office in accordance with Article 74(1) of Act LXXXVI of 2007 on electricity.

Energy from cogeneration, as well as cogeneration capacities have increased significantly since 2003, and the amount of electricity from cogeneration has also increased over the recent years.

Additionally, as the market covered by the act on district heating services is becoming saturated, one can observe efforts by the investors to access markets other than in district heating, typically by building small cogeneration plants with a unity power factor of less than 6 MW.

The market for centralised cooling energy is not widespread in Hungary to the extent apparent in international practice. The strengthening of this market is expected to give significant impetus to the selling of cogenerated cooling energy and electricity.

**We currently do not see any legislative or regulatory barriers to the spreading of cogeneration**, but as economically satisfiable heat demand in one of the largest markets for heat, district heating, is satisfied nearly entirely from cogeneration, further opportunities for growth are very limited.

### III. AUTHORISATIONS REQUIRED FOR ESTABLISHING COGENERATION PLANTS, AND OTHER PROCEDURAL RULES

The following authorisations and procedures are required for cogeneration plants, depending on the characteristics and conditions of the plant:

#### 1. Conditions for activities (establishment and operation) - electricity

- a) the establishment of micro plants of less than 0.5 MW capacity or generating electricity in such plants is not subject to an authorisation
- b) the establishment of small plants of 0.5 MW capacity or higher, or electricity generation in such plants is subject to a consolidated authorisation for small plants
- c) the establishment of plants of 50 MW capacity or higher, electricity generation in such plants, or the extension of the plant or increasing its capacity as specified in separate legislation is subject to an authorisation for establishment and a separate operating licence.

Article 74(1)b) of the Electricity Act stipulates that the selection or changing of the primary energy source for a **small plant** of 0.5 MW capacity or higher, the establishment of such plants, electricity generation in such plants, the suspension or discontinuation of generation, or the closing-down of such small plants is subject to authorisation. Such activities may be performed subject to an authorisation issued by the Hungarian Energy Office (hereinafter referred to as the 'Office'):

From this it is obvious that the establishment of or electricity generation in micro plants of less than 0.5 MW capacity is not subject to an authorisation; in the event of micro plants, only their connection to the electricity grid is subject to certain conditions.

Pursuant to Article 80 of the Electricity Act, a simplified authorisation procedure is needed to establish a **small plant** of 0.5 MW capacity or higher.

Simplification means that the Office issues the authorisation for the establishment of the small plant and the authorisation for electricity generation (operation licence) together, in a single consolidated procedure (simplified authorisation procedure). In the event of electricity generating equipment (including equipment also for combined heat and power), a consolidated small plant authorisation shall be applied for at the Office. Consolidated authorisations cover the choice of primary energy source of the small plant, the establishment of the equipment and the generation of electricity.

Building of a small plant of 0.5 MW capacity or higher in accordance with Article 39 of Act LXXVIII of 1997 on the formation and protection of the architectural environment may only be commenced after a final consolidated authorisation for the small plant is notified. The deadline for construction is specified by the Office in the consolidated authorisation for the small plant, based on the information supplied by the applicant. The authorisation holder shall notify the Office and the transmission system controller of commissioning at least two months prior to the expected commissioning of a small plant of 0.5 MW capacity or higher. The consolidated small plant authorisation is issued for a specific duration and may be extended. The duration of the authorisation is determined by the Office on the basis of the application.

Establishment of, electricity generation in, extension of or increasing the capacity – as specified in separate legislation – of a **major plant of 50 MW capacity or higher** may be commenced only after having obtained an authorisation for establishment and an operating licence. An application for such authorisation shall be submitted to the Office in accordance with Article 81 of the Electricity Act.

**The authorisation procedures for small cogeneration plants (plants of less than 50 MW nominal electric capacity) with respect to district heating and electricity are different.**

## **2. Conditions applicable to the establishment and operation of facilities producing heat for district heating**

If a cogeneration plant produces heat for district heating as well, the operations are subject to the following provisions under the act on district heating services:

- a) the establishment of a district heating production facility of **less than 5 MW** is not subject to an authorisation.
- b) the establishment of a district heating production facility of nominal heat capacity of **5 MW or higher** is subject to a simplified authorisation procedure, provided that the aggregate nominal heat capacity of all equipment producing heat for district heating at the site is less than 50 MW;
- c) the establishment of a district heating production facility of nominal heat capacity of 5 MW or higher is subject to an authorisation procedure and requires an authorisation for establishment and a separate operating licence if the aggregate nominal heat capacity of all equipment producing heat for district heating at the site is **50 MW or higher**;

***District heating authorisation procedure:*** in the event of establishing cogeneration equipment, if the heat capacity is 5 MW or higher, an authorisation for the establishment of district heating production equipment shall be applied for at the Office (establishment of heat production equipment below 5 MW is not subject to authorisation). After the equipment is commissioned and the test run is successfully completed, an operating licence for the production of heat for district heating shall be applied for, regardless of the capacity.

Pursuant to **Act XVIII of 2005 on district heating services (hereinafter referred to as the ‘DH Act’)**, authorisations for the establishment of district heating production facilities as well as operating licences for producers of heat for district heating are issued or amended by the Hungarian Energy Office if heat and electricity is produced in such facilities separately or by cogeneration and if such heat energy is produced entirely or partly for district heating purposes.

Under Article 12(1) of the DH Act, the production and supply of district heating is subject to authorisation, regardless of capacity.

The establishment, extension, modification, capacity increase or decrease, changing of fuel (hereinafter referred to as ‘establishment’) as well as the closing-down of district heating production facilities of nominal heat capacity of 5 MW or higher is subject to an authorisation.

In the event of facilities of nominal heat capacity of less than 5 MW, only an operating licence for the production of heat for district heating shall be applied for and issued.

In the event of district heating production operations and establishment a **simplified authorisation procedure** is called for if the aggregate nominal heat capacity of all equipment producing heat for district heating at the site is less than 50 MW.

If the aggregate installed nominal heat capacity of all equipment producing heat for district heating at a site is less than 50 MW, the applicant for the establishment and operating licence in the simplified procedure pursuant to Article 12(5) of the DH Act need not comply with the provisions of Article 3(1)k) (designation of buyers of heat under an individual public utility contract, company name, address and amount) of the **Government Decree 157/2005 (VIII. 15.) Korm. on the implementation of Act XVIII of 2005 on district heating services (hereinafter referred to as the 'DH Act Implementation Decree')** or the provisions of Article 3(2)d) through g) of the DH Act Implementation Decree, i.e. they need not submit the contracts for the availability of energy sources to meet medium term district heating demand (5 years), the commercial contract signed with the district heating operator, a study on the effects of cultural heritage, or other authorisations required by law.

Applications for an authorisation of the establishment and operation of district heating production facilities shall be submitted to the Hungarian Energy Office as the authorising authority. If commencement of the operations for which the authorisation is applied for is subject to an environmental authorisation or single pollution permit, such authorisation/permit shall be attached to the application.

A commissioning procedure is to be conducted before the district heating production facility is put to use. After the commissioning procedure is successfully completed, an operating licence shall be issued for the district heating production facility upon request. The operating licence necessary for the operation of the district heating production facility is valid for an indeterminate duration.

The required content of the establishment authorisation and operating licence, as well as the rules applicable to the authorisation procedure and the issuing of permits/licences are specified by **Government Decree 157/2005 (VIII. 15.) Korm. on the implementation of Act XVIII of 2005 on district heating services**.

The non-discriminatory and objective operation of the authorisation procedure is ensured by the fact that the Office may only refuse to issue an authorisation if the conditions specified in legislation are met.

The operative part and the explanation of the authorisations/permits, amendments to and withdrawals of authorisations/permits concerning establishment and district heating production, issued by the Office by way of a final resolution pursuant to this act, shall be made public. The authorisations/permits concerning district heating production and district heating services, issued pursuant to the DH Act, as well as the explanation of such authorisations/permits shall be published within three work days in the official paper of the authorising body or in the usual local manner.

The following applications should therefore be submitted, in chronological order, when establishing a cogeneration plant with an installed electric capacity of 0.5 MW to 50 MW and a nominal heat capacity of 5 MW or higher:

***In the phase of choosing primary energy source:***

application for a consolidated small plant authorisation (under the Electricity Act)

***Prior to establishment:***

application for authorisation of the establishment of district heating production equipment (under the DH Act)

***Following establishment:***

application for an operating licence for district heating production (under the DH Act).

**3. Certificate of origin procedure to certify the amount of electricity from high efficiency cogeneration of heat and power**

Domestic introduction of the certificates of origin is prescribed in Article 12(1) of Act LXXXVI of 2007 on electricity. Pursuant to Government Decree 389/2007 (XII. 23.) Korm., a certificate of origin is a certificate on the amount of electricity (expressed in MWh) produced in the given calendar year from renewable energy sources or waste, and – in the event of cogeneration – on the amount of cogenerated electricity that meets the conditions of Decree 110/2007 (XII. 23.) GKM on the calculation method for determining the amount of high efficiency cogenerated electricity and useful heat.

In line with the directives, the domestic regulations are unambiguous as to the fact that obtaining a certificate of origin does not by itself imply a right to benefit from any national support scheme.

Pursuant to Article 8(1) of Government Decree 389/2007 (XII. 23.) Korm, sellers are required to obtain proof in the form of a certificate of origin after the subject year that the given amount of electricity produced and sold by them in the subject year met the requirements specified in the decree, plus – in the event of cogeneration – the requirements of Decree 110/2007 (XII. 23.) GKM. The amount of electricity sold in the mandatory off-take system may not exceed the amount of electricity covered by the certificate of origin for the relevant year.

Applications for a certificate of origin shall be submitted no later than the 28<sup>th</sup> of February following the subject year.

To decide the application, the Office may request additional data and information from the applicant, the buyer of heat and/or electricity or - in the event of feeding into the public natural gas network – from the producer of the biogas, specifying a deadline for submission.

In accordance with the provisions of Directive 2004/8/EC, certificates of origin for electricity from high efficiency cogeneration of heat and power are suitable for producers of electricity as proof of compliance of the electricity produced by them with the conditions specified in the relevant decree.

Certificates of origin contain the data specified in Annex 11 to Government Decree 389/2007 (XII. 23.) Korm. Therefore ***certificates of origin contain the following:***

**Certificates on the origin of high efficiency electricity cogenerated together with useful heat energy shall contain the following:**

- a) serial number of the certificate



- b) name and seat of the producer,
- c) designation of the period (calendar year) in which the energy was produced,
- d) designation and address of the site where the electricity was produced,
- e) designation, identification detail and model of the equipment,
- f) nominal thermal and electric capacity of the equipment,
- g) designation, calorific value and amount of the energy resource(s) used for energy production,
- h) the amount of electricity cogenerated together with high efficiency heat energy,
- i) the power to heat ratio ( $\sigma_{\text{nominal}}$ ) of the plant,
- j) the partial efficiency and overall efficiency values for heat production and the production of electricity,
- k) the reference efficiency value used to calculate energy savings (heat production and electricity production),
- l) the primary energy resource savings expressed as %,
- m) the manner and purpose of using cogenerated heat energy.

#### **4. Procedure for connecting cogeneration heat production units to the grid (non-administrative procedure)**

The technical and administrative conditions of connecting cogeneration units to the grid are stipulated in the ‘Electric grid connection and grid use regulations’, found in Annex 2 to Government Decree 273/2007 (X. 19.) Korm. and in Decree 117/2007 (XII. 29.) GKM on the financial and technical requirements for connection to the public electric grid.

Specific rules for the connection of small cogeneration units (whose installed electric capacity is less than 1 MW<sub>e</sub>) and micro units (whose installed electric capacity is below 50 kW<sub>e</sub>) to the grid are stipulated in the Electric Supply Regulations (Villamos Ellátási Szabályzat), with small cogeneration units being covered by annex 6/a of the Distribution Regulations and micro units being covered by annex 6/b of the Distribution Regulations.

Article 27 of the Electricity Act requires the transmission system controller and the distribution grid licence holder – who is authorised to enable connection – to provide information on the technical and economic conditions of meeting the needs of the system user and to work with the system user to determine the most favourable manner of discharging or feeding.

If a distribution grid licence holder refuses to grant connection to the transmission grid or the distribution grid, they are required to specify the conditions which must be met for the connection to be granted. If such conditions can not be met, the transmission system controller and the distribution grid licence holder shall – subject to technical feasibility – offer another connection point where connection can be established. At the request of the system user, the Office shall review whether a refusal of connection was lawful. If connection was refused in a manner not compliant with the statutory regulations, the Office shall issue a resolution to require the given grid licence holder to enable connection to the transmission grid or the distribution grid, as appropriate.

### III. SUMMARY

1. From the legislative provisions described above it can be determined that there are no legislative barriers to the growth of cogeneration, as the authority authorised by statute to issue authorisations and certificates of origin, i.e. the Hungarian Energy Office is an organisation wholly independent from market players.

The Office is required to issue the authorisations for the establishment or operation of new generation units if the application for authorisation meets the statutory requirements and includes the annexes and required content specified in advance in the legislation.

The non-discriminatory and objective operation of the authorisation procedure is ensured by the fact that the Office only refuses to issue an authorisation in the cases specified in legislation, especially in the following cases

- statutory provisions are not fulfilled, statutory conditions are not met,
- the applicant does not possess the financial, economic and technical resources or technical staff required – as specified in separate legislation – for the continuous long-term performance of the activities described in the application, or fails to meet the energy efficiency requirements,
- there is a bankruptcy or winding-up procedure ongoing against the applicant,
- any authorisation of the applicant or any of its legal predecessors were withdrawn in the ten years preceding the submission of the application for authorisation,
- the applicant communicated misleading or untrue data.

2. The fact that the Office issues an authorisation for each lawful applicant ensures that – even without organising and conducting tender procedures – it is possible for any undertaking to establish a new cogeneration unit; therefore Article 9(2) of Directive 2004/8/EC is not applicable to Hungary.

3. In line with Article 9(1)d) of Directive 2004/8/EC, the Office acts in a transparent manner in compliance with the requirements of equal treatment when authorising new production capacities, having regard to the following priorities:

- a)* the safety and security of the electricity system and its components;
- b)* protection of public health and safety;
- c)* protection of the environment and of nature;
- d)* siting;
- e)* improving energy efficiency;
- f)* priority of renewable energy sources;
- g)* using advanced technical solutions;
- h)* the security of electricity supply;
- i)* the protection of users.

This is also demonstrated by the fact that the conditions for granting authorisations are stipulated in the Electricity Act and in the detailed legislation concerning its implementation, and are accessible for all market players. The responsibilities and rules of procedure of the authority granting authorisations and issuing certificates of origin are also stipulated by law.

4. The authorisation procedures for cogeneration, which meet Article 9(1) of Directive 2004/8/EC, do not comprise an excessive administrative workload. Administrative duties are proportional to the capacity of the plant to the necessary extent. Easier, simplified authorisation requirements and procedural rules apply to small plant units; for micro plant

units, authorisations specified in the Electricity Act are not even required, therefore they can truly be established easily and quickly.