

# The Long Term Service of the Environmental Protection with Administrative Set of Tools in Hungary

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## Abstract

This publication is about decreasing the energy performance of building based on the directive 2002/91/EC. To meet the requirements the Hungarian government has issued Hungarian public administration has issued Government Decrees 176/2008 and 7/2006 about energy certification of buildings. We would like to show the reasons for it. We also intend to speak about energy certification of the buildings and about the term: “Passive houses”

## Key words:

fossil fuels, liberation of the nuclear energy, geothermal energy, heat and electrical energy, reduction in energy consumption, energy rating of the building, passive houses, Energy Performance Certificate

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## Introduction

It has been proven by statistical data that 45-50% of the energy consumption is used in the field of building and running (operating) of establishments (buildings). Therefore, to ensure a long-term sustainable development, the European Parliament and the Council has issued directive number 2002/91/EC on the energy performance of buildings which prescribes for the member states compulsory implementation of the internal rules to make it possible for the principles (requirements) set out in the directive to become to come into force no later than January 4, 2006.

In the present article I wish to speak about the fact how has Hungary met these requirements using administrative set of tools.

1.

The production of any type of energy (whatever type it may be: electrical energy, thermal energy or mechanical energy) is based on the following:

- burning fossil fuels;
- liberation of the nuclear energy in a controlled manner;

- direct use of the solar, wind, hydro and geothermal energy or the consumption of these energies.

Currently all over the world the most popular form of energy is the heat and electrical energy and the significant part of it is gained via burning of fossil fuels (gas, oil and coal), and it has a polluting effect and leads to the formation of carbon monoxide, carbon, carbon dioxide, sulphur dioxide and sulphur trioxide (as a process of burning)

Significant part of the energy users/consumers consist of residential, educational and office buildings as a result of their consumption of hot water and heating in the winter. Due to it they are – at least in Hungary – directly or indirectly polluting our environment.

There are approximately 4.5 million households in Hungary. It is the same as approximately only few hundred thousands of polluting companies. That is why the regulation of their usage of energy has absolute priority.

To change this situation Hungarian public administration has issued Government Decree 176/2008 and 7/2006 about energy certification of buildings.

The reasons were:

- The bigger is the building (flat or house), the more energy is needed for its heating, the more it's polluting the environment;
- a building sometimes is built for the period of time of 100 years or more, that's why it's very important to prevent it from consuming too much energy;
- in the field of the real-estate trade and in case of leasing the buildings we have to make sure that the energy status of the building is in force.

These directives guarantee that residential, educational and office buildings can get construction permit only if their energy consumption does not exceed a certain level laid down in these directives. The energy consumption level depends on the function of the building.

2.

Energy Performance Certificates define the energy rating of the buildings. The energy labelling of the buildings is done on a scale from A+ to I according to Annex 3 of the Government Decree 176/2008:

A+	Low Energy
A	Energy Efficient
B	Better than Required
C	Complying with the Requirement
D	Approaching requirement

E	Better than average
F	Average
G	Approaching average
H	Poor
I	Bad

At the present moment public administration via local agencies apply intervention in the energy rating of the buildings in these cases:

- It doesn't allow building schemes if the calculations demonstrate that the building do not comply with energy requirements;
- you are eligible for social housing subsidy (the reduction in price may be millions of HUF) only if the building you intend to buy got an energy rating (meets the requirements) which is equivalent to at least "B" ("Better than required" classification);
- it financially supports (via tenders) condominiums (owner occupied apartment buildings) seeking to improve their current negative energy rating, which must be verified by a certificate;
- in case of selling or buying a real estate the fact that this property has an energy rating should be mentioned in the contract and the contract has to contain the number of the certificate as well.

Currently the regulations does not include the fact, that the Land Registry Office (The registration in this office is compulsory for the deed to come into effect) in case of the sale and purchase of a real estate / in case of change in the ownership does not need to state the exact energy rating of the building. The Land Registry Office checks only the fact, that the sales contract (edited by lawyers) includes the energy certificate number.

The energy certificate becomes authentic after the following actions: the expert prepares the full documentation needed for the certificate, sends the draft certificate electronically – using his own password to the central IT Unit (via a customer portal, the IT Unit checks it, verifies it, notifies the expert if a fault is detected, they communicate with the expert and correct it in an on-line mode, afterwards they send the certificate back validating it with a unique number and a special code.

The energy certification of every building is done this way, and the land register of the Central Unit (Server) shows the specific energy requirements of the buildings (kWh/ m<sup>2</sup> / year) in every region, city and district.

Relying upon this data the government can decide what kind of further measures should be taken or what kind of laws should be enacted to encourage the owners of the real estate to improve the energy rating of the building.

Such measures can be for example:

- introduction of energy taxes;
- awarding of grants.

It's important to mention that improving the energy rating of the building can be not only a technical but also a very serious economic question. There are buildings in such a bad energy status that their mending (repairing) would be very uneconomical, in which cases the demolishing of the real estate and building a more up-to-date one (meeting modern requirements) is worth of consideration.

In the future the buildings that cannot be economically heated may be demolished.

It is obvious that the public administration can do quite a lot in the field of the energy consumption of the country in the present and in the future.

It should be emphasized that the public administration regulates the training of the building energy assessment certified professionals, their examination procedure and their professional work. That means that the whole system is regulated and well organized.

It can be stated that in Hungary - in accordance with the European standard – the public administration has been in charge of measuring the energy consumption of residential, educational and office buildings, and depending on the result of the measurements they could take appropriate measures, make arrangements.

It can be expected that in the future the energy utilization regulation of the public administration will cover a much bigger area; the administrative control of energy management will cover a growing area, and as a result of it Hungary can play a leading role in the field of annual specific energy use per capita (kWh per year per capita). Further possibility for development is increasing the usage of the renewable energy.

The movement of building “passive houses” is greatly spreading in our country, as a result of it lot of houses are built in such a way as to cover a significant part of the energy needs by solar and geothermal energy. Such solution can greatly increase the required investment cost, but it pays off in a fraction of a second compared to the building's life, and the building becomes environmentally friendly.

## Conclusion

Based on the above Hungary has good hopes of becoming one of the first European country that managed to achieve a significant reduction in energy demand / energy consumption (kWh per year per capita) in order of being able to leave our future generations a more healthy environment.

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