

MINISTRY OF ECONOMY AND TRANSPORT

**Information on energy-efficiency measures
and on the directions of the Action Plan**

Budapest, July 2007.

1. LEGAL BACKGROUND

Directive 2006/32/EC of the European Parliament and of the Council provides that, by 30 June 2007, the EU Member States should prepare national energy efficiency action plans giving an overview of medium-term energy-saving actions and measures. The Directive contains the indicative target that the Member States should achieve an annual 1 per cent of energy savings in the course of 9 years, the reference basis of which should be the country's CO₂ trade-free use of energy.

In order to promote the achievement of that objective, in autumn 2006 the European Commission adopted the EU Action Plan for Energy Efficiency, which offers a choice of 75 actions in the following 10 so-called priority actions:

- Introduction of new energy efficiency standards and minimum requirements for energy-using equipment;
- Reduction of the energy consumption of buildings;
- Reduction of energy consumption in transport; development of legislation on the reduction of CO₂ emissions by motor vehicles;
- Raising the energy awareness of consumers; directions and information on energy efficiency;
- Making power generation, transport and distribution more efficient, including the development of highly effective cogeneration;
- Development of financial mechanisms for promoting energy efficiency investments (ESCO, SME);
- Spurring energy efficiency in the new Member States;
- Development of taxation elements for improving efficiency;
- Improving the energy efficiency of cities by involving mayors, exchange of information on the best solutions;
- International cooperation in the field of efficiency.

In Hungary, the legal basis for energy-efficiency activities was created by Government Decision No. 1107/1999. (X. 8.) Korm., which provided for 75 PJ/annum as the energy savings to be achieved by 2010 and established the necessary amount of state aid and the measures to be introduced.

2. KEY OBJECTIVES AND THE SCHEDULE OF THE NATIONAL ENERGY EFFICIENCY ACTION PLAN

When identifying the key objectives of the National Energy Efficiency Action Plan, the following main objectives of the strategic document entitled "HUNGARY'S ENERGY POLICY FOR 2007-2020" were taken into account:

1. Strengthening **competitiveness**
2. Increasing the **security of energy supply**
3. Promoting sustainable development

The further objectives of the National Energy Efficiency Action Plan can be summarised as follows:

1. alignment of Hungary's energy policy initiatives with those of the European Union;
2. finding the most cost-effective solutions for utilising energy-saving potential;
3. shaping consumer awareness and influencing the market in order to achieve long-term energy efficiency;
4. informing market players of the structure and time frame of the plans;
5. realisation of the EU's energy efficiency expectations of Member States;
6. consideration of climate protection aspects.

The scope and time frame of the Action Plan covers 2007 to 2013, which is consistent with the period covered by the New Hungary Development Plan (hereinafter 'NHDP').

3. STRATEGIC CONSIDERATIONS OF THE NATIONAL ENERGY EFFICIENCY OBJECTIVES FOR THE PERIOD UP TO 2013

In respect of its obligatory energy-saving undertaking, Hungary must take the following into consideration:

- as a result of the change in political system in 1990, the domestic production structure has also been transformed and the energy-intensive industrial fields have largely ceased to exist. Industrial production fell to nearly half, and there was a considerable decline in the national use of energy as well. Possible energy-saving potential decreased considerably, primarily in the production sector;
- during the economic development that has taken place since 1990, production in Hungary has realigned to the benefit of the fields that have a low energy demand. Compared to GDP growth, this process has been accompanied by a minimum increase in energy consumption; consequently, energy efficiency has increased considerably;
- national energy intensity calculated by taking the purchasing-power parity into consideration is only 22% higher than the EU average. At the same time, the use of energy per person in Hungary is only 62% of the EU average, and our product-specific energy indicators are also favourable if compared to those of the EU.

All this shows that the potential for domestic energy savings has partially been exhausted; thus, the improvement of energy efficiency by actions directed at energy savings is possible only to a smaller extent; opportunities for energy savings are held out mostly by an improvement of our economic efficiency, the level of which is below the EU average.

In assessing our opportunities for energy savings, one must bear in mind the fact also recognised by the EU that energy savings generally require state intervention and state aid. The fact that the aid available in the framework of the NHDP for energy-saving purposes cannot be used to reduce the level of energy used by the household sector and to modernise energy consumption in that sector, in which the highest energy-saving potential exists, is a factor that makes the task more difficult. At the same time, in the case of domestic financing – when considering the possibilities for increasing energy savings by state intervention – one must also take into consideration that the convergence programme sets firm limits on supplementing state aid that would increase state expenditure.

4. NATIONAL ENERGY-SAVING PROGRAMMES AND MEASURES

Energy-Saving Credit Fund (EHA)

The revolving credit fund applying special interest rates has been helping the realisation of energy savings, energy-efficiency increasing investments, and the utilisation of renewable energy resources since 1991. This credit fund came into existence from the assistance provided, in the form of coal assistance, by the German Government to the Hungarian economy with a starting amount of HUF 1,126 million, which – by capitalizing interim interests – came to an amount of HUF 2.39 billion by the end of 2006. The credit fund supports different investments aiming at energy savings and at an increased use of renewable energy sources. Undertakings and local governments are entitled to submit applications for the soft loans. The rate of the credit interest regarding is variable; it consists of 1/3 of the base rate of interest applied by the bank of issue and of a 2.5% interest margin applied by K&H Bank Rt. In the case of a single investment, the amount of the credit cannot exceed 80% of the total investment expenditure and its upper limit is HUF 100 million. Thus, the amount of the required own resources is a minimum of 20%. The maximum duration of the credit is 6 years, which also includes the 2-year period of grace.

Energy-Efficiency Credit Construction Co-Financed by PHARE

This credit construction consists of a revolving credit fund brought into being under the framework of the European Union's PHARE programme with the aim of providing stimulating financial sources to investments directed at improving energy efficiency. The system has been in operation since 1998 and remains so until the end of 2008. At the start, a credit amounting to EUR 5 million (HUF 1.35 billion) was available to energy savings from PHARE sources (at present, together with the capitalization of interests, that amount exceeds EUR 7.5 million). The form of support is a credit construction which provides interest-free credits up to 25% of the investment costs, in addition to which a bank credit with favourable market interest rates, equal to the amount of the interest-free credit and amounting to a maximum of 65% of the investment costs, must also be drawn. The favourable interest rate is the interest rate arising from a joint application of the two forms of credit.

Long-term energy-saving programmes – the energy-saving support and credit programme entitled 'For a Successful Hungary' for the residential sector

In 2000, the application system started under the long-term energy-saving programme on the basis of Decision No. 1107/1999. (X. 8.) Korm. (in 2000, the Energy-Saving Programme; in 2001-2002, the SZTEN (Széchenyi Plan energy-saving) programmes; in 2003-2006, the NEP (National Energy-Saving Programme) programmes) ensured both soft loans and non-repayable aid; as of 2001, a system of fully non-repayable aid has been applied. Between 2000 and 2004, the range of applicants applying with energy-saving investments and investments increasing the use of renewable energy sources covered practically every field of energy consumption (industry, agriculture, services, residential sector, etc.). In 2006, due to the scarcity of resources, the programme narrowed down to applicants from the residential sector. The programme of applications for 2007 – which, in view of its purposes, is similar to the programme of applications implemented in 2006 – has been accepting applications as of 10 April 2007.

In 2007 – with a code number of NEP 2007 – an application system was started in the framework of the programme "For a Successful Hungary," under the energy-saving support and credit programme for the residential sector.

Structural Funds – 'Development of an Environmental Friendly Power Management' under the Operational Programme for Environmental Protection and Infrastructure (KIOP)

The objectives of the programme for 2004-2006, on the basis of the components on increasing the utilisation of renewable energy sources and on increasing energy efficiency included in the measure for Developing an Environmental Friendly Power Management under the priority of Environmental Protection contained in the Operational Programme for Environmental Protection and Infrastructure were as follows:

- To increase the utilisation of domestic renewable resources, reduce carbon dioxide emissions; promote the economic development of rural regions by paying special attention to increasing the generation of electric energy from renewable resources.
- To promote the conscious and reasonable use of energy, increase energy efficiency, and reduce the emission of air pollutants.

The amount of the allocation earmarked for the 2004-2006 period was HUF 5.9 billion, while the minimum investment expenses of the projects to be implemented was HUF 125 million.

In the KIOP system of applications, 45 projects won support, a part of which was of an energy-saving character, and another part was directed at the utilisation of renewable energy resources.

Supporting the energy-saving modernisation and renewal of the residential buildings built by industrialised technology and the renewal of the environs of residential buildings (panel programme)

The aim of the support programme is to renew the residential buildings built by industrialised technology, as well as to modernise and renew the engineering systems and equipment of such buildings, as well as the roads, parking lots, playgrounds, and parks directly surrounding these buildings. As far as the application is concerned, the residential building built by industrialised technology means any residential building built by using panel, block, tunnel-moulding, cast-wall, reinforced concrete skeleton, or some other prefabricated technology.

Before 2002, the panel programme was operated by the legal predecessor of the Ministry of Economy and Transport, by the Ministry of Interior between 2002 and 2004, after 2004, the manager of the program was the Housing and Building Office controlled by the Minister without Portfolio responsible for regional development and closing up, and, since 2006, it has been the Ministry of Local Governments and Regional Development (hereinafter ÖTM). The ÖTM finances the support programme that is available for residential buildings built by industrialised technology from the Ministry's allocation for supporting housing activity (building and modernisation of residential buildings).

The Government announced the Panel Plus credit programme in its programme of 100 steps; its objective is to open resource facilities to the energy-saving modernisation of residential buildings built by industrialised technology and to ensure one's own resources with favourable – 5.6-5.7 percent rates of – interests. The local governments of settlements, housing co-operatives, and co-owner communities of owner-occupied blocks are entitled to apply for the credit. In the case of resident community and local government applications, the amount of the credit can be a two-third part of the renewal costs, but a maximum of HUF 800,000 a flat. The soft loan can be applied for with the Hungarian Development Bank at the present time as well.

State aid obtainable through the panel programme may be used up to one-third of the investment amount, in a maximum amount of HUF 400,000; two-thirds of the investment must be financed by the resident community and/or by the local government. The soft loan can be used for the latter. During the operation of the programme between 2001 and 2005, positive decisions were passed in respect of 2,713 applications regarding the renewal of 124,769 flats, in support of which the State has so far provided an amount of HUF 20.9 billion. The submission of applications closed at the end of October 2006, and the judging of several thousand applications are at present under process. Regarding the continuation of the support programme in 2007, the Minister of the ÖTM has not yet adopted a decision.

UNDP/GEF energy efficiency programme

The main objectives of the project being implemented in the local government sector:

- Definition and development of local government energy efficiency projects and the promotion of their financing.
- Increasing the level of energy efficiency knowledge with local governments.
- Reinforcing the institutional background of energy efficiency.

Since 2002, the UNDP/GEF project has supported, with an amount of approximately HUF 300 million, the energy-saving examinations of more than 1000 public institutions in the course of 235 tenders and the preparation of feasibility studies. On the basis of these studies, 22 investments have so far been started or completed. Their investment costs exceeds HUF 2.5 billion, as a result of which the saving of an annual amount close to HUF 400 million (0.1 PJ/annum) can be achieved in the field of energy costs.

Energy consumption of buildings

Directive 2002/91/EC of the European Parliament and of the Council of 16 December 2002 on the energy performance of buildings was published at the beginning of 2003. The Directive assigns tasks to Member States in five areas:

1. They should elaborate a method or methods for calculating the integrated energy performance of buildings
2. They should set up minimum requirements for the energy performance of new buildings.
3. They should establish minimum requirements regarding the energy performance of large existing buildings that are subject to major renovation.
4. They should elaborate the method for the energy certification of buildings.
5. They should stipulate for the regular inspection of boilers and air-conditioning systems in buildings and, in addition, a regular assessment of the boilers and heating installations of more than 15 years old.

The EU Member States were to transpose this Directive into their own legal systems by 6 January 2006. However, Member States could ask for an additional period of three years to put the certification process into place and to start the regular assessment of boilers and air-conditioning equipment and to begin the provision of advice concerning the use of energy.

The first Hungarian regulation transposing the Directive is Decree No. 7/2006. (V. 24.) TNM on the establishment of energy characteristics of buildings, which covers the first three of the five main areas contained in the Directive. This Decree

- elaborated a national methodology for calculating the integrated energy efficiency of buildings;
- established minimum requirements for the energy efficiency of new buildings;
- established minimum requirements for large existing buildings (with a surface area of more than 1000 sq. metres) regarding their energy performance in case they are subject to major renovation.

The methodology included in the annex to this Decree is to be applied as of 1 September 2006 among the supporting technical calculations included in the licensing design documentation of the building (earlier the calculation had to be made in accordance with standard No. MSZ-04-140/2:1992). The calculation is checked during the licensing procedure.

Hungary has officially requested a temporary derogation of three years for performing the other two tasks, that is, for introducing the certification process and for starting the assessment of furnaces, boilers and air-conditioning installations.

5 THE RESULTS ACHIEVED BY THE MEASURES

The 2000-2006 period results of the credit programmes (Energy-Saving Credit Fund, PHARE Credit Construction) and of the long-term energy-saving programme, as well as the results of other programmes are summarised in *Table 1*.

Accordingly, nearly 28,000 applications won an amount of HUF 40.2 billion in the form of state aid grants and an amount of HUF 22 billion as soft loans, by the use of which investments in a value of HUF 104 billion were executed. As a result of the programmes, 17.67 PJ/annum of energy savings were achieved by 2006.

Table 1

Results of the measures achieved so far

Code No. of the programme	Name of the programme	Number of supported applications (pieces)	Awarded aid* (billion HUF)	Awarded credits (billion HUF)	Full cost of investments (billion HUF)	Full saving of energy sources (PJ/annum)
	Energy-saving Credit Fund (EHA)	599	0	15.0	24.8	8.87
	PHARE Co-financed Energy Efficiency Credit Construction	78	0	6.8	11.6	2.0
	Long-term energy-saving programme 2000-2006	24,000	13.1	1.5	51.0	4.5
	KIOP	45	5.9		15.0	1.2
	Panel programme	2713	20.9		n.a.	1.0
	UNDP	235	0.3		2.5	0.1
	TOTAL	27,670	40.2	22.0	104.9	17.67

*In the case of soft loan credit programmes, the amount of the state aid used as interest subsidies is indicated.

6. RESULTS THAT CAN BE ACHIEVED BY 2013 BY MAINTAINING THE EXISTING ENERGY-SAVING PROGRAMMES IN THE 2007-2013 PERIOD

Energy-saving Credit Fund (EHA)

The Credit Fund, which has been in operation since 1991, has so far placed credits in a total amount of HUF 15.0 billion; thus, during the 16 years of its operation, the Fund's original capital has already returned eight times (that is to say, it was replenished and was placed again). Consequently, it is possible to forecast that the Fund, on average, returns fully every two years; thus, during the period of the NHDP, under unchanged circumstances, the expected placement of credits by the EHA – assuming a return of four times during the period of the NHDP – will be HUF 9.5 billion.

The investments that have been realised with the help of the HUF 15.0 billion placed by the EHA reduced energy consumption by 8.87 PJ/annum according to the end of year 2006 data; thus, **expected energy savings of 6-6.5 PJ/annum** can be assumed up to the end of the NHDP against the basis of 2007.

PHARE Co-financed Energy-Efficiency Credit Construction

The appropriation of PHARE for 2007 amounts to 85% of the EHA appropriation; thus, under the same system of conditions as is applicable to EHA, the continued operation of the PHARE appropriation results in an assumed **5-5.5 PJ/annum energy-saving** by the end of the NHDP period.

Environment and Energy Operational Programme (KEOP 2007-2013)

In the period between 2007 and 2013, KEOP's priority entitled 'Increasing Energy-Efficiency' supports energy-saving investments under the NHDP; the available appropriation is HUF 41.5 billion. The target groups of the KEOP support include public institutions, local governments, small and medium-size enterprises, district heating companies, churches, and civil organisations; KEOP does not finance energy-saving investments by the residential sector. The aid intensity of applications will be 10 to 50%; thus, as a result of the subsidy amounting to HUF 41.5 billion, a total investment of HUF 85 to 410 billion can be implemented.

Connected to the KEOP priority to increase energy-efficiency is the Light of Our Eye programme, which supports the modernisation investments implemented by public and local government institutions in the field heating and lighting. Aid intensity in the case of lighting modernisation will be 8-12%, in the case of heating modernisation it will be 12-17%; for the purposes of this construction an amount of HUF 15 billion is segregated from the HUF 41.5 billion.

Activities that can be supported:

- Reduction of the energy consumption of institutions and public buildings
- Modernisation of exterior and interior lighting systems
- Improvement of the heating technology characteristics of buildings, the reduction of heat losses by subsequent heat insulation, and by replacing external doors and windows
- Replacement of boilers with modern, high-efficiency installations (e.g. the installation of low-temperature or condensation boilers, the development of radiation heating)

- Development of automatic central (heat-source side) and local (heat-transfer side) regulators
- Modernisation of heating and service hot water systems, making them controllable, development of individual measuring possibilities, application of energy-saving solutions
- Energy-saving modernisation of cooling systems
- Establishing the conditions for connection to the district heating system
- Primary side modernisation of district heating (boilers, heat transmission lines, caloric centres)
- Reduction of the energy consumption of public lighting
- Establishment of connected heat and power generation, development of the conditions for trigeneration, development of heat accumulators
- Investments making the utilisation of renewable energy sources possible, realised together with the increasing of energy efficiency and complex interventions (involving more than one activity)
- Energy-saving modernisation of cooling systems
- Improvement of the energy efficiency of technological systems, the reduction of their specific energy requirements
- Investments making the utilisation of renewable energy resources possible, realised together with improving energy efficiency and complex interventions (involving more than one activity)
- Energy-saving investments in third party financing for the activities listed above.

According to plans, the aid amounts granted to the application will be supplemented by different credit constructions. The EBRD has plans to develop a credit construction for undertakings and local governments, and information is available on the intentions to start an energy-saving credit programme also in the case of the OTP Bank.

According to preliminary estimations, national energy consumption may decrease by **6 PJ/annum** in 2013 through the heat and electric energy generation construction and by **5 PJ/annum** through the Light of our Eyes construction.

'For a Successful Hungary', the energy-saving aid and credit program for the residential sector

The energy modernisation programme for the residential sector, entitled 'For a Successful Hungary', provides assistance to the energy-saving investments relating to flats built by traditional building technology (heat insulation, replacement of doors and windows and the replacement of energy-use installations) and to the residential investments aiming at the utilisation of renewable energy sources. The amount envisaged for the granting of aid in 2007 is HUF 2.6 billion. In the new plan, the grants of aid are supplemented by soft loans. The allocation of the credit programme for 2007 is HUF 16 billion, the allocation of non-returnable funds by the Targeted Appropriation for the Improvement of Energy Efficiency (EHJC) is HUF 2.6 billion; thus, the total allocation for the application system is HUF 18.6 billion.

The objective of the energy-saving programme for 2007 is to modernise the energy performance of **14,000 to 15,000** homes built by traditional technologies partly through energy-saving investments and partly through investments directed at the utilisation of renewable energy sources. As a result of the planned programme operation, the energy-saving renovation of 100,000 to 110,000 homes will be made in the 2007-2013 period.

According to experiences gained earlier, an energy-saving renovation of 14,000 to 15,000 homes built by traditional technology will result in a moderation of energy consumption by an annual 0.3 PJ in Hungary. **By way of such a residential programme, the present energy consumption of the residential sector in the form of heat energy amounting to 330 to 340 PJ/annum would be reduced by an approximate 3 to 3.3 PJ/annum by 2013, which equals 1%.** Through the programme, the energy expenditure of the population in the 2007-2013 period will decrease by nearly HUF 1 billion a year. The quantity of the energy that the population will replace by increasing the utilisation of renewable energy sources will mean further savings in the field of fossil energy sources.

Other programmes

The expected effects of other programmes by 2013 can be summarised in the following:

- As a result of the decision to be taken regarding the continuation of the panel programme, a further moderation of energy consumption at a rate of some **1-2 PJ/annum** can be achieved if further 100,000 to 200,000 homes are modernised.
- According to the present state of affairs, the UNDP programme will not be continued; thus, no further effects could be appraised.
- As a result of the energy certificate, the expected result can be assumed to be **2-3 PJ/annum**.

7. ACTIONS DIRECTED AT REDUCING THE ENERGY REQUIREMENT OF TRANSPORT

In the period following the change in political system, no resources with an expressly energy content have been assigned as state aid in the field of transport, and there were no energy-saving programmes implemented. The material, organisational, and other forms of support provided to the environment-friendly forms of transportation, to community road transport, and to railway transport served the smooth operation of the transport system, the purpose of meeting the communication and transport needs of society and economy, but the replacements made in the field of goods vehicles and the bus park also had an influence on energy savings.

Analysing the different factors determining energy consumption in transport, the following can be established in respect of the past trends:

- performance in the fields of both the transport of goods and of passengers increased in a linear manner in function of the increase in the GDP, the rate of increase in the field of the transport of goods was similar to the rate of the change taking place in the GDP; performance in the field of passenger transport increased more gradually. This tendency is expected to continue in the future, and it produces a slight increase in the use of energy by road and air transport;
- the division of labour in the field of transport in Hungary is more favourable than the EU-15 average and also that of the enlarged EU. The share of rail transport is 13% in passenger transport even today (the average of the EU-25 is 6.5%); the share of passenger cars is 60% (the average of the EU-25 is 83%); the share of buses is 24% (the average of the EU-25 is 9%); the performance of railways in the field of the

transport of goods, if calculated in freight ton kilometre, makes 15% of the total, which again is above the EU average;

- by the end of 1990s, the average age of the Hungarian passenger car was 11.8 years; there were more than 850,000 cars older than 15 years in circulation. A considerable renewal took place in the stock of passenger cars in the period from 2001 to 2006. In that period, during more than one year, the rate of renewal (the new cars entered into circulation / the total number of cars) reached 9.1%, while the same value for the EU-15 was 8.0%. Although the trend of improvement slackened, it continues even today. From an energy efficiency point of view, the fact that the share of diesel operated vehicles increased vigorously among the vehicles put newly into circulation (against the earlier ≈ 10.5 to almost 20) is another significant change;
- among the other factors, it is worthwhile raising question of the quality of fuels: the fuels sold in Hungary satisfy the EU standards in every respect and that, far above the requirements, almost 100% of the fuels sold is sulphur-free ($S < 10$ ppm), which makes it possible to apply the most up-to-date systems of environmental protection.

Maintaining the registration tax

The registration tax to be paid after new vehicles (and imported used motor vehicles), which is differentiated according to the emission qualification and the cylinder displacement of the motor vehicle in question and which can be between HUF 250,000 and HUF 9,622,000 a vehicle, can also be appraised as an economic incentive from an energy-saving point of view.

It can be attributed to the regulation that the energy characteristics of the motor vehicles entered into circulation for the first time in Hungary, due to their smaller performance and to the higher proportion of small-category vehicles, are better than the EU average, which is also shown by the following table containing CO₂ emission values.

Average CO ₂ emission of passenger cars in 2004, weighted by sales numbers			
EU 25	EU 15	EU 10 (new Member States)	Hungary
162 g CO ₂ /km	163 g CO ₂ /km	156 g CO ₂ /km	152 g CO ₂ /km

The difference in fuel consumption is 0.4 litres/100 kilometres, half of which can be attributed to the orientation by way of the registration tax (the other half is due to the purchasing power). By putting an average of 180,000 new cars/annum into circulation and calculating with an average annual running performance of 15,000 kilometres, the saving between 2007 to 2013 is a rounded figure of **3.5 PJ (an annual 0,5 PJ)**.

The road charge to be paid by heavy vehicles

In 2007, Hungary introduced road charges on a considerable part of its national road network for the goods vehicles with a permissible total weight of more than 12 tons, and also plans to extend those charges. The planned amount of the road charge (HUF 40/km) is comparable to the fuel expenses of motor vehicles transporting goods, which is about HUF 75-80/km. According to our calculations, there will be a reduction in the empty run of goods

vehicles, an increase in utilisation of the loading capacity, and the different transport tasks will shift toward more environment-friendly and more energy efficient modes of transport, which will result in a 1-1.5% reduction in the total run. Considering the number of heavy goods vehicles subject to road charges (70,000 units), their annual run (domestic 70,000 km/year, international 117,000 km/year, which equals on average a weighted $\approx 80,000$ km/year), and calculating with an average fuel consumption of 30 litres/100 km, the reduction in the use of energy that can be connected to the introduction of road charges will be **0.7-1.0 PJ/annum**, that is, **4.9-7 PJ/year between 2007 and 2013**.

8. COMBINED EFFECT IN 2013 OF THE CONSIDERED ENERGY-SAVING PROGRAMMES; MEASURE OF THE ENERGY SAVINGS THAT CAN BE UNDERTAKEN AS AN OBLIGATION

The EU Directive compares the recommended energy savings of 1%/annum to the end-use of energy not affected by emissions trading, which in the case of Hungary, if it is counted as an average of 5 years, is 597.46 PJ. **Thus, the annual 1% comes to 5.97 PJ for Hungary.**

According to calculations, the energy savings that can be attained at an annual level in 2013 as a result of the continued operation of energy-saving programmes and new energy-saving actions can increase the 17 to 18 PJ/annum saving in energy sources already attained as a result of earlier programmes by a maximum of **41.8 PJ/annum**. If the 41.79 PJ/annum saving to be attained by 2013 is broken down by years, it means an energy saving of 5.97 PJ/annum; that is to say, – **with the slightest implementation of the actions, to be presented later, that cannot be taken into account in the international undertaking or that can only be taken into account to a very limited extent – Hungary will attain the annual 1% of savings in the use of energy.**

9. FURTHER ENERGY-SAVING ACTIONS THAT CANNOT BE TAKEN INTO ACCOUNT OF THE NATIONAL UNDERTAKING, BUT THAT WILL BE EXAMINED DURING THE PERIOD OF THE NHDP

The energy-saving objective that can be undertaken for the 2007-2013 period can be increased by actions to be further examined; their introduction is mainly in function of the available domestic support resources – and of those that originate from EU sources.

Such further possibilities for actions to be examined:

- extension of state aid in respect of replacing household installations with efficient ones, compact fluorescent tubes, etc.;
- state aid to investigations aimed at exploring energy losses;
- state aid to the development of energy-saving awareness (school syllabuses, programmes, etc.);
- making the use of energetically efficient office installations obligatory;
- extension of the system of specialists for energy management;
- promotion of the dissemination of building technologies resulting in the smallest use of energy;
- state aid to the P+R system in transport;
- support to railway and water transport, development of the combined transport of goods and of logistic centres;

- enforcement of air pollution and energy consumption requirements when new motor vehicles are entered into circulation (enforcement of the EU's gCO₂/km Directive, initiation of a system of checking tyre pressures, energy-efficient air-conditioners);
- strengthening of the energy aspect of environmental and traffic safety considerations in connection with the import of used vehicles;
- in connection with the registration tax of vehicles and with the vehicle tax allowing the operation of vehicles, the favouring of motor vehicles with smaller fuel consumption and less performance;
- regular environmental protection inspection of the vehicles in operation, which also has an indirect effect on fuel consumption.

The above actions to be considered can also increase the energy-saving obligation that can be undertaken toward the EU, and they also confirm that Hungary can fulfil the 1%/annum energy-saving requirement. Further energy-saving results can be expected from the measures connected to the transposition of Directive 2005/32/EC on the ecodesign of energy-using products.