

Öko-Institut

Institut für angewandte Ökologie
Institute for Applied Ecology
Institut d'écologie appliquée
Instituto de ecología aplicada
Институт Прикладной Экологии



Instruments and Options for Environmental Policy during the Accession Process of EU Associated Countries in the Area of Environment and Energy

Country Report Hungary

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Martin Cames (Öko-Institut)
Dr. Felix Chr. Matthes (Öko-Institut)
Stefani Bär (ecologic)
Dr. Sebastian Oberthür (ecologic)
Michael Krug (FFU)
Dr. Lutz Mez (FFU)
Sybille Tempel (FFU)

Ada Ámon (Erengia Klub)
Zsolt Boda (Erengia Klub)
Nathalie Francour (Erengia Klub)
Attila Harkai (Erengia Klub)
Reka Matolay (Erengia Klub)
Sándor Fülöp (EMLA)

Öko-Institut
Novalisstr. 10
D-10115 Berlin
☎ 030-280 486-83
☎ 030-280 486-88
comes@oeko.de

ecologic gGmbH
Pfalzburger Str. 43-44
D-10717 Berlin
☎ 030-868 80-118
☎ 030-868 80-100
oberthuer@ecologic.de

FFU
Innestraße 22
D-14195 Berlin
☎ 030-83 85 55 85
☎ 030-83 85 66 85
ffu@zedat.fu-berlin.de

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1 Introduction

More than four years ago the European Union (EU) decided to start negotiations on accession with possible new member countries. The Czech Republic, Estonia, Hungary, Poland and Slovenia were the first countries to be accepted into the formal accession process. These countries are accordingly the called Accession Countries.

With regard to the leading role of the EU and of individual countries such as Germany in climate protection policies and strategies in general, it is important to consider the impact of the accession process on EU climate policy. CO₂ emissions of the Accession Countries amount to at least a fifth of the carbon dioxide emissions of all 15 EU countries. Accession countries' CO₂ emissions will not influence EU commitments for the first commitment period from 2008 to 2012. However, it is important to pay early intention to the Accession Countries, because they will be included in the European commitment for the second commitment period beginning 2013.

Taking this into account, the German Environmental Protection Agency (Umweltbundesamt) commissioned a comprehensive study to analyse the options and capabilities of the five Accession Countries in the field of environment and energy. This study was carried out by research institutes in Germany in co-operation with research institutes in the five Accession Countries. The study included the analysis of the most important issues, namely:

- Status quo and development of the energy sector and structural CO₂ mitigation options;
- Legal gap assessment and analysis of performance in the accession process;
- Identification of implementation patterns through detailed policy analysis;
- Evaluation of co-operation projects in the field of environment and energy in order to develop new projects that promote the accession process.

This volume includes the analysis with regard to each of these topics, which has been carried out by the co-operation partners in the accession countries. These contributions have been compiled to country reports for each of the five accession countries. Section 2 of this report shows the results of the legal gap assessment. In section 3 the results of the policy assessment are documented. Existing co-operation projects that have been identified as best practice are described in details in section 4. Additionally there are several tables of data relevant for the field of energy and environment and overview tables about the accession process and the screening of existing co-operation projects in the appendix to this report.

The overall analysis of all five accession countries has been compiled to the main report, which includes also the conclusion and recommendations that have been derived from this co-operative investigation and research process.

2 Legal Gap Assessment

Hungary has been actively pursuing legal harmonisation with EU energy laws and programs since the very moment it signed the accession agreement with the EU in 1991. By now the majority of EU energy rules and programs have their Hungarian equivalent, which need only minor amendments for the harmonisation to be complete on the formal level. However, to reach the substantial level of EU law harmonisation Hungary needs to do much more and it still needs well targeted support programs, too.

Hungary's legal tradition is quite different from that of Western Europe, that's why the structure and methodology of our law is largely different from the EU law. Continuous introduction of legal regulations, flexibility of rules, general attention to the actual implementation of them, small but important legal tricks which help the subjects of regulations to comply with law - all the methodological traits of EU law cannot be found in the Hungarian regulations.

The other weak point of the Hungarian environmental and energy regulation is the lack of a proper system of guarantees of actual implementation. Although we have a well developed administration network for both the special permitting and supervising in the energy sector and for environmental protection, their prestige and informal position in the rank of administrative bodies is not strong enough to reach a good enough implementation rate. Furthermore, the lack of financial resources and of proper legal and administrative background leads to a very weak monitoring and enforcement performance of laws and regulations in the energy and environmental fields.¹

Taking all of this, environmentally friendly energy administration has a lot to develop in Hungary. Methodological traits of our related laws and regulations and systematic training programs would be necessary for the officers concerned to enable them to actually implement these rules.

¹ All throughout this study our conclusions concerning the actual implementation of the Hungarian energy law are based on two elements: the first is the indirect conclusion that if the given regulation is detailed enough, if there is a well developed institutional and budgetary background for a regulation then we may conclude that there is a higher probability of accurate implementation of this regulation. The second is the product of our direct experience: EMLA, our firm, gets first hand information about all substantial environmental non-compliance cases in Hungary. In the recent study we lean on these experiences.

2.1 Directives

2.1.1 Liberalisation of the Electricity Market

This issue is basically covered by Act XLVIII of 1994 on Producing, Transmitting And Distributing Energy (hereinafter: VET). The details of these topics are given by its implementation rule, Governmental Decree No. 34/1995. (IV. 5.) Korm. (hereinafter: vhr).

2.1.1.1 Objectives/Substantive Requirements

Chapter V of VET is titled "Generation, transmission and dissemination of electricity" and it gives detailed substantive rules here.

In Article 3 (Definitions) there is only a definition on distribution, in point h. However, since there is another definition which defines electricity production, we can say that VET defined the transmission phase indirectly: everything which is between production and distribution.

According to Article 10 of VET in principle everyone can receive a permit for producing energy once the Hungarian Energy Office (HEO) qualifies it of being proper from economic-financial viewpoints. There is a general condition, however, that these persons have to be legal personalities (companies) with a company seat registered in Hungary. The two conditions are interdependent. Naturally, everyone, any Hungarian or foreign natural and legal person can establish a firm with a Hungarian seat, but the fact they are registered in the country enables the HEO to check their basic economic data (starting capital, yearly balances, fields of activity etc.).

Article 1 Paragraph (4) exempts from the scope of VET all of those who produce energy for their own use below 50 MW capacity. This means that such enterprises do not need a permit - according to VET. Naturally it does not influence the permitting requirements on the basis of construction law, technical safety regulations like permitting for instance in connection with storage tanks and permitting requirements on basis of several environmental regulations.² In Article 3, Point k. there is a definition of "electric power plant for the own use of the producer" which is a plant using more than 40 % of its production for its own purposes. The number shall be taken as a yearly average. In this way, indirectly, VET acknowledges the existence and operation of autoproducers in several places.

² This unregulated situation of the small producers is by no means a sign of liberal handling but rather that they are left unprotected. In other places, VET obliges the transmitters to take the electricity from small producers but nowhere does VET or other regulations offer protection to the small producers in connection with the price they can receive for their products. It is the opinion of the authors/contributors that a regulation is needed for the small producers, too, giving specific details for each kind of energy producing methods.

There is no need for a definition of independent producers, because, according to VET, all producers count to be independent and have equal rights and responsibilities. Using the same logic, we have to say that in theory the share of the market which is accessible for them is 100 %.

Evaluation of the harmonisation state:

The Hungarian regulation contains the basic definitions of the EC Directive, in such a way that we can say that the internal logic and the "language" of the regulations are harmonised. However, a clearer definition of the notion of transmission could make the harmonisation totally complete. Indeed, though the notion is not totally lacking, it is defined only indirectly.

The legal side of market liberalisation is complete in the Hungarian law, there are no rules which discriminate negatively between independent producers and autoproducers. Even, as we are going to show in the next sub chapter, there are even positive discrimination rules for autoproducers.

2.1.1.2 Institutional Requirements

According to the EU directive, there must be an authorisation or a tendering procedure - together with the responsible authorities for the construction of new generation capacity. The Hungarian law contains the first solution. The permitting authority is the Hungarian Energy Office (HEO). According to Articles 5 - 7 of VET and Articles 1 - 2 of Vhr the tasks of the HEO are: permitting of producing, transmitting, and distributing of electricity, ensuring consumer protection, and monitoring the quality requirements.

In the Hungarian system there is a special "system operator" which keeps an eye on the needs for maintenance and further development of the energy production *for the whole country*. It is called OVIT (National Energy Supervision Body) and is formally put in the structure of the Hungarian Electricity Company Ltd (MVM). According to the system Article 21 of VET establishes, the companies who received a transmission permit will have an exclusive right and responsibility to transmit electricity on the territory determined in the permit. If the permittee wants to involve other companies into its work, they have to apply for the consent of the HEO. The permittee is responsible for fulfilling its service obligations without any discrimination, and it is also obliged to undertake the necessary infrastructure developments if necessary to maintain the service. According to Article 42 of VET the permittee has to measure the long term needs of the distributors and initiate capacity developments or import energy in due time.

VET and its Vhr strive to ensure the proper enforcement tools for the above mentioned responsibilities, involving a high fine (up to HUF³ 50 million, roughly equal to USD 2

³ Hungarian Forints.

million), revoking or modifying the permit and even withholding some rights registered at the courts.

In the case of the distribution system, the system operator is also responsible for the operation, maintenance and development of the distribution system and in addition to these for dispatching of generating installations. The structure of the Hungarian regulation follows the EU directive's pattern. In addition to the above mentioned rules, the distributor has some further responsibilities: it is obliged to acquire the electricity at the lowest available price, and it is obliged to contract with all the eligible customers. The distributor is also obliged to limit or cease its service in the case of incidents or renovations if there is no other reasonable solution. There are also rules of harmonisation and co-operation amongst the producers, the transmitting and distributing companies in Article 38. of VET.

VET does not contain rules on publishing technical rules, establishing minimum technical design and operational requirements and other conditions of energy systems. However, there is an entitlement for further regulations to be made by the Minister of Industry on the technical and security rules of energy production and consumption installations (Article 56 of VET). The Minister accomplished his task amongst others in Decree No. 13/1982 (VIII. 18.) IpM on Permitting Energy Producing Installations From Energy Efficiency Viewpoints and by the Decree No. 30/1994. (XI. 8.) IKM on Publishing The Mandatory Standards Regarding The Field Of Energy Industry. The compliance with these technical rules is supervised by the State Energy Technology Inspectorate, which was created by Governmental Decree No. 166/1995. (XII. 27.) Korm.

There is a general rule in the VET, in Article 2, according to which, all the activities in connection with producing, transmitting and distributing should be carried out with due account to the protection of the environment and nature. There are more definite rules contained in the sanctions against the transmission and distributing companies ensuring their environmentally friendly operation.

Concerning the secure, reliable and efficient distribution requirements, VET has its Chapter VI titled "Legal Relationship Between The Distributor And The Consumer", which gives the rules of due information of the consumers, contains details of the public service contract, enlists the clear-cut cases when the distributor is entitled to cease the contract. The distributor is obliged to write and publish its business rules, and in it inform the public about the technical and security parameters of its service. Article 42, Par. (1) of VET stipulates that *supply obligation* means that the subject of the obligation has to gauge the long run needs for energy on its territory and if necessary it is also obliged to initiate the proper development of production capacities or to ensure the necessary energy imports. This definition is given in connection with the transmitter, but Article 43, Par (1) establishes the same *supply obligation* in connection with the distributor, too. However, in Article 43 the legislator fails to give the details of supply obligation as it did in Article 42.

Concerning generating installations using renewable energy sources or waste or producing combined heat and power, article 43, Paragraph (4) of VET stipulates: the transmitting and distributing companies shall not deny to accept electricity produced from renewable energy sources, once its capacity reaches 0.1 MW,⁴ the technical conditions⁵ of connecting to the network are fulfilled and the price is not higher than that the Price Authority determines.

According to the 1st Attachment to Vhr, Article 18, Paragraph (4), once the consumer and the distributor are not able to settle down their dispute, the consumer can turn to the HEO with a complaint.⁶ Since there is no further rule on how to manage the complaint, we should use the general rule of VET, Article 7, Paragraph (2), according to which the process of the HEO shall follow the rules of the General Administrative Procedural Code (Act IV. of 1957 - hereinafter: Áe). This way the HEO has to make a formal decision on the question, taking and measuring all the evidence and the decision can be challenged by the regular legal remedies (one instance administrative appealing and one level court remedy).

Evaluation of the harmonisation state:

The existence of the HEO ensures that there is a responsible authority for authorisation of construction of new generation capacity, and as such the Hungarian regulation responds well to the EU requirements.

To operate a transmission system in the Hungarian law the permittee has to fulfil certain responsibilities to maintain the transmission system and to guarantee the security of the supply. This way the permittee is equal to the system operator of the EU Directive, although he/she is not called so, here too the harmonisation level is high. The inbuilt sanctions in the Hungarian system ensure that the permittee/system operator strives more to fulfil the requirements of VET. These sanctions represent a guarantee of harmonisation in the implementation of the EU rules.

The same good harmonisation level can be stated in connection with the distribution permittee/distribution system operator. Apart from the supply securing measures the EU

⁴ According to the authors and contributors, 100 kW is too high a threshold for the alternative, renewable energy sources. It might be a reachable level for three or more windmills, but it is a relatively large investment. Entrepreneurs should be given the possibility to start with smaller enterprises, too.

⁵ The technical requirements sometimes also handicap the relatively small renewable energy producers. High voltage transmission is usually amongst these requirements, which can be highly unprofitable for the small producers on one side and unnecessary on the other, because low voltage transmission is satisfying to serve local needs.

⁶ It is the authors and contributors' view that the regulation should have harmonized the efforts of the HEO and that of the Competition Agency and the Consumer Protection Inspectorate. Furthermore, in practice, it turned out that the HEO is not proactive. Up to now the HEO has handled more than 300 cases of the small and large consumers. Out of this amount of experience the HEO should have already initiated the proper amendments of VET to produce stronger consumer protection stipulations.

Directive requires, as we have seen, the Hungarian distribution permittee has additional responsibilities to protect the interests of the consumers.

As concerns the regulation of technical requirements, the Hungarian law fulfils the EU requirements and their practical implementation seems to be ensured by a separate special administrative body, as well. Unfortunately there are only general rules in VET which pay attention to the environmental respects; the detailed technical and efficiency regulations are silent on this topic.

Although the Directive on suggests giving priority to renewable energy sources, the Hungarian regulation contains obligatory rules in this issue.

As concerns access to justice type rules, required by the Directive, the Hungarian regulation again is in harmony with the European rules, since it ensures the right to complain; it also contains fair and transparent, multi-level legal supervision by independent bodies, like for example the courts.

2.1.1.3 Procedural Requirements

According to Article 10, Paragraph (1) of VET, establishing a power plant, enlarging its capacity, changing fuel and in more general terms, too, producing energy is subject to permitting process, except power plants below 20 MW capacity. Permitting criteria are: the feasibility study with the details of technical and economic feasibility, the environmental impact study, and the investor must show that it has the proper financial, personnel and contractual (consumer) basis for the power plant. Since these criteria are only in general described in VET, in our opinion the requirement of publicity of the decisive factors on permitting is not fully met. Criteria relating to safety and security of the system and on energy efficiency are regulated only on level of technical standards, that's why we can say that the level of publicity is low. Technical standards are not published in the Official Journal of Hungary, and they can only be found in the special library of the Hungarian Standardisation Agency in Budapest (i.e. only at one place in the whole country).

The Governmental Decree No. 107/1995 (IX. 8.) Korm. on permitting power plants does not give further substantial rules and conditions of permitting either but just regulates the process of permitting and enlists those authorities which have to be involved into the cases as co-authorities.

We should mention, however, that the land use and siting issues are decided upon by the local municipality, whose authority covers the planned investment site, according to the regulations of the Hungarian Construction Act (Act LXXVII. of 1997), and the positive decision of the municipality council is an indispensable precondition of the issuing of the construction permit. In case of the large investments of the energy industry, following the rules of the Environmental Code (Act LIII. of 1995) and the EIA Governmental Decree (No. 152/1995. (XII. 12.))- there must also usually be an environmental impact assessment process.

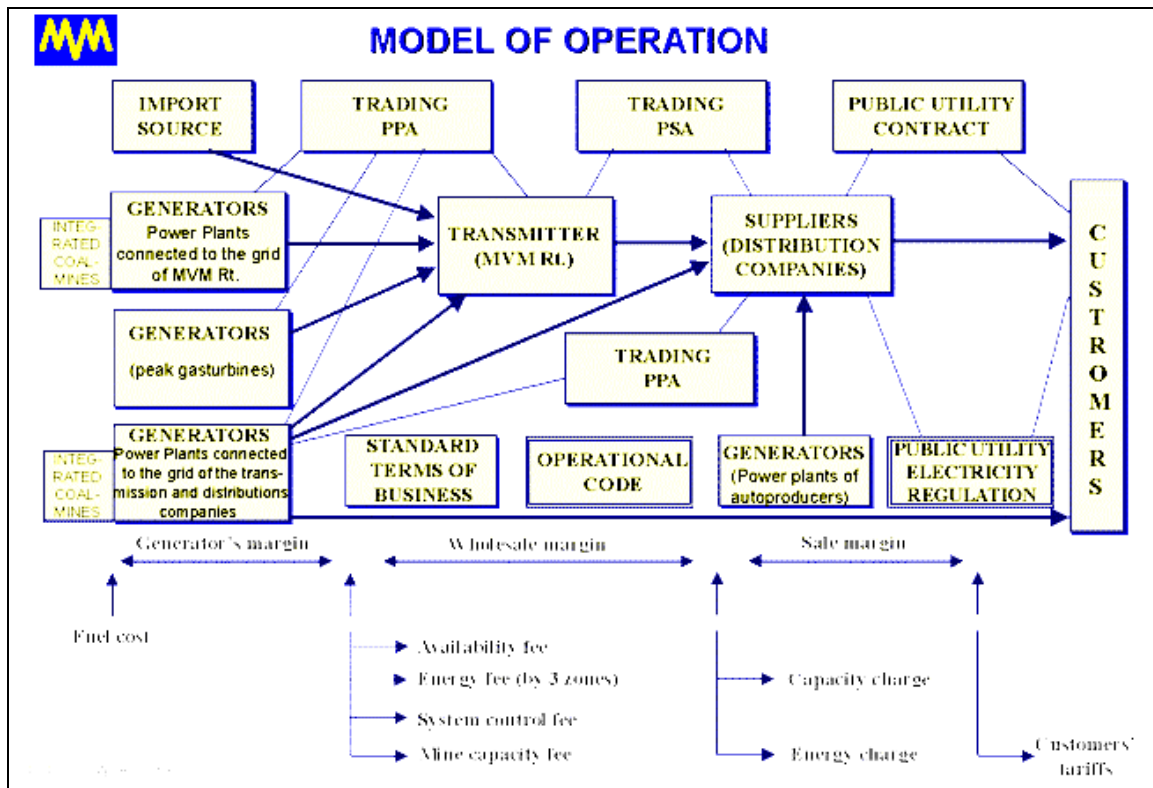
The Governmental Decree, the No. 73/1996. (V. 22.) on Public Communication, Public Hearing And Committee Processes Necessary To Permitting Construction Of Power Plants with significant nature protection, social and environmental effects⁷ is also an important piece of legislation.

Article 7, Paragraph (2) of VET states that Áe rules are to be followed in all the processes of the HEO. It concludes then that the legal remedy of administrative appealing (to the Ministry) is available to the clients and in case of an unfavourable second level decision they can sue the administrative body within the frames of a one level administrative court revision process, which follows the general rules of our Civil Procedural Code (hereinafter: Pp), with some minor modifications, also involved in Pp.

With regards to the access to the transmission or the distribution system, the Hungarian electricity system can be characterised mainly as a single buyer model in the current situation. All the generator companies sell electricity to the single transmission company and then the distributors are purchased the agreed amount of electricity from the grid. There are several exceptions, which can be seen on the model below.

⁷ This could be an important phase in the process of building a new power station, but unfortunately it serves only as a formal, technical stage to make sure that the local public is heard. It does not necessarily take the comments into account. Furthermore there is no possibility (financial means, elaborated process) for hiring independent IEA in case of uncertainties concerning the IEA commissioned by the investor. [Ada Amon, Energy Club]

Figure 1: Model of Operation



Source: MVM Rt. homepage

Further details of their legal connection are determined not by law but by a contract they conclude. Similarly, the transmission companies are obliged to satisfy the distributors. In order to be able to do this, it is also obliged to estimate the long term needs and if capacity developments as needed on the producers' side. Similarly the distributor is obliged to contract with those who apply for electricity on its territory, even if the new or enlarged need requires broadening the distribution network or capacity. However, in this case the distributor is entitled to ask for a financial contribution from the requested for this broadening work.

Evaluation of the harmonisation state:

There are ample pieces of regulations in the Hungarian law concerning the authorisation of construction of new generation capacity. However, the overwhelming majority of them are of procedural nature, the substantial content of these regulations, i. e. the rules actually deciding the case are sometimes hidden in lower level standards, which makes it difficult to find them for the members of the public or the decision of the merit of the case rests on the discretion of the permitting authority. This way the harmonisation situation in this respect is not satisfactory yet.

As concerns access to justice issues, we can again underline that the Hungarian system satisfies even the most demanding EU requirements.

Access to the transmission or the distribution system in Hungary is ensured by the combination of negotiated access and regulated access, which in our view is in harmony with the EU requirements.

2.1.1.4 Monitoring and Reporting

As noted earlier the consumers get electricity from the distributor on a contractual basis. However, in order to ensure the security of energy supply, the distributor is more or less in a monopolistic position, so the interests of the consumers need to be protected by law. Article 45 of VET gives the guarantees of this protection. According to Paragraph (4), once the consumer and the distributor cannot agree in the actual content of the contract, the general rules of Article 54 of VET will prevail. These general rules stipulate that the distributor is obliged to write its business rules and then submit it to the HEO for approval. The acknowledged business rules shall be published by the distributor amongst the interested consumers.

In order to protect the consumers' interest, Article 45 of VET strictly regulates the cases when the distributor can terminate the contract, while the consumer is entitled to do that at any time within a 30-day notification period.

Naturally there are not yet rules in VET or elsewhere in the Hungarian energy law with regards to notifying the Commission about the technical rules to ensure the interoperability of the systems.

Evaluation of the harmonisation state:

The Hungarian law contains the proper control and transparency regulations the EU Directive demands in order to avoid any abuse of dominant market position especially to the detriment of consumers.

Transitional Provisions

According to some internal communications the Hungarian Ministry of Economics does not plan to initiate transitional regime from the Commission.

2.1.1.5 Conclusions

We can evaluate the overall EU harmonisation state of the Hungarian electricity market as fairly good. The basic requirement is to introduce the same definitions as the EU has, otherwise the two regulations would “speak a different language”, even if there were formal similarities in the laws, we could not speak about any harmonisation. The existence and the entitlements of the Hungarian Energy Offices respond well to the EU institutional requirements. The Hungarian procedural rules seem to properly ensure the long term energy needs and in the same time to protect the interest of the consumers. From this viewpoint it is a minor shortcoming that the substantial legal conditions of HEO are regulated on too low a level and such way these rules are difficult to be found. The subjects of these regulations are usually well equipped large companies which can

afford the proper legal infrastructure to tackle with this arrangement, the members of the public, the consumers in practice seldom need to know these rules.

From an environmental protection viewpoint, we have especially scrutinised the position of the small producers, auto-producers and producers using alternative energy sources. Indirectly we were highly interested in the liberalisation of the electricity market, too, because the monopolistic situation could harm the interest of the consumers and the interest of the environment in the same time. We have found that the Hungarian electricity regulation is not yet sensitive enough in the question of small producers: it gives only relative freedom to the auto-producers (but fails to protect them) and contains some fairly good regulations in connection with the producers using alternative energy sources. However, even in this latter respect, the Hungarian regulation is not supportive enough yet. Finally, as concerns the liberalisation of the electricity market, we can summarise our opinion that the entitlement of production, transmission and dissemination of electricity rest upon the discretionary power of the Energy Office, but this discretionary power has enough inbuilt legal/procedural guarantees to ensure an acceptable liberalisation level.

2.1.2 Liberalisation of the Gas Market

This issue is dealt with in Act XLI of 1994 on Gas Supply (hereinafter: GT) and in the implementing regulation of it, Governmental Decree No. 3/1995. (I. 20.) Korm. (hereinafter GVhr). Because of legal-historical reasons, some questions on this topic are regulated by the Mining Act (Act XLVIII. of 1993, hereinafter BT) and its implementation Governmental Decree No. 115/1993. (VIII. 12.) Korm. (hereinafter: Bvhr.).

The GT was drafted and accepted together with VET, and they mirror the same views and legislative principles. The two acts have a similar structure and identical legal institutions as well.

2.1.2.1 Objectives/Substantive Requirements

According to Article 9, Paragraph (3) of GT, any gas supplier can receive a permit for accepting and distributing gas if it was qualified by the Mining Inspectorate as having the proper technical and security conditions, if it was qualified by the HEO as having sound economic basis, and if it has enough storage capacity.

The EU directive states that distributors shall - having taken into consideration the economic condition - operate, maintain and develop a secure, reliable and efficient system with due regard to environmental protection. These requirements are present in GT on a general level in Article 2, which stipulates that gas supply shall be organised taking into consideration security of life, health and property, and protection of the environment and nature. The detailed level guarantees that the requirements of the Directive can be found amongst the conditions to permitting gas distribution (Article 9), the responsibilities of the permittee (Article 10) and sanctions of infringement of permit conditions (Article 11). There is an important environmental permitting condition in Article 9, Paragraph (2)

Point e./ which deserves highlighting: the permittee needs to show financial guarantees for fulfilling any possible future environmental claims.

While the aforementioned Articles of GT give the substantial frames of the security, reliability and efficiency of gas distributing, Gvhr contains the most important procedural rules. In the voluminous (almost 500 pages) Attachment to Gvhr, called Technical and Security Rules of the Gas and Oil Industry there are the most detailed technical rules. However, the environmental protection side of the regulation stays on the general level of GT, the lower level rules do not deal with this topic.

Evaluation of the harmonisation state:

Similarly to the energy regulations, the liberalism of the gas market according to the Hungarian law harmonises well to the European prescriptions.

Permitting and technical, security rules of this branch of the energy industry are the most detailed in the Hungarian body of energy legislation. However, for the full harmonisation with the EU law it would be necessary to work out in more detail the environmental rules.

2.1.2.2 Institutional Requirements

Quite similarly to VET, GT gives entitlement to the HEO to grant permits to distributors. However, constructions connected with producing (mining) natural gas and transmitting shall be permitted by the Mining Inspectorate, according to Articles 24, 26, 28 and 31 of BT.

In Article 7, Paragraph (2), GT determines the responsibility of the HEO in examining the complaints of the consumers (Point c.) and to strive to reach an agreement or when it is not successful to bring a decision to settle the disputes between the consumers and consumer organisations, and the distributor.

The scope of the General Administrative Code covers the process of HEO in the gas cases, too; the procedures of access to justice are also ensured in these matters.

Evaluation of the harmonisation state:

As concerns the authorisation issues, the Hungarian gas regulations are in total harmonisation with the EU requirements. The same is true in respect with dispute resolutions and access to justice issues.

2.1.2.3 Procedural Requirements

Article 9. Paragraph (3) of GT, as amended by Act XX of 1997 contains the general conditions of granting permit for distributors. Although in GT there is no detailed description of what kind of technical, security and financial conditions the requester needs to meet, there are many detailed professional, technical rules in the large attachment of

Gvhr. However, it seems to be within the discretionary power of the HEO to determine the environmental aspects of the permitting cases.

According to Article 43 of Áe - which refers to the process of the HEO because of the direct reference of Article 6, Paragraph (3) of GT) - the authority shall point out clearly which evidences and facts it has taken into consideration and also that what are the legal underpinnings of its decision.

The aforementioned attachment of Gvhr (titled: Public Gas Service Rules) gives a detailed technical description on the conditions of the connection of the gas supply system, which is generally available to all consumers (and mandatory to the suppliers) without any discrimination. However, there is a small difference according to the volume of consumption, because consumers above 200 m³/h capacity are not subject to security supervision done by the distributor - they are themselves responsible for observing those technical rules of security.

The Public Gas Service Rules were quoted several times in the above texts. One small legal technical issue should be mentioned in connection with it. It contains a lot of important but highly technical rules and it is so large, that several editors of legal collections sometimes cannot resist the temptation to shorten its text or even omit it totally. These phenomena naturally can make it difficult to search the legal materials concerning certain individual cases.

Quite similarly to the energy regulation, the distributors are obliged to supply the consumers with gas, but the details of their relationships are regulated by their contracts.

Evaluation of the harmonisation state:

Detailed environmental conditions of permitting should be developed complete the otherwise high level EU harmonisation status of the Hungarian gas permitting regulations.

There should be short, easy to understand summaries of the highly technical gas supply regulations or at least of those parts which are frequently used by the members of the public in their individual complaints, disputes and other similar cases. There should be also clear references to the places (libraries, public offices etc.) where the whole text of the Public Gas Service Rules can be found. Such measures would make the Hungarian legal situation totally EU conform in this respect, too.

2.1.2.4 Monitoring and Reporting

Articles 20 - 29 of GT regulates the legal connections between the distributor and the consumer. There are also detailed rules of the legal position of the consumer in the Public Gas Service Rules. However there is no active information responsibility in these laws, so the public gets knowledge upon their rights through their own efforts.

Evaluation of the harmonisation state:

There is a lack of harmonisation in this respect because authorities do not actively disseminate some basic information, which forms the basic side of the democratic legal systems which allows, encourages and helps the public to participate in the legal cases they are concerned with.

2.1.2.5 Conclusions

The EU harmonisation state of the Hungarian gas regulation is similar to the electricity regulations. The higher level detailed regulation, the gas sector has (compared to the electricity sector) shows more clearly the feature we have underlined already in the previous sub-chapter: the Hungarian energy regulations are not sensitive enough in the environmental issues. Even if the gas sector has its very detailed Technical and Security Rules, in principle available for anybody, we cannot find direct environmental protection stipulations. We also has criticised the practical difficulties the public is faced with when they seek their rights in gas cases.⁸

2.1.3 Energy Taxation

The Act LXXVIII of 1991 on excise taxes does not cover mineral oils or other energy products. However, Act LVI of 1995 On Environmental Product Fees (hereinafter KT) as amended several times, last time by Act LXIX of 1998 does contain a mineral oil chapter (Chapter V). The regulation of product fees has three layers: there is a Governmental Decree No. 113/1995 (IX. 27.) Korm, as amended last time by the Governmental Decree No. 69/1999. (V. 21.) and a Decree of Minister of Environment No. 10/1995. (IX. 28.). The main difference between the excise taxes and product fee is that the money paid as product fee has a closer connection to the territory of society it was collected in, e. g. upon certain conditions it can be reimbursed to the polluter or to those who actually paid the fee.^{9, 10, 11} In the case of petrol the KT (Article 3, Paragraph (2)) refers further to Act CIII. of 1997 on State Income Taxes (hereinafter: JT)

⁸ In a case EMLA's Public Interest Environmental Law Firm run in 1995-96 170 hundred families in Budapest were endangered by a high pressure gas pipeline. The dwellers formed a coalition and tried to participate in the construction permitting process. It turned out that in the administrative law process the decisive question is whether the given pipeline is categorised as distribution line or as a transmission line. The laymen participants had to make a research in 100 of pages of the detailed gas regulations and finally they found at least a dozen places in the law which - not totally in harmony with each other - regulated the question. Needless to say that this situation is far from being a fair arrangement for the consumers.

⁹ In the economic literature everything that charges the polluters because of the damages caused or to be caused in the environment is called an environmental tax. The money from the so called "purpose taxes" flows back to the victims of the pollution and serves as remedy. The idea of such environmental purpose taxes comes from the economist Pigou, as far back in time as 1932 (Environmental Economy, Dezső Kulcsár, National Environmental and Nature Protection Agency, 1986).

2.1.3.1 Objectives/Substantive Requirements

According to JT and KT there are environmental product fees on: unleaded petrol, leaded petrol, other petrol, except those which are used as fine chemicals, heavy fuel oils, gas oils, any other liquids made of gaseous products and used as fuel, compressed gases, used as fuel and additional materials used for fuels. The amount of environmental product fee is around 1 ECU/1000 l. Naturally, there are other taxes and duties (like the state income tax around 35 ECU) which charge the fuel prices, but they are not excise duty type ones.

Table 1: Fuel Prices

	1997	1998	1999
	- HUF/l -		
Petrol	78.1	88.2	95.0
Gas oil	129.0	147.5	147.9

Source: Clear Air Action Group

As concerns the environmental product fee there are no exemptions or special rules according to use (energetic, special industrial and commercial rules, heating) or to branches of industry.

Evaluation of the harmonisation state:

Environmental product fees can be defined as a sub group of environmental taxes (purpose taxes¹²) and can serve better the environmental interests than the rest of environmental taxes. However, we still cannot say that there is a harmonisation between the Hungarian product fee regulations and the EU excise duty regulations, because the latter one has a line of different macro-economic effects.

¹⁰ The product charge on gasoline for instance shall be used primarily a/ as motivation for taking technical measures to reduce environmental pollution caused by vehicles, b/ for the development of the infrastructure of highway transportation for environmental purposes, c/ for vehicle related waste management, d/ for the support of the development of environmental friendly solutions of transport and products and e/ increase public awareness of environmental problems (Zsuzsa Lehoczki, Economic Instruments/Incentives in Environmental Protection in Hungary, Manuscript, Budapest 1993 - 94).

¹¹ Others do not even count the general excise duties as ecological kind of taxes, they suggest to eliminate them and to introduce real eco-taxation (Dieter Teufel and others, Eco-taxes as market tools for environmental protection, Umwelt und Prognose-Institut, Heidelberg, 1988).

¹² According to the Workshop, these "purpose taxes" cannot even reach their purposes, because of the relatively high rigidity of the social need for energy.

The lack of differentiation of the taxes according to the intended use of the materials in question is a good example of the lack of subtle, flexible methodological traits of regulation we referred to in the Introduction. There is a substantial lack of EU harmonisation in this respect.

2.1.3.2 Institutional Requirements

Hungary has a separate tax authority, under supervision of the Ministry of Finance.

Evaluation of the harmonisation state:

The EU harmonisation of the Hungarian structure seems acceptable. However, the spirit of the regulation would dictate that the Hungarian tax authority should have special units which would be able to keep an eye on the fulfilment of the environmental purposes of the tax system, not only on the budgetary ones. True, they charge the excise duties well, but in our opinion they should develop some level of environmental awareness, too.

2.1.3.3 Monitoring and Reporting

Hungary has recently introduced institutional changes in order to ensure a more stringent tax enforcement. The main measure was the establishment of the Tax Police which was lacking.

2.1.3.4 Conclusions

In the EU law energy taxation has clear environmental reasons and purposes. The general taxation policy and the taxation institutions in Hungary has no clear-cut environmental aspects. Although Hungary has a system of environmental product fees, which could serve similar goals than the EU energy taxation regulations do, we shall conclude here that the *integration principle*, i.e. the principle that the environmental considerations should permeate all the sectors of our legal and administrative system, does not work satisfactorily yet in Hungary.

2.1.4 Large Combustion Plant Directive (and Proposed Revision)

It seems natural that the national counterpart of the content of this Directive cannot be found in a single regulation, but is spread out in several laws of energy production, environmental protection and some special regulations on power plants and combustion plants, too. This way we have to consider here the already mentioned VET; the Governmental Decree No. 107/1995 (IX. 8.) Korm. on Permitting Process Of Power Plants (hereinafter EEr); the Governmental Decree No. 73/1996. (V. 22.) Korm. on Right To Know, Public Hearing And Expert Committee Processes In Permitting Of Power Plants Exercising Significant Effect On The Natural, Social And Economic Environment (hereinafter: KRR); the Governmental Decree No. 21/1986. (VI. 2.) MT. on The Protection Of Air (hereinafter: LR); the Decree of Minister of Environment No. 4/1986. (VI. 2.) OKTH

on implementation of Lr (hereinafter: Lvhr); the Decree of Minister of Environment No. 22/1998. (VI. 26.) KTM on Emission Standards Of Combustion Plants With Minimum Capacity of 50 MW (hereinafter: KEr) and the Decree of Minister of Public Health No. 5/1990. (XII. 6.) NM on Emission Standards And On Measurement Of Air Pollutants (hereinafter NMr).

2.1.4.1 Objectives/Substantive Requirements

While Lr, Lvhr and Nmr give the procedural framework for the regulation, KEr¹³ contains special rules and precisely described emission limits for all combustion plants with a capacity equal to or superior than 50 MW. The scope of KEr covers the existing and the new facilities, as well and establishes individual emission limits for both groups.

There are no exemptions for plants making direct use of the products of combustion in manufacturing processed; plants powered by diesel, petrol or gas engines or gas turbines in KEr, even its Attachment 2 deals with all fluid fuels, Attachment 3 with all gaseous fuels and Attachment 4 with gas turbines.

Countries naturally have a series of environmental plans, policies and programs. However, for EU environmental law harmonisation purposes it seems to be advisable to use a stricter interpretation on that notion. Program should mean: having clear-cut national emission reduction aims and developing definite step by step measures for individual polluters about fulfilling these tasks. In this meaning Hungary does not have any kind of pollution reduction programs in connection to the large combustion plants. For Hungary, there are several legal interpretation problems in connection to programs for phased reduction of total annual emission from existing plants for us when we try to evaluate our EU harmonisation level. The first is a simple one: for AC-s existing plant certainly will mean plants having their first instance construction permits/applications for such permits before becoming a MS. The other one is much more difficult.

Evaluation of the harmonisation state:

In respect of the emission standards on SO₂, NO_x and dust the Hungarian law harmonises with the EU law. However, there are some differences in the scope of the regulations which in our view do not influence the level of harmonisation.

¹³ KEr is going to come fully into force by the year 2004, which leaves some times for the energy producers to comply with the new standards. [Ada Amon, Energy Club]

As concerns the actual implementation of these laws, in the last 5 years there was no big environmental problem because of large combustion plants in Hungary.¹⁴

Programs in legal terms are almost totally missing from the Hungarian legal system, again one of the general methodological traits we pointed out in the Introduction. Lack of harmonisation here means lack of the proper attitude of the legislators: that's why it is much more than a simple legal technical problem.

2.1.4.2 Institutional Requirements

VET and EEr nominate the HEO as the licensing authority, while EEr also enlists other authorities which participate in the licensing process as co-authorities (as it is described in Áe, Paragraphs 20 - 21). These are: fire protection, civil protection, public health, nature protection, environmental protection, communication, road supervision and several other authorities. Lr and Lvhr prescribe detailed reporting obligations for the combustion plants, too, in the format of the so called LAL (Basic Air Pollution Reporting) sheets. In principle, all of the authorities listed above have the responsibility to monitor the large combustion plants from their given special professional viewpoints. In practice, environmental and public health authorities do meaningful monitoring work on this field.

Although the EIA chapter of the Hungarian Environmental Code (Act LIII of 1995) and the Governmental Decree No. 152/1995. (XII. 12.) Korm. on Activities Subject to EIA and the detailed process of the environmental impact assessment is not harmonised yet with Article 7 of Directive 85/337/EEC, last year Hungary ratified the Espoo Convention, which is identical with the international requirements of the EIA Directive. The necessary modifications on our internal EIA law have not been done yet,¹⁵ but according to Article 7, Paragraph (1) of the Hungarian Constitution, the pieces of international law, which are ratified by the country are directly binding to its authorities and citizens.

Evaluation of the harmonisation state:

In the field of competent authorities and reporting responsibilities the harmonisation is perfect, while in the assessment of the transboundary air pollution matters there are some formal procedural steps ahead, but the harmonisation work is already well under way.

¹⁴ Article 2, Paragraph 6 and 7 exclude from the definition of combustion plants all those plants which use waste as fuel, that's why we can say that there is no practical problem with these plants. If we extend the scope of our examination to other fields of air protection, we would find that there are a lot of substantial complaints in connection with waste incineration, like the Rákospalota (Budapest, Xvth District) incinerator case, where there is huge air pollution because of the lack of electro-filters in the chimneys.

¹⁵ In June, 1999 the Ministry of Environment sent the final draft of the amendment of the Governmental Decree on Environmental Impact Assessment to the other ministries for their last opinions before the Government consents on it.

2.1.4.3 Procedural Requirements

As we have seen above there is a licensing system, and there are also detailed conditions on emission limits in EEr. In its Chapter titled "Extraordinary measures" Lr. stipulates that the environmental authority (generally the environmental inspectorate, but in some urgent cases the mayor of the given municipality) can determine compulsory measures for the operators in cases when there is an irregular pollution or the danger of it.

Evaluation of the harmonisation state:

The harmonisation of the Hungarian law in this respect is almost full, but some detailed technical rules about the responsibility of the operator of the combustion plants to prepare for any possible malfunctions or breakdown would make it more perfect. At the time being, the bulk of the work of preparation for malfunctions or breakdown is placed in the hands of the authorities.

2.1.4.4 Monitoring and Reporting

The EU directive states that emissions from new plants of more than 300 MW must be measured on continual basis, others must be measured regularly as approved by the competent authority. Operators have to report to the authorities on the results of continuous measuring. Article 5 of KEr gives exactly the same rules, while Paragraph (6) of this Article stipulates that other plants shall proxy an independent, entitled institution to measure their emissions once a year. Environmental inspectorates are responsible for the monitoring. Continual basis means that the operator shall equip its plant with devices which continuously measure the gas emissions (SO₂, NO_x, CO, particles and O₂ content), the temperature, velocity and pressure of the smoke gases. The devices shall be able to fix and store the measured data, too. Regular measuring on the other hand means a measuring frequency determined by the authority taking in consideration the circumstances of the given case. All the data shall be produced to the authority annually, but the continuously measured data shall be clustered by months and the regularly measured data shall be clustered only quarterly.

As we have seen above independent institutions received a role in the Hungarian regulations.

Evaluation of the harmonisation state:

The Hungarian monitoring and reporting rules respond well to the EU requirements.

2.1.4.5 Recent Developments Related to the Directive

The scope of the EU Directive is going to include gas turbines NO_x emissions while EEr is already regulating them.

As we have seen in the earlier chapters, VET in its Article 43, Paragraph (4) contains regulations which give advantages to all energy producers which use renewable energy sources. The combined heat and power generation is part of this preferred options in

level of “rethorics”, although we have to note that the pricing mechanisms for electricity generated by renewable sources or from co-generation technology is very weak and out-dated.

Evaluation of the harmonisation state:

The Hungarian energy law is in “advance” and “waiting” for the amendment of the EU energy law: it is harmonised with the planned rules. However, encouragement of using combined heat needs further regulations and renewable energy use could use further encouragement, too.

2.1.4.6 Conclusions

Historically, in the Hungarian law the regulation of the large combustion plants has acknowledged the environmental aspects more than in case of the regulation of electricity and gas supply. This is mainly because of the direct connection between the operation of these plants and the ambient environmental status is more obvious. That’s why there are definitely environmental norms in the large set of the regulations concerning large combustion plants. Such norms are, as we have seen, first of all Lr., Lvhr, Ker and Nmr. Programs for phased reduction of total annual emission from existing plant are missing amongst the available legal tools in Hungary. Some may say that our evaluation was a little bit too stringent, but environment wants not only written declarations labelled as “programs”, but rather concrete results in the ambient air quality. These concrete results can be achieved only through using proper legal techniques, consequentially used system of guarantees, sanctions, responsible offices and persons etc.

2.1.5 The SAVE Directive

The Hungarian Government issued its Decision¹⁶ No. 2399/1995. (XII. 12.) on National Energy Saving and Energy Efficiency Action Program (hereinafter: Sh), which more or less corresponds to the EU SAVE programs. However, the printing work which was done in this respect does not seem in harmony with the EU program without changing the actual construction standards, technical requirements together with proper sanctions and monitoring obligations.

2.1.5.1 Objectives/Substantive Requirements

Sh accepts and works out the idea of limiting carbon dioxide emissions by improving energy efficiency.

¹⁶ According to Act XI of 1987 on the legislation, governmental decisions are not directly binding to the citizens or to the companies. However, the decision is binding to the whole state system, every ministries and authorities shall follow its the stipulations.

2.1.5.2 Institutional Requirements

Sh notifies the responsible authorities for each task it contains. The responsible authorities are: the HEO, the Ministry of Industry, the Ministry of Agriculture, the Home Office, the Ministry of Environment and semi-governmental institutions such as the Energy Centre (public interest company) others.

2.1.5.3 Procedural Requirements

The EU Directive contains specifics on programs on six policy areas:

- *energy certification of buildings*: this is covered by Point 6 of Sh which prescribes the introduction of regulations on an energy certification which would be a mandatory condition for receiving usage permit for buildings. However, the prescription is too vague and puts a deadline only for the feasibility studies of this regulation not for the regulation itself.
- *individual billing of heating, air conditioning and hot water costs*: This is covered by Point 4 of Sh which says that the newly built buildings with central or long distance heating systems should be equipped with individual regulating devices. The regulation concerning this shall make it possible to make exemptions based on the number of flats in the buildings. There must be technical arrangements which make it possible to pay the heating costs according to the heat actually consumed as it is measured by the heat centres. In other places there should be an objective cost dissemination methodology.
- *third party financing for energy efficiency investments in the public sector* There are no harmonisation steps in Sh. The situation in practice is different though (see Best Practice Project narrative.)
- *thermal insulation of new buildings* is covered by Point 5 of Sh which gives instruction to the concerned ministers to revise the standards to harmonise them with Directive 89/106/EEC and also issues guidance in this topic. It stipulates that the feasibility and the climatic features of the building shall be taken into consideration during the planning of the details of these standards. Furthermore the technical guidance which promote the structural plans based upon the above viewpoints, shall be subsidised. The standard shall be mandatory for the new buildings and for renovation of existing buildings it shall be used according to the technical situation.
- *regular inspection of large boilers* There is no harmonisation in Sh.
- *energy audits of high energy consumption undertakings*: this is covered by Point 7 of Sh which prescribes the banning of facilities which are not energy efficient and environmentally harmful in harmony with the minimum EU requirements of efficiency and the regulations of GATT. However, it contains deadlines only for issuing a single product auditing regulation (household refrigerators); in other respects the order of the program is not so clear-cut. Point 7 also prescribes labelling the energy efficiency

of household equipment using a significant amount of electricity or gas, in harmony with the practice in the EU. Point 7 furthermore obliges the Minister of industry and commerce to bring regulations in accordance with Directives 92/75/EEC and 94/2/EC, keeping also an eye on the practice of the Member States.

Evaluation of the harmonisation state:

We see a high level of harmonisation in respect to four items out of six, while there is no harmonisation yet in respect of third party financing for energy efficiency investments in the public sector and in respect to regular inspection of large boilers.

2.1.5.4 Monitoring and Reporting

It is not yet binding for Hungary.

2.1.5.5 Conclusions

We see a high level of harmonisation in respect to four items out of six, while there is no harmonisation yet in respect of third party financing for energy efficiency investments in the public sector and in respect to regular inspection of large boilers. The methodology of the regulation of the already harmonised items is on good track. There are enough details, deadlines (usually) and responsible bodies for the implementation of the points of the program. However, the more careful scrutiny can show that within the responsible bodies (here: ministries) there are not always a responsible division/person for the respective tasks. This way the transparency and effectiveness of the process of implementation of the programs is endangered.

2.1.6 Directives on Labelling of Consumption of Energy

Two Hungarian laws should be mentioned in this chapter: Joint Decree of Ministers of Internal Commerce and Industry No. 2/1984. (III. 10.) BkM-IpM on Informing The Consumers On The Quality And Handling Instructions Of The Products (hereinafter Vtr.) and Decree of the Minister of Industry, Commerce and Tourism No. 1/1998. (I. 12.) IKIM on Energy Efficiency Labelling Of Refrigerators, Freezers And Their Combinations (hereinafter: Hfr). However, there is a general legal problem in connection with the generality of Vtr. According to Article 3, Paragraph (1) the Minister of Industry, Commerce and Tourism would publish the list of products for which labelling is mandatory. This publication is not a legal document and access to it is limited.¹⁷

¹⁷ In our opinion it is a constitutional problem of technical nature, not closely related to the substantial issue of binding nature of Vtr. The only thing we would suggest to do is to encapsulate the list of products into the text or into an amendment of Vtr, not to keep it separate in a list, as the subjects of regulation only access it with great difficulty.

2.1.6.1 Objectives/Substantive Requirements

The EU directive requires product labelling and information on the energy consumption of: refrigerators, freezers; washing machines; dishwashers; ovens; lighting sources; water heaters and hot water storage appliances; air conditioners.

Since the additional list mentioned in Vtr is not published yet, only the first item (refrigerators, freezers) is harmonised in the Hungarian law by Hfr.

Article (2) Paragraph (1) of Vtr. stipulates that the language of the label has to be Hungarian and the information has to be sentenced in a manner easy to understand. Article 3, Paragraph (2) adds to this that the label has to be attached to each individual product or it has to be stuck on the packaging material of the individual products (not on the mass packaging).

There is no special stipulation in Vtr. about mail order products but in the legal practice the same information and labelling standards are used in the case of such products, as well.¹⁸

Evaluation of the harmonisation state:

There is an old labelling law in the Hungarian law, which is good and bad at the same time for our EU harmonisation status. It is good in that we have a 15-year history of "labelling culture", the traders got accustomed to equip their products with proper labels and the consumers do require it, too. It is bad on the other hand in, that the old law mirrors an old view: labelling only the quality and handling instructions, but not the energy efficiency, environmental friendliness, consumption (like additional materials, colours, allergenic materials etc.) information.

In short, in product labelling regulation the present EU harmonisation performance of the Hungarian law is poor, but it has good enough basis to develop it to the acceptable level.

2.1.6.2 Institutional Requirements

There are two competent authorities on to which Vtr. put the obligation to implement and monitor the compliance with its labelling stipulations: Commercial Quality Monitoring Institute and Consumer Protection Inspectorate.

Evaluation of the harmonisation state:

Both authorities could form an excellent official background to fulfilling the new EU conform requirements, so our harmonisation is good with respect to the EU institutional requirements.

¹⁸ As seen from the decisions of the Hungarian Economic Competition Office No. 76/1994 and 234/1993.

2.1.6.3 Procedural Requirements

The Hungarian legislation is silent on the issue of the free provision of all labels and information, but in practice we haven't met a case when the distributor of a product demanded additional payment for the product information or for the labels.

Labelling is done by the producer, importer or by the distributor. Article 2, Paragraph (5) prohibits the distribution of those products from which the label is missing. One of the biggest problems concerning labelling beside the lack of public awareness raising and information campaigns on the promotion of the labels, that the measuring or standardisation authority is missing in the process to check the reliability of the background data.

There is no regulation yet on maintenance of technical documentation of the products, e.g. test reports, design calculations for 5 years.

Points 9 and 11 of Sh address the issues of educational and promotional campaigns on energy consumption. Point 9 obliges the Minister of Education to develop energy and environmental awareness programs for the elementary and secondary school education curricula, while Point 11 obliges the director of the HEO to organise regular information forums for energy experts. There have been several attempts for this type of activities from the side of other actors, such as the Energy Centre and non-governmental organisations.

Evaluation of the harmonisation state:

Except one formal (but important) requirement (maintenance of technical documentation of the products for 5 years) the EU harmonisation of the Hungarian procedural requirements of labelling is good.

2.1.6.4 Monitoring and Reporting

It is not yet binding for Hungary.

2.1.6.5 Conclusions

There is a good "labelling infrastructure" in Hungary, which at the time being is not used for labelling energy efficiency and environmental information. The only exemption is the brand new regulation on refrigerators, freezers and their combinations. The Hungarian environmental policy makers has not totally realised yet that one of the biggest possible alliance for the official environmental protection organisations is the public awareness. Within this category, consumers' information could be one of the most powerful environmental protection tool, which could change the behaviour of whole industrial branches from one day to the other.

2.1.7 Directives on Energy Efficiency Requirements for Household Appliances

As concerns the topic of hot water boilers, there is a new Hungarian regulation which fully responds the EU requirements, the Decree of the Minister of Industry, Commerce and Tourism, No. 20/1998. (IV. 17.) IKIM (hereinafter: Gr.), while the topic of refrigerators and freezers is only partly covered. The Act CLV of 1997 on Giving Information To The Consumers (hereinafter: Ftv) and the already mentioned Decree of the Minister of Industry, Commerce and Tourism No. 1/1998. (I. 12.) IKIM on Energy Efficiency Labelling Of Refrigerators, Freezers And Their Combinations (Hfr) more or less covers the notification part of the requirements in this respect.

2.1.7.1 Objectives/Substantive Requirements

Gr. covers the EU requirements for rules for water boilers fired by liquid or gaseous fuels. Article 1, Paragraph (1) gives the same limits of the scope of the regulation.

There is no Hungarian regulation for electric mains-operated household refrigerators, frozen food storage cabinets, food freezers and combinations.

There is no planned Hungarian regulation on commercial lamp circuits.

In respect with boilers Article 3, Paragraph (1) and (2) prohibits placement on the market of those boilers which does not meet the EU standards. However, paragraph (3) here allows a maximum of 4 % difference from these standards. In connection with refrigerators and freezers there is no similar Hungarian regulation.

Evaluation of the harmonisation state:

In connection with water boilers we can say that Hungarian regulations are in full harmony with the EU norms, while in case with the refrigerators and freezers the Hungarian regulation doesn't exist yet.

2.1.7.2 Institutional Requirements

Articles 4, 5, 6 and 7 of Gr. speak about verification body, which controls the compliance and entitles the producers to put a "CE" sign on the boilers which are in compliance with the regulations. Since the regulation is new, we cannot evaluate yet the practice in connection with the verification bodies. As concerns the written regulations, according to Article 4, Paragraph (6) of Gr., the verification body examines the technical parameters of the product on a sample, compares it to the technical documentation, identifies the standardised parts of the products, etc. If the product has already been verified, the verification body shall simply compare the products with this document. Article 7 of Gr. regulates in details the monitoring responsibilities of the verification body.

Evaluation of the harmonisation state:

The harmonisation in this respect is full, at least at the level of the written regulation.

2.1.7.3 Procedural Requirements

There is no similar rule to the Symbol scheme (stars) for hot-water boilers with an efficiency superior to the requirements of the Hungarian legislation in Gr. The Hfr Attachment III gives a symbol scheme, where star symbols are also used for refrigerators. Unfortunately, here the stars have not connection to the level of energy efficiency but to the general capacity and size of the several categories of refrigerators.

Article 4 of Gr. prescribes the examination process. The producer has to request the verification authority to examine the produced type of boilers, and the producer has to request it again if the production process is modified in such a way as to lead to changes in the energy efficiency. According to Article 4, Par. (7) of Gr. the verification body issues a declaration of conformity in case of a positive result of the verification process, otherwise it dismisses the request. Article 6 of Gr. regulates the declaration of conformity process with a sign which is exactly shown in Attachment 3 to Gr.

Article 10, paragraph (1) Point f. of Hfr. generally prescribes to notify the consumers about the information of energy consumption of those products for which it is significant. Article 9 of Hfr. stipulates that the products can be placed on the market only if the requirements of Article 10 are met.

Evaluation of the harmonisation state:

Harmonisation of the rules in connection with the examination procedure and declaration of conformity is full, but in symbol scheme is weak. Due to the points mentioned above the requirements are not fully met.

2.1.7.4 Monitoring and Reporting

It is not yet binding for Hungary.

2.1.7.5 Conclusions

Law harmonisation experiences generally show that the countries of our region has less trouble with such EU norms which contain more technical issues than structural, methodological ones. Since the regulations on energy efficiency of household appliances seems to be mainly technical ones, it seems to be only a question of time - possibly not so long time - to reach a good level of harmonisation. The new regulation on hot water boilers (Gr.) is an example of this quick and perfect harmonisation.

2.1.8 Directive on Integrated Pollution Prevention Control

Since the IPPC system represents a revolutionary new wave in environmental law, no country has yet a complete response to that. However, Hungary stands relatively well as regards preparation of the background for the harmonisation with the IPPC directive (see after). The Hungarian Environmental Code (Act LIII. of 1995 - hereinafter: Kvtv) and the Governmental Decree No. 152/1995. (XII. 12.) on the Detailed Rules Of Environ-

mental Impact Assessment (hereinafter: Khvr.) contain a couple of legal institutions which can be used in the future development of an IPPC system. Indeed, Hungary doesn't have an IPPC law, but has an EIA and an institutional background that we think is favourable to the coming of IPPC legislation.

2.1.8.1 Objectives/Substantive Requirements

There is no body of regulation comparable to the IPPC in Hungary but the EIA procedures offer elements dealing with IPPC. It is an important feature of Khvr that the list of activities subject to EIA¹⁹ is extremely long and demanding. Only in seven cases are there no Hungarian equivalent to the IPPC list items (Points 2.3, 2.5, 3.4, 6.2, 6.5, 6.6 and 6.7) and in eight cases there are differences (1.2, 2.2, 2.4, 2.6, 3.3, 3.5, 4.1, 6.3) We must add that in some cases of differences, the difference means that the Hungarian Khvr. contains more stringent limit values than the IPPC list.

The substantive part of the Hungarian EIA regulation contains an integrated pollution prevention approach. This can be concluded from the requirements of the content of the environmental impact statement (Article 6 of Khvr), which cover all kinds of possible impacts on all the elements of the environment.

An important guarantee of the integrated approach is to be found in the structure of the Regional Environmental Inspectorates: there are several sub-divisions in the inspectorates, all responsible for one aspect of the environment. The EIA files in the practice undergo a scrutiny at all such sub-divisions of the inspectorates.

Evaluation of the harmonisation state:

Since the items list of activities of the EU IPPC regulation are not fully covered by the Hungarian EIA regulations, we cannot speak about a full harmonisation. But it is our general opinion is that the Hungarian EIA system will respond well to the IPPC requirements. Though the transposition of the IPPC is different from the EIA (the EIA is only an specific assessment procedure in special cases whereas IPPC requires an integrated "action" approach) in Western European EIA systems, the situation is slightly different in the Hungarian one. The Hungarian EIA, its procedural arrangements, especially its institutional background creates a fortunate basis for establishing an IPPC regime.

However, there is a procedural hindrance, which makes the Hungarian EIA less objective and environmentally friendly: the environmental impact statement is prepared by the experts who are hired by the investor. This arrangement raises the bias of the experts almost in all cases in the practice.

¹⁹ The Hungarian environmental impact assessment (EIA) regulation has opted for giving a list of activities together with threshold values and other descriptive traits of the activities instead of giving positive or negative (or the combination of these) discretionary power to the authorities to decide in individual cases.

2.1.8.2 Institutional Requirements

The other strong part of the Hungarian system is that we have specialised environmental permitting and controlling authorities, the twelve Regional Environmental Inspectorates. and because these Environmental Inspectorates have an integrated structure. They have highly educated, specialised personnel for each environmental elements and for waste management. The division of work is usually determined by professional and territorial viewpoints, the regulated industrial sectors are less considered.

The existing system of REAs provides a good basis for establishing a full-fledged IPPC system.

Evaluation of the harmonisation state:

Though Hungary does not yet have an IPPC compatible environmental permitting system, the conditions for introducing a full-fledged IPPC system are ready in Hungary. In sum, the requirements of the IPPC directive are not met but, as mentioned above, the institutional conditions are very favourable.

2.1.8.3 Procedural Requirements

The requirement for Best Available Techniques for pollution abatement. is not sentenced yet in the examined Hungarian regulations.

Both Kvtv (Article 71, Paragraph (1), Points a-j) and Khvr (Article 6) determines the requirement to consider all the enlisted aspects of a given technology.

Environmental supervision is a legal institution, as it is described in Articles 73 - 76 of Kvtv, which relates to the already existing installations with any kind of significant harmful environmental effects. The multimedia approach is built in the operating of the multi-profession units of the Regional Environmental Inspectorates. Although the control measures are not worked out yet in detail, environmental supervision itself could be an effective control tool. However, because of lackings in staff and funds, the inspectorates in practice frequently overlook even the mandatory cases of environmental supervision and fail to start the necessary processes.

Comparing the Hungarian environmental permitting system to the IPPC regime we find that although there is such a system it is far from being identical to it. Best available technology is simply mentioned in the general part of the Hungarian Environmental Code, but the detailed standards are not worked out yet, so that the practical use of BAT is just a question of the future.

As concerns inclusion of emission limit values in the permits, there is no systematic regulation, but in the practice, the Environmental Inspectorates frequently make decisions in which there are emission limits as conditions of the permit. This is a rare phenomenon in the Hungarian environmental law, when the practice has gone ahead of the strict interpretation of the written regulations.

Although the fortunate multi-professional arrangement of the inspectorates ensures that all the environmental authority decisions take into consideration ground water and waste issues when it is necessary, the transfer potential of emissions is not systematically examined by the Environmental authorities. In principle, there are legal possibilities for the Environmental Inspectorates to determine emission limits and/or emission values that are stricter than the general standards - if the circumstances of the given case require so. Transfer potential of certain emissions should be one of the meaningful circumstances.

Concerning the examination of the significant negative transboundary effects, see what was said about the ratification of Espoo Convention.

Hungary has undersigned the Aarhus Convention on public participation in environmental decision-making. This means that all the three pillars of the Convention (right to information, right to participate and right to legal remedies) will be ensured at the highest possible level according to the newest international legal developments. The detailed rules of the first pillar in the Aarhus Convention ensure that the applications for permits are made available to the public, while the second pillar ensures that the interested members of the public can comment the projects in question and that their comments will be taken into due consideration.

There is a contradiction between Kvtv and Khvr in respect to periodic reconsideration and updating of the permit: Kvtv stipulates that an environmental permit shall be given only for a determined period, while Khvr allows the possibility of issuing a permit for an undetermined term. Naturally, the hierarchy of laws dictates that in the practice the higher level rule, Kvtv, must be used. However, in practice, more than 10 % of the cases are closed with a decision which contains an undetermined term of validity.²⁰

Evaluation of the harmonisation state:

Though the general harmonisation state of the Hungarian law seems good in respect with the procedural requirements of IPPC, there are important methodological traits (BAT, systematic consideration of potential transfer of pollutants) and procedural steps (regular updating the permit) that are still missing.

2.1.8.4 Monitoring and Reporting

Monitoring is the weakest part of our environmental permit system, there is no clear-cut legal obligation to perform it and financial and social difficulties of the inspectorates frequently prevent them from implementing systematic, consequential compliance monitoring.

Evaluation of the harmonisation state:

²⁰ Source: EMLA was commissioned by the Ministry of Environment to run a large scale practical survey on environmental impact assessment. We examined more than 50 files which is a significant amount and allows making well based general statements on the Hungarian EIA practice.

In respect to monitoring and reporting the Hungarian EU harmonisation is missing in practice.

2.1.8.5 Conclusions

There is a lively dispute in the Hungarian environmental community concerning the relationship of the already existing EIA systems and the IPPC systems which are to be introduced. No one says that they are identical, but one thing is sure: neither the regulated legal subjects, i.e. the investors, nor the regulating bodies, i.e. the environmental inspectorates could live with a double environmental permitting process. The environmental impact assessment could definitely serve as a basis for the IPPC decision, the two process shall go hand in hand. Hungary has the fortune that its environmental inspectorates are independent bodies with professionally compound personnel. This means that the integrated examination of the existing and new projects - including the examination of pollution transmissions, too - could be easily ensured. The proper basis of establishing the best techniques available for a given planned (or ongoing) activity could be found also in the very detailed environmental assessment of the present EIA processes.

2.2 Decisions and Programs

2.2.1 R&D Programs: Energy Framework Program (1998 - 2002)

The Energy Centre Kht. Is the institution in Hungary dealing with the announcement of the EU programs. It is beyond the scope of these pages to list all the beneficiaries of these programs in Hungary.

The EU programs are to be analysed in the next sub-chapters. As concerns THERMIE, the governmental proposal of the Minister of Economy, No. 911/364/1999 on Proposal on energy saving and energy efficiency strategy, May, 1999 (hereinafter: GP) points out that THERMIE has helped to establish a new Hungarian scientific institute called Hungarian EU Energy Centre. The Centre runs a couple of THERMIE projects nowadays, too.

2.2.2 Coal Subsidies

GP mirrors the clear view that the Hungarian energy policy aims at the gradual reduction and elimination of coal mining. However, large amounts of money are required (HUF 1,500 - 2,000 million, as estimated in Point 3.4.3) to handle the social and labour force problems stemming from this reduction or elimination. In Point 3.6.2 GP plans to cover these expenses in significant part with EU support.

The Act XC of 1998 on the 1999 annual Budget of the Hungarian Republic does not contain reference of any kind to direct support of the coal industry. This means that there

is not an underlying legal structure for this support. However, there is plenty of indirect support - but it is not a legal but a policy question and it cannot be read from laws.²¹

In 1991 Hungary established the Centre for Coal Mining Structure Reform, which organises and financially manages closing and re-cultivation of mines.

2.3 Environmental Agreements

There are TVs, refrigerators and washing machines produced in Hungary, but none of these companies have entered into voluntary environmental agreements because these are not part of the country's policy culture and among the tools actually used by the Government. On the positive side, there is a legal basis for voluntary agreements in Article 10, Paragraph (1) of Kvtv stipulates: "State organs, local governments, natural persons and their organisations, business organisations and the organisations safeguarding the interests of all the above, as well as other institutions shall co-operate in the protection of the environment. The right and responsibility to co-operate shall extend to all phases of achieving the environmental objectives." In spite of this legal principle of Kvtv, environmental agreements amongst the state and large industrial bodies are not in practice in Hungary.

Naturally, if there is a *quasi contract* concluded by a minister or other high ranking representative of the State and a large industrial group, it is more than a sheer declaration. Under certain circumstances, it could be understood as a civil law contract and the rights and obligations could be forced by a civil court, as well.

2.4 General Policies and Strategies for the Future

2.4.1 Combined Heat and Power (Co-generation)

GP, in Point 5.7.1 deals with distance heating systems, as one of the high energy efficiency heating solutions, which ensures the possibility to connect heat and energy production. The proposal of the Ministry of Economics is to give price incentives to the co-generation systems (Point 96/92/EC) (for information on co-generation, see the macro-economic data tables)

²¹ During the privatisation process in 1995 - 96, new investors were "forced" to buy power stations with the attached mines and also to use the coal from there. It was part of the Hungarian employment policy at that time even though the economic performance of these combined activities were clearly much poorer than purchasing fuel on the world market. Now the government is keen on phasing out this bad practice.

2.4.2 Renewable Energy Sources

GP, in its Point 2.3.1 states that in Hungary the share of renewable energy sources is 3 - 4 %. In the Hungarian policy documents we can find references to increase the above 3 - 4 % to 6 by the year 2000 but there is no agreed strategy on the implementation. There is good potential in Hungary in most of the renewable sources (wind, solar, biomass, geothermal).

GP urges the Hungarian decision-makers to accompany to ALTENER II program as soon as it is opened for the country, because "our energy policy aims overlap the Program" (Point 4.12.2)

2.4.3 Energy Efficiency

The basic Hungarian parliamentary decision on Energy Policy No. 21/1993. (IV. 9.) OGY, in its Point 3 stipulates that the Government should work out a general, nationwide energy efficiency program and ensure its implementation. GP in Point 2.3.2 prescribes to enlarge the Hungarian Energy Saving Loan Program, especially through extension of its municipal sub-program. It also stipulates that during planning the 2000 Budget, separate financial tools will be planned for energy efficiency. It also prescribes to start drafting a new energy efficiency act, which would contain the basic rules of energy saving, energy efficiency, use of renewable energy, state subsidies and incentives together with the proper institutional background (see section 4 on energy efficiency program analysis and screening).

Energy saving and energy efficiency are also highlighted in Article 77 of Act I of 1994 on the Agreement with the EU. (for more information on energy efficiency programs in Hungary see the Policy Analysis)

GP in its Point 3.2, speaking about the development plans of the energy sector stipulates that beside an annual 4 % GDP growth there has to be a 3,5 - 4,0 % energy efficiency growth, as well.²²

2.5 Planned and Proposed Activities

2.5.1 Integrated Resource Planning Directive

Both VET and Gt contain general statements pointing to this. In the Preamble of VET, the legislator highlights that increasing efficiency of producing, carrying, servicing and consuming energy is the first priority of the Act. Also in the Preamble, Gt. underlines the importance of the economic nature of gas services. Integrated Resource Planning is also

²² The latest energy demand forecasts states that a higher GDP growth will be followed by a lower increase of energy demand since it requires higher efficiency and significant change in technology.

mentioned in the vhr of VET, but since there is no concept for implementation, these are just words without meaning.²³

There is a weak guideline for demand side management, which is not in practice. The Governmental Decree No. 105/1996. (VII. 16.) Korm. on loans for energy saving renovation of buildings offers financial support for those private and public natural and legal personalities who decide to change the structure, insulation etc. of their buildings in order to be more energy efficient. Article 1 of the Decree underlines that the support was made possible by a large amount of from German State bank guarantee.

Both VET (Article 8) and Gt (Article 7) contain general consumer protection provisions. Both Acts create institutionalised connections between the HEO and consumer protection associations or other NGOs. Basically there is no governmental concept for taking care of the low-income consumers affected by the possible “fuel poverty” issue.

Evaluation of the harmonisation state:

There are still significant insufficiencies yet in the Hungarian integrated resource planning. However, some issues, such as incentives for energy efficient consumer investments are already well regulated.

2.5.1.1 Administrative Requirements

Currently there is nothing like an authority controlling the strategic development plans of the electricity and gas companies regarding energy efficiency. The HEO with an expanded and strengthened staff on modelling seems to be the proper authority for this task.

Evaluation of the harmonisation state:

The existence of the HEO ensures the basis for the good level of harmonisation as concerns the administrative requirements. However, it might be necessary for Environmental Inspectorates and some other co-authorities to co-operate in the decision making and there should be some level of public participation, especially with the participation of the concerned municipalities, since the energy efficiency plans should be harmonised with their local spatial planning, territory development plans, too.

2.5.1.2 Procedural Requirements

The implementing Governmental Decree of VET in its Article 1, Paragraph (2) contains planning provisions in order to use the least cost principle, demand side management and integrated resource planning. However, the subject of this planning activity are not the individual electricity service companies, but the HEO itself.

²³ There is one concept paper commissioned by the Energy Club on this issue, dated back to 1995. *Possible Implementation of Integrated Resource Planning in Hungary.*

As concerns measurements disconnecting company profits from the volume of electricity and gas sales, there is a minimal 8 % profit allowed annually on the asset and it can be maximised to 12 %. The profit exceeding this share should be “given” back to the consumers the following year.

Evaluation of the harmonisation state:

There is no acceptable level of harmonisation yet in respect with the procedural requirements, however, the wording "integrated resource planning" in the Hungarian legal text shows that the legislator keeps an eye on the future EU requirements, too.

2.5.2 Feed in Directive (Renewables)

Article 43 Paragraph (4) of VET prohibits denial of accepting energy produced from renewable energy, if its transfer capacity is higher than 0.1 MW, the technical conditions of transfer are given and the price is not higher than it is determined by the HEO. Article 3, Point r gives a definition: energy gained from geothermal, sun, wind, bio and water sources counts as renewable. As it was noted earlier, the pricing of electricity generated by renewable sources is very low and not calculable on the long term. Also the law deals with all the renewable sources as a homogeneous fuel type even though their characteristics are very different from type to type.

Evaluation of the harmonisation state:

Poor so far.

2.6 Conclusion

In conclusion, we can say that in formal legal terms, Hungary is in a relatively well-advanced stage with regard to the harmonisation process in energy policy instruments. This means that the majority of EU energy rules and programmes have their Hungarian equivalent and they need in general only minor amendments to complete the harmonisation. However, there is a clear need for further elaboration of the methodological traits of the Hungarian energy policy setting, including the relevant laws and regulations.

3 Patterns of Regulation and Implementation

The purpose of the following research is to analyse and describe the policy process and regulation patterns of environmental policy in the field of energy in Hungary, the underlying assumption being that examining the legal dimension of environmental policy is necessary, but not sufficient in order to understand and foresee the possible problems of Hungary's accession to the EU. Therefore a different focus on policy process, including actors, policy formulation, instrumentation, implementation and style, is also needed.

Although energy and environmental issues are intermingled in complex ways and should be jointly integrated into specific sectoral policies, unfortunately, this is not the case in Hungary. In order to avoid the danger of dealing with too many aspects of the field of interest, we will limit our attention to environmental policy issues concerning the energy sector, that is, the scope of the research is delimited by institutional boundaries. In other words, issues related to transport, agricultural, etc., policies will not be dealt with, unless some remarks in these respects are appropriate. But even the energy sector as such is too big to treat its environmental problems and related policies, therefore many questions that potentially would make up to the *problématique* will be put aside, or mentioned only occasionally: ecological damage caused by mining, soil pollution or nuclear waste disposal. The rationale behind omitting these issues is twofold: first the limits of time, space and our own capacities impose the necessity of selecting among the relevant issues; second, we consider the above mentioned problems either too specific for the present discussion, needing a more detailed presentation (like the political debates about nuclear waste disposal), or of relatively minor importance from the point of view of the future and the accession (e.g., most of the coal mines will be shut down in the coming years). Two areas will be given detailed attention: that of environmental regulation, focusing on air pollution, of the energy generating (electricity) sector, and that of energy efficiency and saving policies.²⁴

3.1 Energy policy in Hungary: a short overview

3.1.1 Legislative and institutional framework

Hungary became the first country in the region to start the long process of creating the legislative and institutional framework for privatising the energy industry.²⁵ The rationale of the privatisation was mainly financial: the state expected that privatisation revenues would contribute significantly to reducing Hungary's huge foreign debt, which was in the

²⁴ Besides the literature listed here, the paper is based on a number of interviews. I would like to thank Vilmos Civin, László Paizs, Tamás Pálvölgyi, Pallós Imréné and Miklós Póos for their help.

²⁵ The analysis of the legislative and institutional Framework is based on Ámon (1997).

order of 60% of the GDP in the mid 90s. It should be noted that this goal was achieved: in the past three years the debt has been significantly reduced and, in fact, this was due to the high privatisation income. Also, it was expected that foreign investors would be able to modernise the old power plants.

The Parliament accepted the new Energy Policy in 1993. It was to create the framework for a competitive, market oriented energy sector in Hungary; to break the existing state monopolies; to segment the electricity industry vertically (production, transmission and distribution); and to promote energy efficiency. The first step of implementing the new policy would have been to create an overall Energy Framework Law, which would have provided a conceptual basis for the specific laws and would have ensured consistency between them. Unfortunately, for various reasons, this did not happen. Nevertheless, specific bills were passed by the Parliament which created the necessary institutional background for privatisation: the Gas and the Electricity Acts (1994), Nuclear Act (1996). An Act on District Heating was adopted in 1998. It is to be noted that the Gas and the Electricity Acts preceded the adoption of the Act on Environmental Protection (1995) and the privatisation process of the energy sector started without a proper environmental strategy.

The electricity legislation followed the British model in general, in a totally different social and economic environment. There were other crucial differences between the Hungarian and British approach. One of the most important differences between the two legislation systems, namely the condition of the access to grid, makes a big difference: while in Britain the distribution utilities have free access to the grid and are allowed to sell electricity all over the country, in Hungary the regional electricity distributors control their own territory. This results in maintaining regional monopolies as far as distribution is concerned. The second major difference is that in the British privatisation, the new owners of the energy utilities were British; in Hungary, they are foreign investors (For the ownership structure of utilities see section 3.2.1.1 below). After “successfully” privatising the energy distribution and power generator companies the declared aim of Hungarian energy policy today is market liberalisation: approximately 10% of the electricity market will be open to competition January 1, 2001. Increased liberalisation of the electricity market and the opening of the gas market is to be expected by the accession of Hungary to the EU.

The Gas Act passed in 1994 created the Hungarian Energy Office (HEO) as the new gas and electricity regulator, though maintaining it under the authority of the Ministry of Economy (called Ministry of Industry and Trade in 1994) which is responsible for designing energy policy. The HEO was supposed to prepare everything for the privatisation: work out the lower regulations for the Gas and the Electricity Acts, help the State Privatisation Agency to execute the segmentation within the electricity industry, and renew the licences of all of the companies in the electricity and gas industries. Beyond this, the HEO was given three main responsibilities: 1) licensing and operative regulation of the gas and electricity industry, 2) general consumer protection, 3) promoting energy

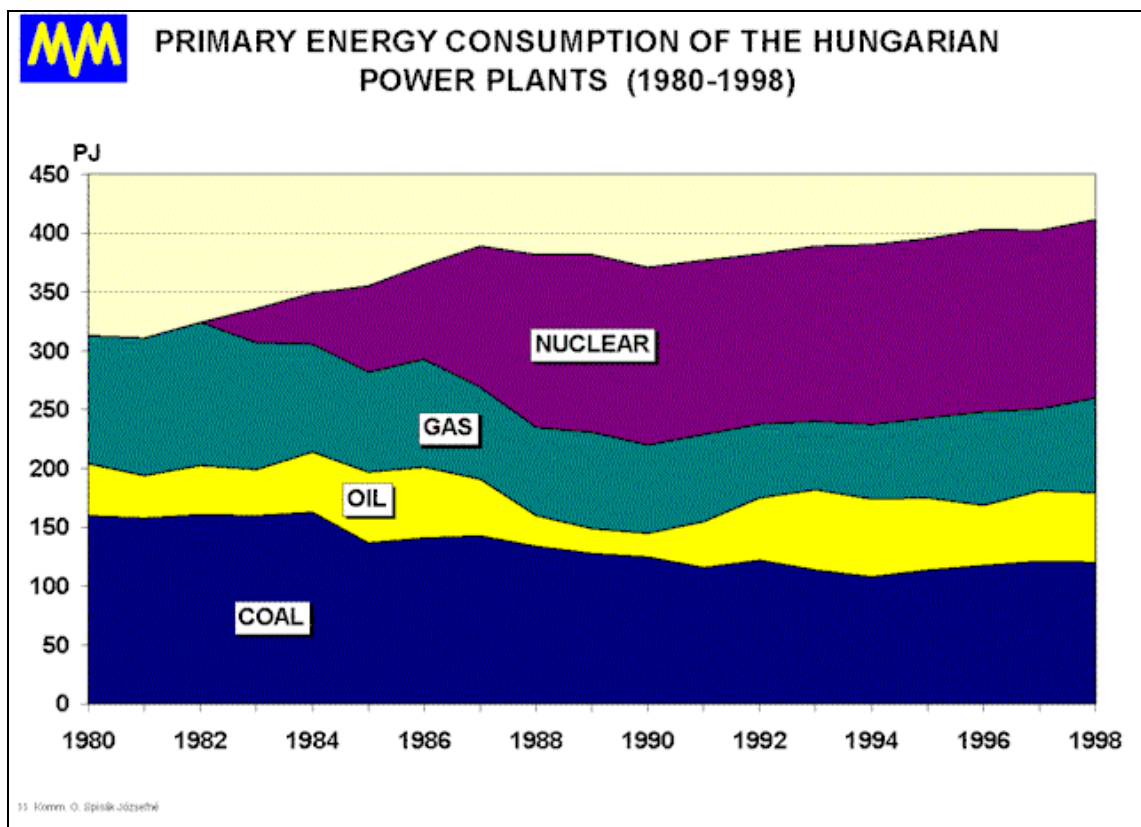
efficiency. However, the staff is small when taking into account the HEO's responsibilities. It is important to note from the point of view of our topic that the HEO was not able to become the effective co-ordinator or executive apparatus of energy efficiency policies.

3.1.2 Hungary's energy profile

Hungary has scarce mineral resources, so approximately half of the country's primary energy demands are supplied by imports. This percentage is expected to increase significantly in the future, because the exhaustion of proven resources (gas, oil and bad quality coal) and the decision to close inefficient coal mines.

In the 50s and the 60s the main fuels were brown coal and lignite; oil became widely used in the 70s, while nuclear energy came into the picture in the 80s. The trend of fuel structure of the last 20 years is fairly clear, as shown in the figure below.

Figure 2: Primary Energy Consumption of the Hungarian Power Plants, 1980-1998



Source: MVM Rt. (Hungarian Electricity Company, Ltd.) homepage www.mvm.hu

Total energy consumption decreased in the 90s, due to the economic recession and restructuring of the industrial sector (the large part of heavy industry was closed down). In

the past two years, however, energy consumption has begun to increase again. Energy efficiency is increasing, but the energy intensity of the Hungarian GDP is still 2-3 times higher than that of Western European countries. This is mainly due to the relatively low competitiveness of the Hungarian economy.

3.1.3 Energy and environment

Before the privatisation, the Hungarian Electricity Trust (MVM), a state owned company, which owned the whole electricity industry at that time, ordered an environmental assessment of the industry. This study was ready just in time, right before the call for tender came out. The information was available to the investors who had bought the tender information memorandum. Unfortunately, even though it was publicly known that the study was ready, the MVM decided not to make the findings of this huge study available to the public. Furthermore, the final privatisation contracts include a part on the environmental liabilities, which states that the investor is responsible for the environmental damage up to 25% of the privatisation income and the state handles the theoretical fund which was set up from the above mentioned amount. Up until now the financial and technical processes for this have not been worked out. (Ámon, 1997, p. 6.)

The most important environmental problem associated with energy is air pollution. Total SO₂ emissions are about 650 thousand tons per year, of which 450 is produced by the energy sector. Per capita SO₂ emissions are among the highest in the region (in spite the fact that, for instance, in Poland almost all power plants use coal), because the low quality of Hungarian coal and lignite. In Hungary, some 7 tons of CO₂ are emitted per capita annually, which is below the OECD average. The energy sector's share amounts to one third of all CO₂ emissions. (Szlávik et al., 1998, p. 26)

Nuclear energy represents about 40% in the electricity and 12% in the total energy consumption in Hungary. According to the original design the official lifetime of the four reactors is until around 2010, by which time the phase out plan should ready to replace this capacity. There are plans however to postpone the life time and expand the existing NPP. In 1996 the new Nuclear Act established the Central Nuclear Financial Fund, which is weakly regulated²⁶ therefore it is difficult to tell how the fund will fulfil its task on the longer run, especially in terms of the decommissioning problems.

In 1993 the Russian Parliament passed a law, which banned taking back any further the spent nuclear fuel from the former socialist countries including Hungary. Hungary did not even have a long term contract with the Soviet Union concerning this waste problem. Since 1993 the Hungarian government and the Paks NPP have been negotiating yearly the possibility and the price of placing the spent fuel at Mayak. Because of the uncertain-

²⁶ On one hand the income of the fund is dependent on the yearly budget discussion of the Parliament which makes it very unpredictable on the longer run. On the other hand, the spending is not transparent and we can see some form of conflict of interest between the respective institutions, e.g. Paks, Hungarian Atomic Energy Agency, the beneficiaries of the fund and the handling body.

ties the government decided to build a 50-year temporary storages at the Paks site, which can be expanded from time to time according to the needs. In the meantime research has started there is an attempt to find a geological solution for a permanent storage.

In terms of the low and intermediate level waste research has been under way since 1992 to find a new solution since on the one hand the old storage is full and on the other hand, the site was established for different purposes²⁷. The research was stopped recently, because a group of independent experts (geologist, etc.) raised some concerns regarding the safety of the granite formation at the possible site in Bábaapáti and also pointed out serious lackings and procedural errors of the research process both in legal and scientific terms. By the end of the year the International Atomic Energy Agency will give its opinion on the results of the research so far.

3.2 Environmental and Energy Actors and Institutions

In this section we present the actors of the field, and shortly describe the interests, responsibilities, competence and strength of each of them. Two general remarks seem useful before beginning the discussion.

First, Hungary's energy sector has been almost fully privatised. This means that, contrary to other CEE countries where the monopolistic structure of energy sector has been preserved, in Hungary many actors represent the sector. We will present the companies in general terms, however, it will be the task of future research to analyse in detail their environmental strategy, their specific interests and lobbying activity.

Second, Hungarian energy policy institutions, especially in the environmental field, are characterised by a great deal of centralisation, but at the same time, by a kind of fragmentation. It is centralised, because except Budapest, local governments, municipalities have poor means, either as owners of energy utilities, or as regulatory agencies, to influence the energy sector. Though they have some tools, they have no effective power. However, it is acknowledged that a kind of fragmentation is also present in energy policy making, and this is certainly true for energy efficiency and conservation policy: at the moment no governmental body is in charge of its co-ordination.

3.2.1 Actors and Institutions

3.2.1.1 The energy sector

MVM (national electric utility), MOL (national oil and gas company), foreign investors and owners of plants and distribution facilities (French, German, Belgian and Italian), district heating plants are under transformation. (see Qualitative Description of the Energy Market)

²⁷ For industrial and medical isotopes and wastes, not for wastes of the NPP.

After the approval of the Gas and the Electricity Acts in 1994 the Hungarian government has accelerated the privatisation of gas and electricity industries. Today the ownership structure is as follows²⁸:

- The state retained 50% plus one share of MVM, while the remaining part of the capital assets were made available to small domestic investors, domestic and foreign institutional investors. MVM owns the National Grid Company, the Paks Nuclear Plant and the Vértes Power Plant. MVM has long term contracts with the power plants and has the obligation to purchase electricity from them at the price fixed by the HEO.
- 50% plus one share of the generating companies were sold to strategic, mostly foreign investors (RWE Energie AG, EBnW AG, Rheinbraun, AES Summit Generation Ltd., Tractabel, Fortum-TOMEN).
- Less than 50% of the shares were sold in the regional gas distribution companies and regional electricity utilities to foreign investors (EDF International, Bayernwerk AG, Isar Amperwerke AG).
- In the MOL the state retained a 25% plus one share blocking minority shareholding. 30-35% of the shares were sold to small domestic investors and the Bank of New York. Although oil trading is liberalised in Hungary, the MOL is by far the biggest oil trader (in Central Europe) and has monopoly in gas trading.
- The Hungarian district heating sector is going through a great deal of changes. There are several hundred district heating companies throughout the country. The situation following the passing of the new District Heating Act enabling local municipalities to privatise the plants, makes it difficult to tell what direction future developments will take. (see more in the Qualitative Description of the Energy Market)

3.2.1.2 *Executive apparatus*

Ministry of Environment, Ministry of Economy, HEO, Hungarian Atomic Energy Agency and Commission, Regional Environmental Authorities; and other governmental bodies: Energy Centre, Energy Information Agency.

The Ministry of Economy's special importance is underpinned by its responsibility to design energy policy and regulate the energy sector. This latter task is executed through the HEO, which is a five-year old institution set up by the Gas Act of 1994 right before the privatisation process of the energy sector started. However, the HEO deserves special attention, independently from the Ministry of Economy, due to its crucial role in the policy process. It is the HEO's task to represent the interests of consumers as well as to endorse the power companies claims when they seek approval to internalise certain costs into energy prices. This latter task is of a major importance also from an environmental

²⁸ See more detailed in the Qualitative Description of the Energy Market and its annexes.

perspective: according to the 22./1998 (VI.26) Decree of the Ministry of Environment, power plants have a six year period (till January 1, 2005) to comply with EU air quality standards. However, environmental investment costs have to be approved by the HEO in order to be built into the energy price. Another major question concerns the planned environmental emission fee and its possible effects on energy prices.

The Ministry of Environment is criticised by NGOs because it has no department dealing with energy issues. It has played no major role in shaping energy efficiency and energy saving policy which has been totally taken over by the Ministry of Economy. The Environmental Ministry's activity concerns the energy sector through environmental (air, water etc. quality) regulation. As the Legal Gap Assessment underlines, Hungarian environmental regulation aims to be EU conform in the coming years.

Other ministries would also be potentially concerned with energy and environment, or energy efficiency issues, but their activity is quite negligible and is in reality limited to commenting the proposals of the Ministry of Economy and the Ministry of Environment. The Ministry of Finance, however, deserves more attention. It has rigorously opposed any attempt to introduce some kind of energy tax proposed by the Ministry of Economy and its predecessor, aiming at financing energy efficiency programmes. Nevertheless, the Ministry of Finance is not against the idea of an environmental emission fee which would also apply to the energy sector, and would probably increase the price of energy.

The Energy Centre is a semi-governmental body with the main task of administering energy efficiency programmes and projects. So far its activity has focused on monitoring and announcing mainly EU projects, but its competence and strength might increase in the future because it is a possible candidate for becoming the main co-ordinator of the government's new energy efficiency action programme (to be approved). On one hand, this would be a promising development because so far no governmental body is exclusively in charge of energy efficiency policy and competencies are fragmented; on the other hand, the Energy Centre is small and a politically quite weak organisation, and it is questionable whether it will be able to influence and mobilise other ministries (like the Ministry of Transportation, the Ministry of Agriculture, etc.) towards energy efficiency. The main problem of the government's (past and future) energy efficiency programmes is that be they more or less integrated „vertically”, they are certainly not integrated „horizontally” between other sectoral policies.

The Energy Information Agency collects energy data, but no environmental data related to the energy sector. It should also be noted here that the privatised energy companies are quite jealous of their information and the moral obligation of providing data has suffered from the privatisation.

Regional Environmental Authorities are in charge of implementing environmental policy measures. They have a monitoring and sanctioning function and they collect environmental fines when environmental standards are not met. It is important to note that although the Ministry of Environment's above mentioned decree offers a six year compli-

ance period to power plants till January 1, 2005, it does not mean that plants are exempt from paying fines. For six years power plants are not threatened with closing because of non-compliance with stricter standards, but they are still obliged to pay fines in case of non-compliance with existing standards. The strength and competence of the Regional Environmental Authorities is severely limited by the limited resources available to them: they cannot afford but 1 or 2 monitorings per year.

3.2.1.3 Local governments

Local governments can be considered as weak players in the energy-environment field. They do not have owner rights over energy utilities, except the ownership of some of the district heating plants and some shares in the regional gas distribution network. Moreover, the distribution of gas infrastructure ownership among local governments has been surrounded by political and legal debates and the result is that local governments are loosing control over the pipeline. All this means that „Stadtwerke“-type local energy utilities do not exist in Hungary; subsidiarity is missing from the energy system. Property rights problems also impede local energy efficiency programmes: the ownership and the maintenance of most of the public institutions (e.g., hospitals) are separated which means that financing energy efficiency investments (or using „third party financing“ schemes) is problematic.

Local governments' relative weakness in political debates is also explained by the fact that they are divided among themselves, unable to represent themselves in a well-organised, unified way. It is also to be noted that while municipalities used to have an energy manager/engineer in the past, it is no more the case for most of the local governments. Thus municipalities sometimes just do not have even the minimal competence to deal with energy issues, or to represent their interests against the utility companies.

Local governments would have the right to impose stricter environmental quality standards on power plants, but it has not happened in the past years. They have also the right to impose strict requirements for new constructions. Finally, they are recipients of some energy efficiency programmes, like the Energy Saving Credit Programme²⁹.

3.2.1.4 Large consumers

Large energy consumers, like district heating plants, are organised into the Association of Hungarian Energy Consumers. Their concerns are closely linked to the energy sector's and do not represent real consumer interests. Their main concern is their increasing energy bills, which has a totally different structure than the residential consumers.

However, business as such should be interested in energy efficiency issues or demand side management and will probably support further deregulation of the energy sector. A

²⁹ see Best Practice for more details.

future task of environmental NGOs might be to build coalitions with those business players which are potentially interested in energy efficiency issues and the spread of renewables.

It is to be noted that banks have been very active in financing energy efficiency programmes even in those cases where direct benefits were not guaranteed. An explanation to this is the sharp competition in Hungarian banking sector: banks used energy efficiency programmes as means to reach more potential clients (Matolay, Amon, manuscript from 1998.)

3.2.1.5 NGO and other civil organisations

The term civil society in Hungary is very broad and it includes any organisation which is not for profit and not governmental. This can lead to academic organisations, trade unions and chambers to be considered as part of civil society.

Comparative studies have revealed that among CEE countries Hungary has a relatively well developed civil society (e.g., Szabó, 1996). Hungarian NGOs, in terms of either their number, resources, or legal potential for participation (Fülöp, 1998), are leaders in the region. However, Hungarian civil society is still underdeveloped and weak, compared to Western countries, and does not cover all relevant field. In the field of energy, for instance, many NGOs focus on environmental issues, while consumer protection is very weak.

Some energy related environmental issues enjoyed wide public attention in the past years: the problem of nuclear waste disposal (which is still not solved) and cases related to surface mining. Other major energy-related environmental conflicts has not emerged, but many NGOs are concerned or deal exclusively with energy, mainly energy efficiency and saving issues. NGOs with some energy-related experience include: Energia Klub (Energy Club, Budapest), Levegő Munkacsoport (Clean Air Action Group, Budapest), Pécsi Zöld Kör (Pécs Green Circle, Pécs), E-Misszió (E-Mission, Nyíregyháza), Energia és Környezet Alapítvány (Energy and Environment Foundation, Nyíregyháza), Zöld Akció (Green Action, Miskolc), Reflex (Gyôr), and Göncöl (Vác). Co-operation among environmental NGOs is organised through the Green Energy Network, which includes 12 NGOs and is co-ordinated by the Energia Klub. Most of the above green organisations are running awareness raising campaigns and demonstration projects in their local area. Concerning lobbying, policy making and legislative work, the two Budapest based organisations are the only active ones. For instance, for many years the Clean Air Action Group has been commissioning the publication of „Green Budget Proposals” which includes the idea of a green tax reform with a tax on energy consumption.

MTESZ (Association of Technical and Scientific Unions) is a country-wide, formally independent, but financially state-dependent organisation which has recently become interested in energy efficiency issues. It organises conferences and trainings for profes-

sionals. MTESZ is in close relation with ministries and participated in the implementation of the National Energy Saving and Energy Efficiency Programme.

Consumer interests are not well represented among NGOs and the Energy Club is the only one which deals with both environmental and consumer protection issues. It is very important to treat these questions together, because a problem of clashing environmental and other interests arises with small consumers' concerns about possibly rising energy prices. It has to be noted that energy bills can amount to 20% of households' total costs in Hungary and people are very sensitive to any factor that might contribute to price increase (GKI, 1998, p. 38). The problem of rising energy prices is currently debated in the light of the Ministry of Environment's proposal on environmental emission fees. Also, although small consumers should be interested in energy efficiency, renewable energy and stricter environmental measures, these issues are sometimes presented as income dependent, due to the related investments. So far energy efficiency programmes have focused on larger consumers and have rarely reached the households. (On household energy efficiency awareness raising issues: see Best Practice paper 2.2 and 2.4.)

3.2.1.6 Academic organisations

Academic organisations, universities, think-tanks and consulting firms have been active in the field of energy and environment, including the departments of Environmental Economics and Technology of the Budapest University of Economics, and the Technical University of Budapest, the department of Environmental Sciences and Policy of the Central European University, the GKI Rt., ÖKO Rt. and the EGI Rt. It has to be admitted that many background papers have been produced in order to back-up the government's energy efficiency programme (see e.g., GKI, 1998). A concept of emission trading system among power plants was also developed (Kaderják - Lehoczki, 1995).

3.2.2 Coalitions and interactions

More research is needed in order to analyse in detail the coalition formation of the actors of the field. In this section, we must limit ourselves to making some general comments about the topic and raising the issues in perspective.

Two general issues will be certainly in the forefront of future policy debates, and it would be of crucial importance both for environmental NGOs and environmental administration to take into account possible allies. One is energy efficiency policies, including institutional reforms of the energy system, e.g., demand side management (DSM). The other is environmental emission fees and their possible development into a „green tax reform”. (A third problem, that of the threat of a new nuclear plant construction, which preoccupied NGOs some years ago, seems to be discarded.)

As an officer of the administration noted, energy efficiency has no effective lobby in the political arena. This fact has certainly contributed to the relative weakness of energy efficiency policies, the lack of inter-ministerial and inter-sectoral integration and the prob-

lems of their implementation. One has the feeling that energy efficiency policy is not well co-ordinated and is relegated to second priority even within the state administration – a problem to which we will return later. The energy sector is obviously not interested in reducing consumption and this is reflected in the energy regulation, where DSM is not given enough weight. As an energy sector manager expressed, they will be interested in DSM if consumption grows at such a high rate that reducing energy demand will be more efficient than building new energy generating capacity.

There is evidence that actors of the energy sector are in constant communication with each other (the institutional background is provided by the Union of Electricity Companies, or the Environmental Committee of the Chamber of Industry) and are able to represent their common interests efficiently. Environmental lobbyists say that, be it in the Economic Commission of the Parliament or the Council for Reconciliation of Interest of the HEO, representatives of the energy sector always present harmonised standpoints and well-elaborated arguments. The use of professional lobbyists, PR companies is also widespread.

However, the fact that the energy sector has been privatised and that many actors are present in the field might offer opportunities for both state administration and NGOs. When MVM was a state monopoly and the single actor of energy sector, it had the potential of „blackmailing” state administration for more investments. The state had a double role, as owner and as regulatory agency. The fact that now many actors interplay in the field creates a new situation, where the state can „step back” and limit its role to regulation. This might also divide the energy sector, as different companies and power plants might have different interests. While this is more of a theoretical situation than everyday practice (and let’s not forget that foreign states can, and evidence suggests that they did, intervene in the interest of their energy companies), the possibility should be taken into account.

NGOs should concentrate more on coalition building among the business sector and the energy sector, support those efforts which might be considered pro-active in the field of environmental protection. The same applies to state administration: ministries should use more NGOs as think-tanks and as political support for environmental measures, and find partners in the business world as well. While the cultural and even linguistic differences between administrators, business persons and environmentalists are well known and analysed in policy science (e.g., Schwarz and Thompson, 1990), and communication difficulties among them is by far a problem not peculiar to Hungary, still, this is a problem area where more should be done. Although state administration and NGOs might and should be allied in their effort to regulate the energy sector and represent public interest over private ones, co-operation between the administration and NGOs is sporadic.

A related, but more general problem is that Hungarian policy making is not dialogue-oriented and public participation is not well institutionalised. Although there are in principle institutions which should facilitate public participation, they are very inefficient in practice. They include the National Council of Environmental Protection, a tri-partitive

consulting body, where representatives of NGOs, the academics and business are involved. The Council's role is to give its opinion on every bill which has some environmental relevance; however, its mission is not fulfilled, because it simply does not have access in time to most of the bills which would have environmental relevance. Moreover it is small and does not have enough administrative resources to accomplish its tasks. The Industrial and Commercial Council of the Ministry of Economy also offered a possibility of public participation in the policy process that has recently been abolished.

The lack of institutions guaranteeing public participation results in only a casual co-operation between the administration and NGOs despite civil organisations regularly "raising their voice". The sad but very probable consequence is that the energy sector is more effective in lobbying.

3.3 Regulation patterns

In this section we will shortly overview Hungary's most important energy and environmental policy documents, focusing first on policy principles. In the second part the policy instruments of energy and environmental policy will be presented, while in the third part an evaluation of the policy formulation and implementation will be undertaken.

3.3.1 An overview of Hungary's energy and environmental policy principles

In 1993 the Government and the Parliament agreed on a new Energy Policy, which is the first policy document to be considered here which had the following „strategic orientations”:

- diversification of energy sources;
- environmental protection;
- energy saving and efficiency improvements;
- publicity and social acceptance of new energy utilities;
- flexible energy system development;
- privatisation and use of foreign capital.

It is important to note that energy efficiency is a strategic orientation of Hungary's Energy Policy. This served as the obligation and legal basis to develop the energy efficiency programme. However, the basic document of Hungarian energy policy does not express or define any environmental principle. The short section on environmental protection contains only general statements about the necessity of emission mitigation, the international obligations of Hungary, the gradual development of Hungarian environmental regulation, etc. The only statement which might be interpreted as a principle, namely the principle of internalisation of external costs, goes as follows: „In decisions about energy costs of environmental and nature protection, in the interest of ecological equilibrium, must be considered as integral parts of developments.”

The first step of implementing the new policy would have been to create an overall Energy Framework Law, which would have provided a conceptual basis for the specific laws and would have ensured consistency between them. Unfortunately, for various reasons, this did not happen. Nevertheless, specific bills were passed by the Parliament which created the necessary institutional background for privatisation: the Gas and the Electricity Acts (1994), the Nuclear Act (1996). An Act on District Heating was adopted in 1998. It is to be noted that the Gas and the Electricity Acts preceded the adoption of the Act on Environmental Protection (1995) and the privatisation process of the energy sector started without proper environmental strategy.

The Act on Environmental Protection is a framework law which would have required the development of a detailed environmental strategy. This is what the National Environmental Programme 1997-2000 (adopted in 1997) was intended to be. The National Environmental Programme is based on five principles:

- sustainable development, defined as follows: „safeguarding environmental values and imposing the principle of responsibility toward future generation” and „improving the quality of life of people without endangering the carrying capacity of ecological systems and natural resources” (p. 36);
- the precautionary principle: „minimising risks in those cases where serious or irreversible environmental damages can occur in the future. Such examples include problems concerning chemical substances, nuclear safety and the menacing global climate change” (p. 36);
- the principle of prevention: „preventing occurring environmental damages” and „safeguarding natural heritage” (p. 36);
- partnership, defined as „participation” and „subsidiarity” (p. 37);
- stewardship

The National Environmental Programme contains one page on energy-related issues (p. 29). It lists 9 proposals:

- Inter-sectoral Air Quality Action Programme;
- Short And Medium Term Environmental Protection Action Programme;
- Development Plan For Power Plants Till 2010;
- Medium Run Renewable Energy Development Programme;
- National Energy Saving Action Programme;
- Natural Gas Programme;
- National Project On Nuclear Waste Disposal;
- Project On Heavy Heating Oil Processing
- National Environmental And Health Action Programme.

Related measures expressed in quite general terms and without proper explanations, are also listed:

- identifying polluters and implementing technical-economic measures in order to mitigate emissions;
- supporting emission mitigation initiatives;
- reconstruction of district heating plants;
- least-cost planning;
- support scheme for renewable energy;
- promoting energy efficiency audits;
- energy efficiency labelling of appliances;
- promoting energy saving through economic incentives;
- safe disposal of low and intermediate level radioactive waste; and
- switch to more environmental friendly fuels.

Some elements of the programme proposal listed in the National Environmental Programme have been put into practice. The National Energy Saving and Energy Efficiency Programme - an implementation programme with detailed measures and timetable - deserves attention from the point of view of energy and environmental policy. It was adopted in 1995 in the form of a governmental Decree (2399/1995, XII. 12). However, the Programme's implementation practically failed, therefore the government is currently working on a renewed version of it, to be approved this year (1999). (see below in Instrumentation section)

Finally, in July 1999 the Ministry of Economy published its paper on „The Foundations of Hungarian Energy Policy and the Energy Market Model” which presents the strategic orientation of the government's energy policy and will serve as a basis to a governmental decree on the topic. The paper defines the principles of Hungarian energy policy as follows (p. 13):

- creating an efficient energy market as part of the European energy market in the interests of economic competitiveness and consumers;
- safeguarding and enhancing the safety of energy supply;
- the application of environmental criteria on both existing and future utilities in the interest of ensuring sustainable development;
- openness, information to the public, democratic regulation and the transparent price regulation of remaining monopolies.

A two-page section is included on environmental protection (pp. 40-41). Beyond giving a short overview on the importance of the field, the section defines the „polluter pay

principle” as a basic element of sustainable development and mentions the possibility of using macro-economic instruments (probably taxes) in order to promote energy saving.

3.3.2 Instrumentation

Energy and environmental policy in Hungary displays a kind of disequilibrium in terms of its regulation patterns. On one hand, broad concepts, such as „sustainable development” are part of the policy principles; on the other, several energy efficiency programmes are running. In between, however, a general strategy, with well defined goals, objectives and means, is lacking. The National Environmental Programme has only a short section on the energy sector: the discussion is organised according to environmental media (air, water, soil, etc.). Energy policy documents, including the most recent „Foundations of Hungarian Energy Policy”, contain only short passages on the topic. Only the National Energy Saving and Energy Efficiency Programme might be considered as a strategic energy and environment document, however, several factors limit its practical significance. First, although it is somehow integrated „vertically” (starts from the approved energy policy as reference and prescribes concrete tasks for the ministries), it is certainly not integrated „horizontally”: only sporadic references hint to the fact that energy efficiency would have relevance for other sectoral policies, like transportation, agriculture, etc. Second, its instrumentation is poor: no macro-economic instruments like a possible green tax reform, etc. are included. Third, as we will discuss in the following, the National Energy Saving and Energy Efficiency Programme’s implementation has been very inefficient. The lack of an environmental strategy makes the observers feel that even running efficiency programmes work on an *ad hoc* basis, and if Hungary will meet its international obligations in terms of emission mitigation, it will most likely be due more to the economic recession and technical changes than to consistent policy making.

3.3.2.1 *The National Energy Saving and Energy Efficiency Programme*

In this section the objectives and policy instruments of the Energy Saving and Efficiency Programme (1995) will be presented. The programme was accepted as a governmental decree however different elements of the programme were relegated to different ministries; that is, no governmental body was exclusively in charge of its co-ordination. The programme is a bulk of different measures which are listed in the following. Short comments on implementation are added.

- *Least-cost planning and demand side management programmes.* Least-cost planning is already included in the Gas and the Electricity Acts, and, according to declarations, MVM used this principle in his 1997 energy tender. However, costs are reduced to investment and operation costs: no external costs are taken into account. DSM does not exist in reality because it is not present in the energy regulation and there is no legal basis to enforce it; on the contrary, according to current regulations, costs related to DSM cannot be approved as operation costs.

- *Cost-based energy pricing in order to motivate energy saving.* Electricity prices are not subsidised in Hungary, and according to the 9/1999. (III. 19.) Decree of the Ministry of Economy, cross-financing is eliminated between household and industry electricity prices. That is, electricity prices are practically based on real operation costs. This is less so in the case of gas prices, where some cross-financing still exists to the detriment of the industry. However, external costs are still not included in energy prices, with the possible exception of gasoline: gasoline price is heavily taxed, including an environmental product fee, and its amount (approx. 1.54 DEM per litre) is among the highest in Europe, if compared to the purchasing power of the revenues.
- *Proper energy statistics and information system.* A new energy statistical system has been developed with the support of a PHARE programme. The new system started working in 1997.
- *Individual metering and regulator devices in block houses with new district heating facilities.* Only 10% of all flats with district heating have individual metering and regulation facilities. While co-generation of electricity and heat is generally taken to be an efficient solution, in Hungary the case is in reverse: district heating utilities are energy wasting and expensive systems.
- *Implementing new technological standards on building insulation.* Although new, euro-conform standards were adopted in 1992, their implementation is nowhere: municipalities have no means to monitor new constructions, up-to-date construction materials are too expensive, etc.
- *Energy consumption labels on household appliances.* At the time being only refrigerators are labelled. However, till the end of 1999 labels for washing machines and dryers will also be introduced. It is also to be noted that in addition to the slow implementation of this measure, it has been very weakly prepared: it has not been integrated into an awareness raising campaign which seriously undermines its practical usefulness.
- *Energy saving awareness raising and education.* Some educational material has been prepared for primary schools; the objective would be to include the topic in every level of the educational system.
- *Improving energy efficiency in the communal sector.* The Energy Saving Credit Programme (the only energy efficiency credit programme where some funding is provided from the state budget) is designed to promote this objective.
- *Training for energy professionals.* Some training programmes have been organised on an *ad hoc* basis, but no regular financing has been provided for such activities.
- *Increasing the use of renewable energy sources.* Currently renewables have no preferential treatment, with the very small exception of a reduced VAT on solar energy appliances which is rumored to be cancelled in the near future.

- *Energy efficiency as priority in state financed R+D programmes.* This is still not the case.

The new (currently discussed) National Energy Saving and Energy Efficiency Programme will probably build on the same objectives, as most of them have not been met so far. The following new objectives are planned to be added to the above ones:

- Supporting energy audits in large firms with more than 50 million HUF energy bills per year. Firms which are ready to undertake audits will be provided with preferential credit for energy saving investments.
- Supporting with preferential credit organisational measures which aim at reducing private car use or promoting public and combined transportation.
- Supporting with preferential credit the reconstruction and renewal of the public transportation infrastructure and vehicle pool.
- Supporting with preferential credit energy saving investments in the field of agriculture.
- Financial assistance to the communal sector's and households' energy saving investments (e.g., post-insulation of roof, walls and basements).
- Financial assistance to communal sector and household investments in alternative heat sources.
- Financial assistance and preferential credits to energy crops plantations and investments in power plants using renewables.
- Financial assistance to communal sector and household investments in solar energy appliances.
- Financial assistance to the reconstruction and upgrading of district heating utilities.

The new programme defines a time limit and concrete bodies responsible for its implementation. The basic objective is that by 2010 the programme results in 7% saving of the country's current energy consumption with an investment of 200 billion HUF. It still means a 1.5% total energy consumption growth per year, but with the projected GDP growth of 5% per year the energy intensity is expected to decrease with 3.5% per year. The share of renewables, which is currently 3% of total energy consumption, is expected to increase to 5%.

In principle the instrumentation of both the old and the new National Energy Saving and Energy Efficiency Programme is based on a instrument mix, including *standards* (on building insulation), *positive incentives* (providing preferential credits and investment supporting schemes), *awareness raising* (through the dissemination of efficiency information, education, training), and even *economic incentives* (least-cost planning, elimination of price subsidies), positive incentives apparently receiving priority. Taken into account this, and the fact that most of the planned measures failed to be implemented, the

instrumentation of the National Energy Saving and Energy Efficiency Programme reveals to be poor.

3.3.2.2 *Air quality regulation*

We have only listed here those policy instruments which do not figure in the above discussed National Energy Saving and Energy Efficiency Programme.

- command and control instruments

In Hungary air quality regulation (just like environmental regulation in general) is based on command and control instruments. Current technological standards apply to each polluting source and if standards are not met, a fine is imposed on the polluter. At the time being practically all Hungarian power plants are obliged to pay fines. Fines paid by the energy sector are estimated to be in the range of 0.5-1 billion HUF (just for comparison: the budget of the Central Environmental Fund of the Ministry of Environment which gathers all the fines and the product fees, is about 30 billion HUF per year). In principle those polluters, which are notoriously non complying, can be sued and their activity ultimately stopped. However, it has never happened with power plants.

The 22./1998 (VI.26) Decree of the Ministry of Environment represents a major step in the environmental regulation of the energy sector. It sets up EU conform air quality standards which should be met by each power plant by January 1, 2005 - if not, the plant is to be shut down. Experts say that the measure should be effective because all plants are obliged to comply and the time allowed is enough for compliance.

Quality and environmental standards of gasoline have been improved in the past years and they now meet the EU requirements.

- economic instruments

Currently a product fee (differentiated according to different gasoline types) is levied on gasoline and is built into the gasoline price. As its amount is less than 5% of the gasoline price, its role is not to reduce consumption. Instead, it is aimed at raising funds for environmental investments, being one of the biggest sources of the environmental fund managed by the Ministry of Environment.

Next year the Ministry of Environment plans to introduce an environmental emission fee system on three environmental media: air, water, soil. The environmental emission fee is a classical Pigouvian tax, levied on each amount of polluting emission, with the aim of internalising external (social, environmental) costs. Details of the proposal, like which pollutants to include, how much the fees should be, etc., are still being debated. However, it is very probable that the fee will be introduced, even if implementation is planned to be gradual. The energy sector is the first concerned with the air emission fee on SO₂, NO_x, CO, particles and other toxic emissions.

This year during the budgeting process two more economic instruments were discussed and finally rejected by the government. One was the increase of VAT on energy. VAT in

general is 25% on the sale price in Hungary, however, a reduced 12.5% VAT is levied on energy. The rejected proposal aimed at increasing VAT on energy with the objective of increasing state revenues and at the same time creating an incentive for energy saving. The other proposal also rejected concerned a 0.5% tax on energy in order to raise funds for energy efficiency programmes.

3.3.3 Policy evaluation

In this section, an evaluation of the policy, as described in the previous section, will be provided. Two criteria will be applied: that of internal consistency of policy formulation, and that of integration, as an external aspect. The former aims at analysing whether the rationale, priorities, structure and design of environmental policy are consistent and interact positively with each other; if the terminology used is consistent; if the already existing results show the effectiveness of the measures and are in conformity with declared policy goals. The latter is a critical aspect, representing our conviction that beyond internal consistency, environmental and energy policies need to be closely related and integrated into other sectoral policies as well. We will show that this is not the case in Hungary; that energy and environmental policy goals are formulated on an *ad hoc* basis, instead of being parts of a well-elaborated, long term strategy, where energy efficiency measures, the promotion of renewable energy, Hungary's international environmental obligations concerning air pollutant emissions, the future of nuclear energy and the problem of nuclear waste disposal are intergrated into a coherent vision. In the final subsection a short comment on implementation will be provided.

3.3.3.1 Policy formulation: consistency and integration

In formal terms Hungary's energy policy has a well enough designed architecture, starting with Energy Policy (1993) as its foundation; although a framework energy law is missing, specific bills do underpin the institutional structure of energy policy; finally institutions and regulatory agencies are in place. The country report of the EU Commission (1996) stated that the strategic orientation of Hungary's energy policy is in harmony with that of the European Union. It is to be noted that Hungary is the only CEE country which became member of the International Energy Agency, meaning that Hungary has been able to meet the IEA's complex requirements in terms of energy policy, regulation, safety and environment. Results are also striking in substantial terms: a successful privatisation and the ongoing liberalisation process.

However environmental policy does not live up to the high expectations which might arise from the above depicted picture. Although it is not our task here to analyse Hungarian environmental policy as such, it has to be mentioned that environmental issues in general are still not integrated well enough into sectoral policies; it is still very much taken as a separate subject matter instead of serving as point of departure for any specific policy. This general thesis will be illustrated here on our topic: energy and environmental policy.

3.3.3.1.1 Internal consistency

It seems that the general policy principle which at the foundation of the Hungarian energy and environmental policy is *sustainable development*. However, as mentioned earlier, those strategic documents which would enshrine, interpret and operationalise it, serving as a channel between the general principle and policy programmes, are missing. (This is true for environmental policy in general as well.) We simply do not know what the policy objective in the field of energy would be in order to meet the criteria of sustainable development. The only definition that we have in the context of energy refers to the *internalisation of external costs* („Foundations...”, p.41). As seen earlier, a „soft” formulation of external cost internalisation is also mentioned in the Energy Policy document’s section on environmental protection. It seems that the foundation of Hungarian energy and environmental policy is cost internalisation.

However, none of the energy acts operate with the notion of cost internalisation. Least-cost planning, for instance, is defined in Electricity Act as „assuring energy supply at the lowest cost”. No reference is made to external costs. The 1997 capacity tender of MVM, which is generally taken as an example of putting into practice the principle of least-cost planning, also only considered investment and operation costs. But even this narrower version of least-cost planning becomes questionable in light of missing regulation about DSM in energy laws. Utility companies are not obliged to consider DSM in cases where energy demand calls for local investments. On the contrary, while necessary investment costs are included in the energy price, costs related to DSM are not, according to current law.

Cost internalisation might be promoted by proposed environmental emission fees. However, because of MVM’s long-term contracts with energy producers and the lack of market liberalisation, the emission fee in the energy sector will probably only have the role of a fund-raising instrument. Although the emission fee will have different effects on different power plants’ costs (for some power plants it can even double the energy sale price, Civin, 1999, p. 9), the current electricity price to consumers is given as an average of power plants’ prices. The overall effect of the emission fee on energy price will probably be about a 2% increase which might serve as an incentive toward energy saving, but it will primarily serve as a source of budget income (the product fee on gasoline illustrates this point). Emission fees will have a more benign environmental effect if the energy market is further liberalised and consumers select among producers on the basis of real costs. However, liberalisation will take years and because of its gradual development, large consumers will have first the right to select among suppliers. This means that small consumers (households) will see their energy bills rise - also because of the emission fee.

Besides sustainable development, four other principles are listed in the National Environmental Programme: the precautionary principle, the principle of prevention, partnership and stewardship. Formulation of the first one makes explicit reference to energy-related issues: nuclear safety and global climate change. Although the latter probléma-

tique is treated in detail in background policy papers (see e.g., Szilávik et al., 1999), references made in official policy documents are limited to recall Hungary's international obligations concerning CO₂ emission mitigation. No connection is made with greenhouse gas emission mitigation, the precautionary principle and the notion of sustainable development. No approved governmental programme exists either concerning greenhouse gas mitigation: it is implicitly taken to be as an objective of energy efficiency programmes. It has to be mentioned that Hungary will probably meet its international obligation concerning CO₂ reduction (7% reduction by 2012 compared to the average emissions of the years 1983-1987) due to (i) the economic recession and related energy consumption drop; (ii) increased energy efficiency induced by ongoing structural and technological change in the economy.

The principle of prevention and stewardship are not mentioned in the energy policy context. Partnership as public participation and DSM are mentioned (e.g., „Foundations...”, p. 41), but without any strategy about implementation.

Leaving principles behind us, three elements of environmental protection as „strategic orientation” (in Energy Policy) deserves attention. The first is emission control, the second is energy efficiency and saving, and the third is promoting renewables. As these are explicitly mentioned in most of the basic policy documents about energy and environment, one suspects that they must be taken as the pillars of Hungarian energy and environmental policy. However,

- the 22./1998 (VI.26) Decree of the Ministry of Environment, which imposes the obligation on power plants to comply with EU standards by the year 2005 was only accepted in 1998. Before that no pollution reduction program existed in connection to the large combustion plants; and even now no other initiative has been taken in this respect.
- the approved National Energy Saving and Energy Efficiency Plan has been poor in means and poorly implemented;
- no strategy or programme has been designed for promoting renewable energy (similarly to the situation of the early 90s, renewables still account for about 3% of the total energy use).

In sum, internal consistency is lacking at several levels:

- principles of energy and environmental policy are not well defined;
- principles are not made consistent with each other;
- principles and „strategic objectives” are not harmonised;
- „strategic objectives” are poorly reflected in policy measures.

3.3.3.1.2 *Integration*

Hungarian energy and environmental policy is not well integrated in terms of cross-sectoral policy making. Both energy efficiency programmes and the proposal on the environmental emission fee illustrates the point.

The planned measures, approved by the government, of the 1995 National Energy Saving and Energy Efficiency Programme did not contain references to other sectoral policies. This was not the case, however, at earlier stages of the programme's development, when at least some general statements were included into the proposal on transportation policy and agriculture. But the final version of the programme were limited to tasks of which the only body responsible for implementation were the Ministry of Environment and the Ministry of Economy (at the time called Ministry of Industry and Trade). One has the feeling that the programme was designed on the margin of governmental policy and its final, weak version reflects the political weight of energy efficiency issues.

Although the new version of National Energy Saving and Energy Efficiency Programme is not approved yet, it already seems that a similar problem will arise. The overwhelming importance of positive incentives (preferential credits and support schemes) in the programme instrumentation suggests that any institutional or organisational reform that would change the rules of the game in energy, or transportation, or agricultural policy is politically not feasible, while new investments are welcomed. A government official stated that sectoral ministries do not welcome energy efficiency policies.

Similarly, the lack of intra-governmental and inter-sectoral harmonisation is reflected in the history of the proposed environmental emission fees. Although the Ministry of Environment has been working for three years on the proposal for the environmental emission fees, it is still not clear how the fees would fit into the tax system, that is, in which way the planned 100 billion HUF extra revenue generated by the fees will be compensated; what their relation would be to a possible energy tax (proposed this year by the Ministry of Economy); and how it would contribute to an eventual green tax reform (if there will be any). Questions of public justice also arise, as fees to be paid by the energy sector will have differentiated effects on prices; for instance, relatively low-income people in block-houses will be seriously affected.

3.3.3.2 *Implementation*

It is a commonplace among environmentalists in Hungary that implementation is the weakest part of environmental policy and this applies to energy and environment issues. We discussed already the poor implementation of the National Energy Saving and Energy Efficiency Programme. The causes of the implementation failure are:

- lack of political support: energy efficiency has never been highly valued in the political agenda. The lack of a constant political will to promote energy efficiency has certainly contributed to its slow and insufficient implementation. For instance, it took 4 years to introduce energy consumption labels on refrigerators.

- institutional problems: (i) there is no sole responsible body in the state administration to co-ordinate energy efficiency measures. This situation might change with the new efficiency programme. (ii) no regional agencies exist which would – among others – take care of local energy efficiency programmes, serve as consulting centre, etc. (iii) Other institutional problems include the failure to implement new technological standards on building insulation because of lack of monitoring and sanctioning agencies (the task was relegated to municipalities, however, they were not able to fulfil it).
- financial difficulties: The first National Energy Saving and Energy Efficiency Programme had no financial background: sources were provided (if so) from the central budget. In the new programme a tax on energy was proposed in order to guarantee the financial basis of the measures, but this was finally rejected. That is, the new programme will also be dependent on budget sources, having no self-supporting financial mechanism. Nevertheless, if the environmental emission fees will be introduced, a part of this income is planned to be spent on energy efficiency.
- communication problems within the state administration: the lack of consistency on the strategic level and the problems of integration on the policy making level are reflected in obvious communication problems within the state administration. Inter-ministerial committees on energy and environment issues do not exist or work on an *ad hoc* basis, as illustrated by the work of the Energy Saving Credit Programme Committee.

It is also to be noted that besides the National Energy Saving and Energy Efficiency Programme many other energy efficiency facilities, fund and programmes have been running, (presented in the Best Practice). However, with the exception of the Energy Saving Credit Programme, all these programmes have been financed and run by international institutions, international banks or NGOs. In these cases the Hungarian government did not undertake but some co-ordination task.

The implementation of air quality regulations is more effective. Monitoring, as well as, sanctioning (imposing fines) are undertaken by Regional Environmental Authorities. The effectiveness of their job, however, is undermined by the scarce resources. It is a general observation that the activity of the Regional Environmental Authorities is not of the same quality or rigor: some, having more resources or more committed personnel, are more active.

The implementation of the 22./1998 (VI.26) Decree of the Ministry of Environment is also an interesting question. Although it imposes new air quality standards to be complied with by the year 2005, the energy companies' efforts for compliance should be monitored and promoted. However, no mechanism has been designed for this. Non-complying power plants are threatened with closure, but what if several plants do not comply? In this case the Hungarian government might be forced to give more delays for compliance. This makes the implementation of the decree problematic.

3.4 Policy style and conclusions

Policy style might be interpreted as a tacit element which gives the policy process its distinctive feature in target setting, policy formulation, actors' interactions and implementation. Many aspects of policy style have been dealt with in the above sections. In the following a short overview will be given from a critical perspective.

Hungarian energy policy in the 80s was largely shaped in informal co-ordination and bargaining processes between the main actors (the Ministry of Industry and the MVM). Integration to other policy areas, as well as public participation did not exist; energy policy measures emerged as the result of informal bargaining between key actors and the contribution of technical experts. Tools of public policy analysis, like the evaluation of alternative decisions according to multiple criteria, were rarely included.

Although the institutional and political environment, which sustained and fuelled the above described policy process, disappeared, some elements of the old system still characterise in some ways current energy policy making. Some of these elements are related to the lack of appropriate institutional arrangements, like the low level of cross-sectoral integration; others to only slowly evolving cultural patterns, like the role assigned to hearings and other means of public participation (they are treated more as barriers to, and less as constitutive elements of decision making processes); still others to subsisting personal relations, like forms of informal lobbying and bargaining.

Current energy and environmental policy style might be characterised as follows:

Strategic orientation. We argued that a well-elaborated, long-term strategy, which would build on clear principles and be operationalised, is missing. Our conviction is that the lack of a great deal of consistency and integration condemns Hungarian energy and environmental policy to remain at best *follower* in Europe.

Calculability is low. Although the new regulation on air quality standards is both strict and calculable (it sets a compliance deadline), it is more an exception than the rule. Much uncertainty characterises the future of the environmental emission fee, very little is known about the green tax or energy tax ideas. The financing of the old National Energy Saving and Energy Efficiency Programme has not been calculable or its implementation well institutionalised, and it is a question whether the new programme will overcome these difficulties.

Policy instrumentation is poor. Although strict air quality standards will probably be an effective measure from an environmental point of view, other policy measures should not be forgotten. The emission permits trading system might be more efficient in economic terms. Environmental emission fees will enrich the policy instrumentation, but the timing and practical details of their implementation remain uncertain. The new National Energy Saving and Energy Efficiency Programme is planned to build on a number of policy instruments; however, the clear emphasis on positive incentives suggest that politically sensitive institutional reforms will not be undertaken.

Dialogue orientation is low. Evidence suggests that communication is difficult even within the State administration. Public participation is not well institutionalised; existing institutions do not work well.

Subsidiarity is missing. Energy and environmental policy is centralised; no local agencies promoting energy efficiency projects exist. Subsidiarity is also missing in terms of the energy system: although the Electricity Act makes the purchase of renewable energy mandatory for the MVM, strict conditions are imposed. The energy generation must be at least 0.1 MW and technical facilities must make the connection on high-voltage line feasible, which suggest that local use is not preferred.

Learning capabilities will be tested in the design and implementation of the new National Energy Saving and Energy Efficiency Programme which is meant to overcome the difficulties of the old one.

Pro-activeness. Some elements of pro-active thinking is present in the policy making. After all, in five years the Second National Energy Efficiency Programme is being developed, the rationale being that the safety of supply (given that some 50% of total energy use is imported and this ratio will increase in the future), environmental concerns and economic necessities all underline the importance of energy saving and energy efficiency. The proposed energy tax and environmental emission fees also point to the direction of a possible green tax reform. However, the privatisation of the energy sector was undertaken without proper environmental regulation: the HEO had to intervene in the Ministry of Environment for air quality measures. This example illustrates that pro-activeness manifests itself only incidentally.

4 Existing Co-operation

Five energy efficiency projects were selected and then analysed in greater depth to figure out the elements or features necessary for programs to be considered successful in Hungary. After screening of ongoing as well already finished programs, we realised that though a handful of projects seemed promising, five really deserve to be defined as "the best". These programs were investigated more closely, studying their documentation and interviewing participants involved. The following sections contain first general remarks on selected programs, and then a more detailed description and analysis of the projects. In the third part, we draw some brief conclusions.

Throughout the past decade bi- and multilateral financial institutions established programs for the sake of assisting the development of Central-Eastern Europe (CEE) countries according to Western standards. These institutions were also keen to provide funding for energy efficiency programs among others. The two sources that have provided the most funding are the PHARE programme of the European Union (EU) and the SCORE programme funded by the government of The Netherlands. Besides these funds, one can find several additional sources for projects (grants, loans, know-how-transfer, technical support, etc.). The financial tools were accompanied by Hungarian resources as well, but far smaller in size. Most of the selected projects (four out of five) were financed by - at least partly - foreign institutions, the only project operated by a Hungarian source being the Energy Saving Credit Program aiming heating reconstruction at the municipal level.

The first of the selected programs, the German Coal Aid dates back to 1991. The following one, ELÉG started in 1995 as the first awareness raising program of the decade and also the first in the sense of involving foreign, that is Western, experience. The project on Energy Service Companies and the Score Program are more recent but remain the first initiatives in their fields.

4.1 Methodology

Following - and already during - the screening, actors of the energy efficiency "market" were asked to name best practice projects. By "actors" we mean government officials, green NGOs, members of related authorities, banks financing energy efficiency invest-

ments, and journalists.³⁰ This massive interviewing period was followed by the collection of data, relevant articles, studies and, then, by another round of interviews. In this phase participants from all sides (organisers, applicants, authorities, etc.) of the selected projects were approached.

We developed a questionnaire which included Best Practice criteria set by the Öko-Institut, on the one hand, and a whole range of questions to determine the possible meanings of "bestness," on the other. These criteria consisted of questions concerning aspects such as the methods of defining target groups, the ways of treating and involving them, timing, feedback and evaluation of projects, etc. Besides the pre-set questionnaire, we also left time for more informal conversations to gain extra information, impressions, etc. Therefore, all the interviews conducted can be considered to be semi-structured.

4.2 Selection

The task to select the programs for 'Best Practice' Analysis proved to be simple in the sense that there was quite a unique consensus upon which ones to be included, so the selection itself looked unambiguous. Respondents gave very definite answers including three, four or even five of the programs chosen in the end. Moreover, no other, or very few other, programs³¹ were mentioned at all.³²

³⁰ Interviewees:

Ámon, Ada - The Energy Club (ELÉG)
Csűrök, Tibor - Prometheus (ESCO)
Halász, Ferenc - Hungarian Energy Office (EHP, EHA)
Keményné Koncz, Ildikó - Raiffeisen Bank (EHP)
Kocsis, Szilvia - The Energy Centre (SCORE)
Kömíves, Istvánné - ABN Amro (Hungarian) Bank (EHA)
Mayer Béla - Prometheus (ESCO)
Meggyesi István - Hungarian Energy Office (EHP, EHA)
Petit, Philippe - European Bank for Reconstruction and Development, EBRD (ESCO)
Sárvári, Gábor - ABN Amro (Hungarian) Bank (EHP)
Szabó, Teréz - The Energy Centre (SCORE, EHA)
Szalóki, András - The Energy Centre (SCORE)
Szerdahelyi, György - Ministry of Economy, Chairman of Interministerial Committee (EHP)
Weöres, Lászlóné - OTP Bank (EHP, EHA, ESCO)

³¹ Programs cited by respondents are as follows: Creation of a bill-collecting dossier wrapper in PHARE 99,. The other two are current projects of The Energy Club exceeding somehow the scope of this project since they are not bi- or multilaterally financed ones. These are the Energy Brigades established to teach insulation technique to apartment owners; and the experiment site of renewables. (The latter two were mentioned by actors in the field of energy efficiency but outside The Energy Club.)

³² We were asking respondents also about the "Worst Practice" programs to provide the other extreme of the scale. Equivocal answers show the so-called Panel-loan to be the project that had generated discontent the most.

4.3 Categories

The projects chosen for Best Practice analysis aimed at different activities. Three of the programs contain financial tools, but all the three are targeted to different groups (companies, municipalities and institutions operating under state control). Therefore, these programs are based on different preconditions, using financing techniques of different types, etc.

The other two programs aimed at awareness raising. ELÉG is a program directed towards end users/consumers (one of its sub-projects aimed school children). Though establishing a regional energy advisory network - what the chosen Score program attempted to realise - also contains TV ads, and animated films for instance, it is a more broadly targeted program. It has established the basis for a future awareness raising network.

4.4 Best Practice characteristics in general

Targets set were reached by every program.

The number of participants has so far been promising and is still increasing in the ongoing programs.

Loans, grants provided for the programs have been used properly.

All of the programs were flexible enough to be improved during implementation.

4.5 Difficulties in general

Project documentation proved to be very poor, if not missing at all. Evaluation reports are not available in most cases and even if there is some documentation about the progress of the project it is actually far from being a professional project analysis that can serve as feedback. They are rather simple narrations of how things happened during the program.

For some of the programs similar problem occurred with interviewees. Especially for projects where some state authority is involved, the intention to provide a more favourable picture could be detected.

Some less favourable characteristics of the programs examined below originate from the fact that it was the very first program of its own kind. Though foreign know-how is added to most of the programs, being a pioneer seems to have been especially burdensome in some cases. However, sometimes following in a hard-headed fashion the foreign experience turned out to be an additional burden for projects going on in Hungary.

4.6 Best Practice Projects

4.6.1 Energy Saving Credit Fund - Energiatakarékossági Hitel Alap (EHA)

4.6.1.1 *Convenience/appropriateness to the Four "Best Practice" Criteria - in Short*

Bright, major impact: after eight years of operation the number of projects financed by the fund amounts to almost 300.

Replicable: since demand exceeds the resources of the fund, a similar financial tool is recommended.

Innovative: no aid in kind had been converted to a financial tool before.

Building internal country capacity: the fund operates successfully and independently from any further "help", aid, etc.

4.6.1.2 *Program Description*

The government of the Republic of Germany offered a DEM 50 million aid to Hungary for the sake of purchasing coal in 1991. Following the purchase of 335 thousand tons of coal from Germany, the Czech Republic, Yugoslavia, Poland and the Netherlands - this covered one-tenth of the Hungarian annual coal demand at that time - the whole amount was sold to Hungarian citizens. From the 60% of the money generated by this action, a financial source was created simply under the name of German Coal Aid. At the beginning of 1996 the Hungarian Fund for Developing Entrepreneurship became the manager of the program which was renamed as the Energy Saving Credit Fund.

Table 2: Energy Saving Credit Fund - Overview

Name of the project (Acronym)
Energy Saving Credit Fund (German Coal Aid)
Description
Motivating energy saving investments at companies including small- and medium-sized entrepreneurs by providing loans with favourable conditions.
Objectives
Decrease energy demand, import dependence and pollution, substitute "traditional" energy for renewable and wasted energy, prepare the conditions for savings and efficient energy use, utilisation of power resources, decrease loss of power at the lowest possible cost.
Co-operation Partners (Institution, Country)
Hungarian Fund for Developing Entrepreneur-ship, Hungarian Energy Agency, Energy Information Agency, ABN Amro (Hungarian) Bank
Total Volume
DEM 50 million
Start (mm/yy)
1991
(Planned) End (mm/yy)
-
Evaluation Report Available
Regular financial and technical check-ups of the investments involved in every three months, but not of the whole program itself.
Results, Objectives Achieved
The revolving fund has provided loans for investments of HUF 10 billion during its 8 years of operation up to now. The number of projects elaborated was 277; the energy saved through them amounted to 584 GJ/year/HUF million. Most of the investments' results have exceeded the minimum criteria (50% of savings should result in energy saving).

It is a revolving fund that has already been placed out four times. Its favourableness originates from the low interest rate it is lent out at. The interest rate equals to the 50 % of the prevailing basic interest published by the Hungarian National Bank. The bank, on the one hand, and a committee of technical experts, on the other, evaluate the applications.

4.6.1.3 Advantages/virtues of the program

It has become an "independent" source for energy saving investments in two striking ways. One of them is the independence from any current and future resource, grant, loan providing institutions: it works according to strictly and clearly set rules, and there is no pressure from any governmental or financial institution.

The other element of EHA's independence is the range of institutions it can supply loans to. Though the most important task of the fund manager is to help small- and medium sized entrepreneurs, the fund aims companies of any kind irrespective to their ownership structure, industry branch, or company size.

As the most stable and autonomous fund in this field, EHA seems to serve energy saving and efficiency investments in a calculable and transparent way, i. e. the program can be followed closely, and companies interested can steadily count on it. EHA has also proved to be flexible due to slight improvements elaborated during the past years.

The level of its interest rate remains highly competitive because of its close link to the prevailing basic interest rate of the Hungarian National Bank.

Due to its revolving type, the fund has been able to finance investments of HUF 10 billion altogether. The number of projects finalised and checked already exceeds 270. The energy saved through these investments is 584 GJ/year/HUF million. The revolving system can serve, though using relatively little money, a lot of energy saving investments.

Savings are based on reliable technical data guaranteeing that real modernisation and development is achieved in energy terms.

Multiplicative effects of the program have also been noticed: in a lot of cases, energy saving investments have lead to the increase in the number of employees, to improvement of the export-import saldo, etc.

The follow-up part of each project financed consists of a multi-level approach. There is a continuous financial check based on bills provided by the debtor, and technical check-ups and analysis of economic efficiency take place, too.

4.6.1.4 Difficulties

Demand exceeds resources. There are much more appropriate applicants than the fund can supply with loans.

The process of evaluating the creditability of the applicant and the technical adequacy of the planned investment takes too long. The evaluation period is as long as 2 to 3 months and, in some cases, it takes even longer.

The program has not fulfilled its expected role in the field of utilising renewables and energy produced from wastes.

On behalf of its German counterpart, the Hungarian State Financial Controlling Agency (Állami Számvevőszék) examined the program in 1995 and found some shortages.

4.6.1.5 Other Lessons/Reservations

Since 1991, there has been only one bank offering the loan. Though this bank has changed a lot from the beginning of the German Coal Aid up to the present days of the EHA (from its size, through its ownership to its name, in almost every aspect), relying on

the same bank throughout a whole program proves to be the general pattern of financing programs in this field.³³ Since ABN Amro (Hungarian) Bank was the first financial actor to spread loans for energy saving investments in Hungary, its role is worth being emphasised. It entered the program as a state-owned institution without any experience, made the fund work and earned very little - at the beginning, when no other bank was willing to participate. Therefore, the main reason for letting the bank manage the fund alone since then is, in a way, partly moral. No doubt, there is another argument behind it, i. e. the bank has been managing the revolving fund successfully and correctly.

However the bank is not involved in technical decision making either at the evaluation of the applications, or during the follow-ups. Technical and financial sides of investments are separated this way.

Attention should be paid to the professional preparations of each project.

Conditions proved to be correct, decisions are made according to two types of criteria: financial as well as technical.

EHA proved to be successful especially concerning investments targeting the modernisation of public lighting and heating.

4.6.1.6 Future of the Program

Good results have made the program continue to run. Its basis is an autonomous, independent credit fund being active on its own, unaided and successful. If it remains "untouched", it will have fine prospects. Admittedly, future has in store for it many more years of financing through ABN Amro (Hungarian) Bank, one of the very few credit

³³ Bi- and multilateral financial institutions usually insist on be in touch with the Hungarian counterparts they worked with before for future projects as well. The only exception to the rule mentioned above is EHP (see 2.3), where banks are participating in a tender each year, and only the very best offer may win. This has resulted in choosing a new bank every year up to now, though a bank is allowed to take part in the competition whenever it would like to. This method was set up because of various reasons. In this context the most interesting intention is to provide neutrality in regard with competition among banks since the source of the interest preference is the central budget.

institutions in Hungary participating in financing of energy saving and efficiency projects.³⁴

EHA's stable presence among financing programs is reinforced also by the criteria changing flexibly, but not fundamentally, according to the needs. For instance, the amount of energy that should be saved due to the project implemented has decreased from 300 GJ/year/HUF million from the very beginning to 100 GJ/year/HUF million by now.

Renewables will get higher on the fund's agenda in the future.

4.6.1.7 Four criteria in details

Bright, major impact: after eight years of operation the number of projects financed by the fund amounts to almost 300. (See results above) The program is well-known and popular, attracting more companies as applicants than any other program. As the very first energy efficiency program targeting companies in Hungary, it laid down the basics in this field in many ways: building up such a program, relations with applicants, financing conditions, etc.

Replicable: since demand exceeds the resources of the fund, a similar financial tool is recommended.

Innovative: no aid in kind had been converted to a financial tool before, and not even a revolving fund had existed for energy saving projects. The method worked out for EHA has not been repeated since then yet.

³⁴ Besides EHA and EHP there are only four programs including financial tools for the sake of energy saving and efficiency at households, companies and municipalities. There are about ten banks involved into offering loans through the European Investment Bank's "Global loan" credit line in which energy saving and efficiency-increasing projects are one of the possible targets. Global loan is mainly for development projects of any kind. (No data about the percentage of projects aiming at energy saving and efficiency is in reach.). The PHARE-program of the European Union have provided ECU 5 million to ease the burden loans make to companies in this field. The preferential loan without any interest payment is offered through Raiffeisen Bank and Kereskedelmi és Hitelbank and can be used together with other loans provided by foreign institutions (European Investment Bank, European Bank for Reconstruction and Development, etceteras.) up to the one-fourth of the lent amount. The highly unsuccessful credit line of DEM 30 million, the so-called Panel-loan for insulating block of flats made of pre-produced panels in particular is provided by Kreditanstalt für Wiederaufbau of Germany. It is offered through 6 banks throughout the country. And also from among the less successful programs, International Finance Corporation (IFC) of the Worldbank group set up a guarantee fund for a kind of mixture of third party financing and leasing. The only partner the IFC has been able to agree with is Raiffeisen Bank. Though the number of banks involved into these financing programs looks promising, there are only four or five credit institutions that pay attention - to different interests - to investments of these kind. These banks are: ABN Amro (Hungarian) Bank, Kereskedelmi és Hitelbank, OTP Bank, Raiffeisen Bank and also the Takarékbank, the central institution of saving co-operatives.

The program is kept "fresh" by updating its conditions continuously, and - relying on the experience of the previous years - making its details more precise, sophisticated and fit to its changing environment.

Building internal country capacity: the fund operates successfully and independently without any further "help", aid, etc. It is the only financial tool in Hungary that regenerates itself regularly. No loss has been observed, the evaluation and acceptance of applicants proved to be correct.

Those who have helped the development of EHA are spreading to other financial institutions. The effect of this process can be followed clearly: new banks appear on the energy saving "horizon".

4.6.2 Energy Efficiency Program - ELÉG

4.6.2.1 Convenience/appropriateness to the Four "Best Practice" Criteria - in Short

Bright, major impact: many organisations were involved in the program, long-lasting effects.

Replicable: raising awareness, building capacity and coalition should be reiterated from time to time.

Innovative: first awareness raising program directed to schools, journalists initiated by NGOs.

Building internal country capacity: capacity for raising awareness was build within green NGOs.

4.6.2.2 Program Description

This program serves as a basis for future energy efficiency campaigns initiated by civil organisations. The ELÉG campaign was set going by NGOs and supported by a foreign governmental institution (the Environmental and Energy Agency of the Netherlands, NOVEM). NOVEM was to test the operation and effects of a campaign through this program in this region and collect information, and gain experience. Hungary was chosen for this "experiment" as the most advanced among the countries in CEE. The organiser of the campaign in Hungary was the Energy Club.

Table 3: *ELÉG Energy Efficiency Program - Overview*

Name of the project (Acronym)
ELÉG Energy Efficiency Program
Description
Grants, training (4), Brochures for schools, municipalities, families; Study tour for 7 journalists to the Netherlands; TV Film (2x50 min.); School programs; Roundtables (politicians are also included); Studying possible introduction of Integrated Resource Planning in Hungary.
Objectives
Energy efficiency coalition building and raising public awareness. Capacity building for green NGOs
Co-operation Partners (Institution, Country)
The Energy Club, EGI Rt., 21 NGOs from all over the country, Novem, municipalities, electricity and gas distributors, well-known representatives of government
Total Volume
NLG 186.000 for the Hungarian part
Start (mm/yy)
01/95
(Planned) End (mm/yy)
03/96
Evaluation Report Available
No
Results, Objectives Achieved
Coalition building, awareness raising started. Capacity building done. Experiences at the subprograms: Training and grants go better together. Brochures, TV films are more useful at the local level with local information. Journalists' travel can only be evaluated in the long run. School programs are more efficient at local level than at national level. Pyramid system does not work.

The aims of ELÉG were three-fold. It aimed at building coalition, on the one hand, by trying to establish the basis of partnership between different sectors affected, involved and interested in energy efficiency. The program was designed to raise awareness in energy efficiency throughout the population, on the other hand, and, thirdly, to build capacity within green NGOs for the sake of awareness raising in this field.

4.6.2.3 *Advantages/virtues of the program*

The campaign was cheap and efficient.

It involved a nation-wide network of participants (green NGOs, schools, electricity and gas distributors, journalists, etc.), that allowed the subsidiarisation of the program and local level decision making.

Campaigning was based on several different channels (media, green NGOs).

The message, the concept of ELÉG was clear, accessible and simple as required.

Success through coalition building: experts, green NGOs, municipalities, media and departments of the government are already asking for information and even opinions from each other.

Though measuring the increase of awareness is almost impossible and inexpressible in numbers, the attitude of participants, the way they look at energy consumption is much more energy efficient.

The capacity building part of the program is the real success. As a result, nowadays, there are 10 green NGOs working closely and co-operating with local partners. They are well-known, acknowledged at local level, and their expertise is widely acknowledged.

4.6.2.4 Difficulties

The structure of the program originating from the Netherlands did not fit the Hungarian environment, situation perfectly.

The selection of executive management proved to be wrong.

Too short a time period for the campaign. The time limits the NOVEM set for the campaign turned out to be very short which made the campaign too „fast.”

Too many meetings took a lot more time than what the tasks in question needed.

There wasn't any follow up of the campaign or feedback during and after the program. No resource and enthusiasm left for the follow up though NOVEM was keen on evaluating the results of the campaign. Nevertheless, measuring results proved to be very difficult. The increase in awareness in energy efficiency and saving can be hardly apprehended, and the real savings of energy throughout the program was not on the agenda.

4.6.2.5 Other Lessons

Channels of the program (media, green NGOs) were appropriate.

Big changes - even if the new idea were great - were unfortunate during the program.

Strict timing proved to be too early an effort since coalition building should have been placed first and awareness raising should have followed it.

The number of subprograms turned out to be too many; less would have achieved more.

Implementation should have been much more concentrated. A well-prepared structure for it was missing.

4.6.2.6 Future of the Program

The next steps, the continuation of the program were elaborated, but the new phase didn't come about in the end. Other awareness raising programs have already followed ELÉG; the most recent one is organised and financed by SCORE program.

4.6.2.7 Four Criteria - in details

Bright, major impact: The number of people involved directly exceeds ten thousand. (Only the circulation of brochures amounted to some 10.000.) A complex program in three "phases" was elaborated where most of the actors in energy distribution and consumption were targeted.

Replicable: Other well prepared, structured and organised campaigns are needed for at least two reasons. The change in attitude mentioned above can only be effective and long-lasting if it is embedded in reiterated programs, on the one hand. Some programs that have taken the lead since ELÉG ended went "wrong": with larger resources they deserved much less attention.

Innovative: No other program of this threefold scope has been elaborated. This was the first campaign aiming the whole population where green NGOs worked with foreign institutions. Campaigns should always be innovative to capture attention. (The lack of good ideas proved to be the problem of the following campaigns.)

Building internal capacity: Leverage effect. Green NGOs that gained experience through the campaign may act more effectively. Partnerships among the participating institutions seem to be long lasting, though the results of their co-operation can be evaluated only in the longer run.

4.6.3 Energy Saving Credit Program - Energiatakarékossági Hitel Program (EHP)

4.6.3.1 Convenience/appropriateness to the Four "Best Practice" Criteria - in Short

Bright, major impact: all the municipalities are invited, real energy saving must be realised.

Replicable: still a lot of projects to be elaborated; only a certain part of the municipalities are involved.

Innovative: first energy saving program directed to municipalities relying on bank finance subsidised by government money.

Building internal country capacity: it is - partly - based on bank loans provided by local banks.

4.6.3.2 Program Description

The preparatory process of EHP dates back to 1994 when the first analysis was made by the Hungarian Energy Office (HEO) about the potential outcome of any energy saving project targeting municipalities. The current version of the program - except the size of credit line that has already increased since then - was accepted in 1996 when a Governmental Decree set the conditions of the preferential loan and established the institutions needed to evaluate the applications and later the program itself.

Table 4: Energy Saving Credit Program - Overview

Name of the project (Acronym)
Energy Saving Credit Program (EHP)
Description
Motivating energy saving investments at municipalities and their public institutes by providing a set amount of loans with conditions more favourable than the market "price"
Objectives
Financing investments that result in the saving of energy costs. At least 50 % of all the savings must originate from decreasing energy costs.
Co-operation Partners (Institution, Country)
Interministerial Committee consisting of the representatives of Ministry of Economy, Ministry of Environment, Ministry of Finance, Ministry of Interior and the Hungarian Energy Office, Energy Information Agency, and the winner bank in the given year (Up to now: Raiffeisen Bank, OTP Bank, ABN Amro (Hungarian) Bank)
Total Volume
Changing year to year. In 1997 HUF 800 million, in 1998 HUF 1 billion + interest preference (50 % of the basic interest set by the Hungarian National Bank), that is HUF 250-270 million for the first year program in the following 6 years.
Start (mm/yy)
1997
(Planned) End (mm/yy)
-
Evaluation Report Available
Yes
Results, Objectives Achieved
Changing heating systems from traditional ways - oil, coal - to gas heating at the institutions or offices of about 300 municipalities in 1997 and 1998. By doing so energy of 500TJ/year has been saved.

The preferential loan is provided for municipalities, legal entities with economic activity owned by municipalities or companies financing energy related modernisation of public

institutions owned by municipalities. The credit line amounted to HUF 800 million in the first year, and an annual HUF 1 billion from that time on. This money is provided by a bank - winner of the annual tender through which the interest of the loan (the lowest offer) is set. Therefore preferential interest means the lowest on the market, on the one hand, and a grant provided by a special fund of the Ministry of Economy aiming economic development, on the other. The grant equals 50 % of the prevailing basic interest rate set by the National Bank of Hungary. Beside the interest, the only cost to be paid by the debtor is a so-called registration and analysis fee of 1.5 % of the credited amount.

(Interest rates:

1997 - 3 months BUBOR + 1.5 %, (that was 21.65 % when accepted.) NBH's basic rate was 21,50 % then;

1998 - DWIX-0.5 % (that was 18.71 % when the bank's offer was chosen to be the winner), NBS's basic rate was 20.00 % at that time;

1999 - 3 months DWIX - 0.1 % (i. e. 14.19 %). The NBH's current basic rate is 15.50 %.)

For a certain investment, municipalities can apply for a preferential loan up to HUF 30 million. Another 10 % of the investment are to be checked by the bank but this money may also come from outside sources such as the EHA (see above). The repayment period is five years, including a one-year grace period. Investments should be elaborated within 12 months.

EHP is operated by an Interministerial Committee (see members in table) that sets the rules for the prevailing year, decides upon the applications, checks the ongoing investments every three months and evaluates the program itself (see Table 5 for EHP statistics).

Table 5: *EHP statistics*

		Applications		Accepted by the Interministerial Committee		Rejected by the Interministerial Committee	
		1997	1998	1997	1998	1997	1998
Number of projects		110	131	74	92	36	39
Total investment cost	HUF million	1708	1900	1061	1300	647	600
Amount of preferential loans	HUF million	1156	1500	781	995	375	5005
Energy saving	TJ/year	319	389	256	272	63	107
"8 applicants were "forwarded", postponed for the 1999 program are included. The most common reasons for rejection are: the planned investment would not result in the energy saving required, the applicant did not prove to be credible, application involved institutions the program excludes such as heating plants, etc. Most of the applications included small municipalities from the countryside, and almost no municipality from Budapest.							

Source: *Hungarian Energy Office*

4.6.3.3 Advantages/virtues of the program

In the second and third year - on the basis of the experience of previous years - tendering banks were able not just to offer a price they could afford, but to prepare a more competitive interest rate even if it was not profitable for them any more. By doing so, they pressed down the interests to an unexpectedly low rate in 1998, when the winner bank, OTP was arguing about the very low level of income this business generated. However, this did not make banks stop tendering. In 1999 the interest rate declined again to a level which was predicted "surely losing" by the competitors. Admittedly, decreasing interest rates in the third consecutive year again caused by the fierce competition in the banking sector is favourable for the municipalities.

EHP is one of the very few possibilities of local banks to provide financing for energy efficiency investments in Hungary. Most of the programs currently running are financed by international financial institutions (IFIs) leaving no space for local participation. It is not the size of foreign financing that keeps local banks far away from entering this field, but - let's say - the cross-financing of programs, what IFIs do.³⁵

Evaluation of the programs are twofold: the bank checks the financial feasibility of the investment, and the relevant body of the Interministerial Committee analyses the technical feasibility and also the level of future energy saving. Also, the follow-up of the programs are based on two parts: technical-economic analysis, on the one hand, and financial control by the bank, on the other. (There are possibilities for sanctioning investments not valid for EHP: withdrawing preferential interest or increasing interest to a size twice that of the market level.)

Since savings are based on technical improvements and can be measured both in financial and technical terms, they are "real."

Feedback from municipalities looks satisfactory. According to the Ministry of Interior, the controlling ministerial level institution of municipalities in Hungary, EHP is helping speed up structural changes.

Other advantages of the program mentioned by government officials are: EHP reduces import dependency, decreases pollution as well as the social burden, costs, sizeable multiplicative effects, such as creating jobs, improving import-export saldo, etc.

4.6.3.4 Difficulties

The less promising result of EHP in 1999 - applicants turned up for only the one-fourth of the annual credit line till the annual deadline expiring in the middle of the summer - shows that a bank without a prevailing strong clientele of municipalities might be less successful in attracting these institutions. Other banks - being lucky to have a lot of mu-

³⁵ See supplementary finance of ECU 5 million provided by the PHARE-program for lowering the interest burden of some other energy efficiency loans, but only of those originating from other IFIs.

municipalities in their client "portfolio" - were able to introduce this program without any extra effort in marketing. Well-prepared marketing directed to municipalities is necessary. The only thing that happened this year was the extension of the deadline to the end of the year.

The evaluation of applications takes too long, 2-3 months per loans, which sometimes postpones planned investments for the next year.

The return of the project is longer than the repayment period. The shortest period through which investments financed under the EHP return is six-year-long. However, the repayment period may not exceed five years. This condition is adjusted to the patterns of the development fund that provides preferential interest and not to the investments themselves.

Timing of the project could fit better to the profile of heating reconstruction investments. Since the banking tender ends in the middle of spring, and the application deadline is - usually - in the middle of summer, the first accepted programs are able to begin their investments some time in late autumn, when the heating season has already started.

Setting the credit line and the conditions of the preferential loan seem to be very flexible, but there is always some level of uncertainty involved.

EHP is managed by the Interministerial Committee, but in recent years the Ministry of Finance has gained more and more power in the program.

4.6.3.5 Other Lessons

The credit line appropriated by the program has always fallen short of expectations. Each year there has been much more acceptable and creditable solicitation of loans than the banks were able to satisfy. These applications were always postponed to the following year. (e. g., 8 projects accepted in 1998 to 1999.)

The small amount - now HUF 1 billion - of credit granted is the reason why the Interministerial Committee decided to choose one winner every year though banks would have liked to split the credit line even if they had to accept the best offer and provide loans according the most favourable conditions.

Though the HUF 30 million limit of the credit also seemed to be low compared to the demand of municipalities, they have never required the preferential loans offered by the bank exactly for these projects besides EHP.

Finding new sources for granting interest preferences have proved to be difficult up to now. The conception was to involve the Central Environmental Fund and also some international funds, credit lines, but none of them has come true. The Central Environmental Fund ceased to exist last year, and bi- or multilateral negotiations have not even started in this field yet.

4.6.3.6 Future of the Program

Being the only governmental energy efficiency program, EHP will surely go on and probably develop further. Although its second element - financing the modernisation of central heating - is coming true after three long years of negotiations and lobbying and the third element - third party financing (see ESCOs below) - was refused in the end, the program has already witnessed some improvements. The credit line has been increased and from autumn 1999 on another HUF 1 billion will be credited for the central heating reconstruction program.

4.6.3.7 Four Criteria - in details

Bright, major impact: all the municipalities are invited to participate in the long run in theory (in fact - the lack of - creditability of a lot of them does not allow it). There are about 3300 municipalities in Hungary which creates the possibility of reaching many institutions, and organisations through this program, on the one hand, and, by the very clearly and strictly set objectives, that of a great amount of energy saving, on the other.

Replicable: this is already the third consecutive year of the program - namely it has been "repeated" twice already - but still only about 5% of the municipalities in Hungary were involved.

Innovative: there had never been any energy saving or efficiency program directed to municipalities set up by Hungarian authorities before. (A PHARE-program aiming municipalities took place in 1995, and these institutions had the opportunity to participate in another heating reconstructing program, the so-called Panel loan (see screening table), but without almost any exception, they did not.)

Building internal country capacity: it is - partly - based on bank loans provided by local banks in Hungary, though interest preference is given by the central budget each year. Moreover, local banks would appreciate higher involvement in credit programs.

4.6.4 Building Network of Regional Energy Advisory Centres - SCORE Program

4.6.4.1 Convenience/appropriateness to the Four "Best Practice" Criteria - in Short

Bright, major impact: TV campaign was reinforced by local advisors in ten counties/cities.

Replicable: Though existing elements of the network work successfully, hardly any new organisations are involved.

Innovative: no advisory organisation aiming civil population has been established in this field.

Building internal country capacity: advisory centres set up are already working on their own.

4.6.4.2 Program Description

A major aim of SCORE programs is to organise and establish a nation-wide energy efficiency advisory network that is independent from the actors of the energy market, namely the energy distributors. The network is to help local inhabitants, public institutions, small- and medium sized enterprises in energy efficiency decision making and provide technical and financial information and map out energy efficiency possibilities.

Table 6: SCORE, Activity of Regional Advisory Centres - Overview

Name of the project (Acronym)
SCORE, Activity of Regional Advisory Centres
Description
Setting long term strategy and business plan
Objectives
Establish basic conditions for local sponsorship. Find common interests with local partners, create a transparent business plan.
Co-operation Partners (Institution, Country)
Local Advisory Organisations: MTESZ, green NGOs, MVA (+SZTÁV Rt.)
Total Volume
NLG 16.000 (Score) + NLG 8.000 (Hungar-ian)
Start (mm/yy)
08/98
(Planned) End (mm/yy)
11/99
Evaluation Report Available
Yes
Results, Objectives Achieved
Ten centres have been set up throughout the country.

The SCORE program is the initiative of the Government of the Netherlands. On the basis of analysing local situations, the countries involved - the donating Netherlands and CEE countries - select the fields where energy efficient investments are needed the most and set up local programs in close co-operation and by Dutch support.

Score '97 was based on the result (experience, network and advisory activity) of the ELÉG campaign, since the philosophy of the two programs were very similar to each

other: coalition building, awareness raising. Moreover, both programs incorporated civil initiatives and were financed by Dutch sources, though the Government of Hungary joined SCORE '97 officially. An intergovernmental agreement was signed by the Hungarian Energy Office and NOVEM, the environmental and energy agency of the Netherlands in 1996. Six months later the Energy Centre joined the program and became the Hungarian co-ordinator of it.

The general target of the SCORE program is to establish a sustainable energy efficiency infrastructure suitable for detecting all the initiatives aiming the continuous improvement of energy efficiency at end users. While SCORE '97 was planned to establish new institutions, building capacity, raising awareness and energy efficiency developments for demonstration, SCORE '98-99 has aimed at establishing the basis of an autonomous, nation-wide system supporting energy efficiency activities locally as well. This network should work independently from any Dutch financial resource after the turn of the century.

Besides opening local offices, a telephone service is also provided which was especially popular after information films were shown on TV.

4.6.4.3 Advantages/virtues of the program

It is a long term project since it was designed to “survive” the financially supported period, and spread the information, institutions further. Participants of the trainings should pass the newly gained knowledge, energy advisory offices sustain their activities by the help of local SMEs.

Members of advisory centres were “recruited” from very different organisations, providing a complex view of energy efficiency. Green NGOs and members of MTESZ (a natural science and engineering oriented organisation) could complement each other's knowledge and approach. Different ideas from the participants are circulating in the network, enriching the activity of others.

Brochures (Energia ABC) of the program deserved popularity.

The program was cost efficient.

4.6.4.4 Difficulties

Too many actors were involved, that made the program too complex and sometimes rigid.

The role of participants was not clear in every moment. Co-operation evolved very slowly: although different approaches of different actors in the network ended up in synergy in most cases, different organisations were quite hostile to each other at the beginning.

The time frame proved to be too short. The schedule of the program was postponed several times. Already at the very beginning the decision about the host institution of the program created some confusion: for some, it was the Hungarian Energy Office who fulfilled this role, but after a year The Energy Centre turned out to be the manager of the program.

Timing of the TV-series was not successful (on Saturdays at noon), therefore admission remained poor throughout the whole program.

Administrative difficulties took place between Hungarian and Dutch actors involved.

Although regional advisory centres established during the program might work on unaided, the other aim - to set up new centres by the help of existing ones - has not come true.

Sometimes capacity problems have occurred: where the participating organisation was a small one, the representation of this program was often kept in one hand. This led to a break in the activity of the local centre when the only person in charge of this task left the organisation.

General elections and changes in the government halted the project for a while.

4.6.4.5 Other Lessons

A thoroughly planned strategy is needed for incorporating the media in awareness raising.

Measuring results of awareness raising is not easy, but seems worth investing in.

Channels to the target group were not clear in many cases, nation-wide media were less helpful than expected, but the role of local media proved to be important. Any successes reached were up to local efforts.

Geographical characteristics made a lot of difference throughout the establishment and activity of the advisory centres. This can also be captured looking at the results: where the local NGO deserved some popularity - they were known in the neighbourhood - even before this program, the organisation could conduct efficient programs. The type, method and style of the energy efficiency advisory activity also depended on the organisation involved, so the result is very colourful, and the range of programs very wide.

Timing this program right after ELÉG might recognise and utilise more synergistic effects.

4.6.4.6 Future of the Program

There are still a few months to go in SCORE '98-99. Parts that proved to be especially successful are expected to be further developed. Timing also seems to be favourable since a new, similar program is to start in other CEE countries also financed by Dutch

sources. The other advantageous progress is that the new energy efficiency strategy and action program is right under way.

4.6.4.7 Four Criteria in detail

Bright, major impact: Ten energy efficiency advisory centres have been established throughout the country involving green NGOs and local branches of MTESZ and MVA. Nation-wide and local media have driven attention to issues the centres worked on and, though media presence was not always sufficient, numerous local inhabitants turned up after animated films were broadcast on national and local TVs.

Replicable: One of the lessons to be taken out of this program is that awareness raising projects should build on each other and not much time should pass between two programs, the need for similar projects is nothing short of an evidence.

Innovative: Though awareness raising is not a new idea in general, some elements of the program were highly creative.

Building internal country capacity: This is the program paying the most attention to self-financing after the period of Dutch support. By the training of local expertise future centres can base their establishment and development on the current results.

4.6.5 Energy Service Company (ESCO) – Prometheus

ESCOs are industrial companies with extensive expertise and experience in energy conservation. These companies are able to buy, install and maintain the energy-saving equipment need for their clients at their own initial expense. The invested money is returned by the real savings obtained. ESCOs are paid through contractual arrangements that convert the customers' saving from reduced energy cost to revenue.

4.6.5.1 Convenience/appropriateness to the Four "Best Practice" Criteria - in Short

Bright, major impact: Prometheus is currently involved in about 400 programs. There are municipalities reiterating their programs with the company at different public institutions.

Replicable: The great number of public sector enterprises which are not allowed to borrow, and also private sector businesses lacking resources badly need third party financing solutions. Although there are already two ESCOs in operation in Hungary, the number of potential projects exceeds their capacity.

Innovative: EBRD is the first IFI to lend in this field. Third party financing was unknown in the CEE countries before.

Building internal country capacity: Following this example another ESCO (Energovill Lux) was set up by an energy company and a bank. Prometheus has already been working in an economically stable position on its own, but the EBRD is still at hand.

4.6.5.2 Program Description

In 1995, the European Bank for Reconstruction and Development signed a USD 5 million loan agreement with the formerly state-owned Prometheus, of which 97 % was owned by the Compagnie General de Chauffe of France. The money was provided for renovations, new parts and safety devices, and also the operation and maintenance of energy installations in private sector businesses and public sector enterprises operating in Hungary. The first loan was followed by a new one two years later. The EBRD now has also got equity participation in the Prometheus. After the first two years, Compagnie Generale de Chauffe and EBRD decided to set up other ESCOs in the region, for this reason the two institutions prepared USD 150 million. The other two partners of EBRD in similar projects throughout the CEE are Honeywell of the United States and Landiss & Gyr of Switzerland. The size of the co-operation equals USD 75 million and ECU 210 million, respectively.

Table 7: *ESCO funding - Overview*

Name of the project (Acronym)
ESCO funding
Description
Helping the development of Energy Service Companies by providing loans for investments, and stable capital base for its special “financing” function.
Objectives
Providing technical assistance and investments for private and public institutions without the resource need for energy efficiency reconstruction. The money invested by the ESCO is repaid through the decrease in energy costs.
Co-operation Partners (Institution, Country)
EBRD, Prometheus
Total Volume
USD 5 million
Start (mm/yy)
06/05
(Planned) End (mm/yy)
-
Evaluation Report Available
No
Results, Objectives Achieved
Prometheus has been able to invest in energy-saving equipments, first, and service public and private institutions, later. It needed firm financial background and capital base provided by the EBRD. The bank following this project has started to set up similar institutions all over in the CEE and the CIS.

Owners of the Prometheus now are the French Vivendi Group and EBRD. The company is involved in about 400 programs. Yearly data of energy saving amounts to 176 400 GJ according to Prometheus, which means 20 % saving in energy bills

4.6.5.3 *Advantages/virtues of the program*

Private and public institutions have been able to participate in energy conservation investments by third party financing. This technique can supply organisations indirectly with the funding needed.

Participation of the EBRD meant the inclusion of an IFI and also extra resources for the company at a time when foreign financing proved to be difficult and a risk taking institution was needed.

The first loan provided by the EBRD was offered to clients very soon, with this amount programs were financed for three years.

20 % equity participation of the EBRD even reinforced company aims.

4.6.5.4 Difficulties

The method of third party financing has been usually hardly understood, “learning process” has taken long.

4.6.5.5 Future of the Program

Prometheus has become a well established private company since its privatisation in 1992. It is expanding its activity. The EBRD is still on board as the bank’s aim is to develop private entrepreneurship in the countries of its operation. And when its investments have “graduated” – as EBRD terminology defines favourable results - the bank leaves the company behind selling its stake. Progress is made in Hungary, where the EBRD has already sold its equity in two banks out of four it has been investing in as an owner.

5 Conclusions

5.1 Summary

In this part, we make an attempt to briefly summarise the main findings of the parts of Legal Gap Assessment, Policy Analysis, and Best Practice Project. We report here some of the overlapping key conclusions of the different studies undertaken within the project so as to make our interpretation of the energy policy setting in Hungary more clear and accessible. The following only contains some thesis-like very short general statements which have emerged out of and dealt with in details in the in-depth studies.

In formal legal terms, Hungary is in a relatively well-advanced stage with regard to the harmonisation process in energy policy setting. This means that the majority of EU energy rules and programmes have their Hungarian equivalent and they need in general only minor amendments to complete the harmonisation.

However, there is a clear need for further elaboration of the methodological traits of the Hungarian energy policy setting, including even the relevant laws and regulations. This means at least four separate but interconnected issues in need to be dealt with thoroughly and strategically in order to improve harmonisation in a substantial sense as well.

First, while the basic documents of Hungarian energy policy refer to environmental issues and principles, they contain only general statements and fall short of any clear and consistent logic of how to integrate and implement environmental objectives and principles in energy policy setting. There is a hiatus of strategic documents which would serve as bridges between expressed environmental principles as well as objectives and actual policy programmes for implementation in energy policy.

Second, Hungarian energy and environmental policy is poorly, if at all, integrated horizontally, i.e. in terms of cross-sectorial (interministerial) policy making. This shortcoming is also manifest in communication failures in between different departments of state administration. However, the most striking feature of it is the completely separate attempts by the Ministry of Economy and that of Environment to exercise some policy control over energy issues by applying command-and-control as well as economic instruments of regulation without any joint efforts to establish a comprehensive and cohesive environment-energy policy (as would be, particularly, a green taxation reform proposal).

Third, the other weak point of Hungarian energy and environmental policy concerns the problems of implementation. Lack of strict policy implementation is due to institutional, financial, and political failures.

Fourth, the style of Hungarian public policy making in general and energy policy making in particular, which are characterised by the lack of openness, dialogue-orientation and of a substantially participatory approach, poses a serious barrier to a progressive and effec-

tive environment-energy policy. To overcome this barrier is one of the basic features of "best practice" projects in the field of energy efficiency.

It is a striking feature of Hungarian environment-energy policy setting that the utilisation of renewable energy sources can be considered as a serious failure. This hiatus is even more telling if one considers that the renewable sub-projects of "best practice" projects by no means make exceptions.

We refrain from any generalisation with regard to the common positive features of "best practice" projects since they are very heterogeneous in terms of actor-networks, financial arrangements, etc. For instance, some of the "best practice" projects involve fewer actors, therefore, its success is tied to being well-targeted; others are characterised by broad stakeholder involvement as a feature contributing to its success. However, what is striking is that all of them can be claimed to be nation-wide and none can be said to be a genuinely small-scale local experiment. This latter feature also can explain, in a sense, rather conventional, less innovative or experiential, nature of Hungarian "best practice" projects.

Following are our recommendations as to useful and meaningful co-operation projects that would prepare Hungary for EU Accession.

5.2 Recommendations

The following recommendations are the product of two meetings held between all the authors and contributors of the Hungarian Energy and Environment study.

It is our view that it is worth continuing or prolonging all of the projects selected as best practice projects in Hungary. In particular awareness raising type projects are of the utmost importance in Hungary since the public has little knowledge about the complexity of issues connected to the energy and the environment; as a result, there is still a lot to be achieved in the area of residential energy efficiency.

One of the striking findings of the best practice analysis is that hardly anything has been done in the area of renewables. It would be very important to enhance the use of renewable energy sources through governmental support such as information campaigns, creating the necessary institutional background and through the development of a preferential and differentiated pricing system in the electricity sector. The German experience of the feed-in practice and the overall promotion of renewables in the different Länder, would be very beneficial in the process of elaborating the Hungarian strategy.

As experience has shown, financing energy efficiency and renewables is a shortcoming in Hungary especially in the household and communal/municipality sector. There is an urgent need for smaller and more flexible credit lines as well as the development and standardisation of third party financing and performance contracting.

In terms of regulation and policy instrumentation in the area of energy and environment, we have found that the Hungarian Government is much more in favour of using positive

measures rather than using command and control measures. We all agreed that this is a good thing, however beside the "carrot" there should be a "stick" to give a stronger direction to this development.

There are several attempts from the side of the environmental administration to impose new taxation systems, charges, fees on the industry as well as carbon tax type of levies on the energy prices. The Hungarian tax system reform has consisted of simply adding more and more fees mainly for fund-raising purposes without thinking of ways to compensate the additional weight on the economy. This "tradition" cannot be continued in the longer run and there is a need for a comprehensive tax reform and harmonisation. In the development of such a process of harmonisation and the system itself, the well-experienced and internationally recognised German "eco-institutes" would be helpful.

During the discussion among the experts, the idea of cross-sectorial training/workshops arose several times, which would enable the groups - such as governmental officials and NGOs - with different backgrounds, negotiation skills and "language" but with the same interests in the environmental field to come to a common platform, build natural coalitions and mutually support one another. The participants agreed though that this should happen in a rather informal fashion.

In sum we can say that there lot to be done in several areas of the field of environment and energy.

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7 Appendix

7.1 Energy and Environment Data

Table 8: *Energy Markets*

	Unit	1990	1991	1992	1993	1994	1995	1996	1997	1998
Turnover										
Electricity	%									100
ELMÜ Rt.	%									29
ÉDÁSZ Rt.	%									21
ÉMÁSZ Rt.	%									14
DÉDÁSZ Rt.	%									13
DÉMÁSZ Rt.	%									12
TITÁSZ Rt.	%									12
Gas	%									100
TIGÁZ	%									32
FÖGÁZ	%									27
DÉGÁZ	%									14
ÉGÁZ	%									9
KÖGÁZ	%									9
DDGÁZ	%									7
ZAB GÁZ	%									1
MOL GÁZ Kft.	%									0
Főni x gáz	%									0
Energy prices, constant US\$@PPP1995										
Electricity										
Residential	\$/kWh	0.09	0.10	0.08	0.07	0.07	0.09	0.09	0.11	
Services, Commercial	\$/kWh									
Industry	\$/kWh	0.17	0.13	0.11	0.09	0.07	0.07	0.07	0.09	
Fuel Oil										
Residential	\$/GJ									
Services, Commercial	\$/GJ									
Industry	\$/GJ	23.0	27.9	28.1	26.0	22.7	21.6	24.2	23.0	
Natural Gas										
Residential	\$/GJ	5.4	5.4	5.5	5.3	4.5	5.6	5.6	7.0	
Services, Commercial	\$/GJ									
Industry	\$/GJ	9.0	9.0	7.2	5.8	4.8	4.3	4.3	4.9	
Heat										
Residential	\$/GJ	4.4	13.1	11.2	9.8		6.7	8.8	8.3	
Services, Commercial	\$/GJ									
Industry	\$/GJ									

Source: IEA 1998b, World Bank 1999, MEH, MATÁSZ, calculations by Oeko-Institut

Table 9: Energy Data, Energy and Electricity Balance

	Unit	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
TPES (Gross Inland Consumption)	mtoe	28.6	27.1	25.0	25.1	24.2	24.9	26.6	25.1	25.0	
Solids	mtoe	6.2	5.9	4.9	5.1	4.3	4.2	4.5	4.6	4.2	
Oil	mtoe	8.6	7.7	8.0	7.6	7.4	7.5	7.7	7.0	6.9	
Natural gas	mtoe	8.9	8.8	7.8	8.3	8.4	9.2	10.2	9.7	10.2	
Other (1)	mtoe	4.9	4.6	4.3	4.0	4.0	4.1	4.1	3.8	3.7	
Net Imports	mtoe	14.2	12.5	11.1	12.0	11.4	12.1	13.5			
Solids	mtoe	1.6	2.2	1.1	1.0	1.2	1.1	1.2			
Oil	mtoe	6.5	4.7	5.6	6.0	5.5	5.3	5.5			
Natural gas	mtoe	5.2	5.0	4.1	4.8	4.5	5.5	6.6			
Electricity	mtoe	1.0	0.6	0.3	0.2	0.2	0.2	0.2			
Gross Electricity Generation	TWh	28.4	30.0	31.7	32.9	33.6	34.0	35.1	35.4	37.2	
Nuclear	TWh	13.7	13.7	14.0	13.8	14.1	14.0	14.2	14.0	14.0	
Hydro & wind	TWh	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
Thermal	TWh	14.5	16.0	17.6	19.0	19.3	19.8	20.7	21.2	23.0	
Own use	%	-8.9	-8.3	-8.1	-7.8	-7.6	-8.1	-7.8	-8.4	-7.9	
Distribution losses	%	-10.9	-11.1	-8.7	-13.3	-12.9	-14.1	-13.5	-13.7	-14.0	
Electricity Generation	TWh	28.4	30.0	31.7	32.9	33.6	34.0	35.1	35.4	37.2	
Electricity Plants	TWh	25.8	27.3	29.1	30.5	31.4	31.8	32.9	33.1		
CHP Plants	TWh	2.6	2.7	2.6	2.4	2.2	2.2	2.2	2.3		
Electricity Import & Export Balance	TWh	11.1	7.4	3.5	2.7	2.2	2.5	2.3	2.2	1.2	
Import	TWh	13.2	8.4	5.0	4.1	3.0	3.2	3.5	3.6	3.4	
Slovakia (Czechoslovakia)		0.8	1.4	1.5	1.8	1.2	0.9	1.4	1.9	2.1	
Ukraine (former USSR)		12.2	6.6	2.7	1.6	1.0	1.6	1.4	1.4	1.1	
Austria		0.2	0.3	0.2	0.4	0.5	0.5	0.6	0.3	0.1	
Romania					0.0	0.2	0.3				
Yugoslavia		0.1	0.2	0.5	0.2			0.1			
Croatia		0.0					0.0	0.0			
Export		-2.1	-1.1	-1.5	-1.4	-0.8	-0.7	-1.2	-1.4	-2.2	
Austria		-0.2	-0.3	-0.5	-0.4	-0.3	-0.1	-0.6	-0.8	-1.3	
Yugoslavia		-0.3	-0.1	0.0	0.0		-0.1	-0.3	-0.5	-0.7	
Croatia											
Romania		-0.1		-0.1			-0.1	-0.1	0.0	-0.1	
Slovakia (Czechoslovakia)		-1.5	-0.4	-0.4	-0.2	-0.2	-0.3	-0.2	-0.1	-0.1	
Ukraine (former USSR)		0.0	-0.2	-0.5	-0.8	-0.3	0.0	0.0	0.0	0.0	
Generation Capacity	GW	6.6	6.5	6.7	6.9	7.0	7.0	7.1	7.3	7.5	7.7
Nuclear	GW	1.7	1.7	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.8
Hydro & wind	GW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Thermal	GW	4.9	4.8	5.0	5.0	5.1	5.1	5.2	5.4	5.6	5.8
Fuel Inputs for Thermal Power Generation	mtoe	5.3	5.5	5.8	5.9	5.8	5.9	6.0	5.9		
Solids	mtoe	3.3	3.1	3.4	3.0	2.7	2.8	2.9	2.9		
Oil	mtoe	0.4	0.7	1.0	1.7	1.7	1.6	1.3	1.4		
Gas	mtoe	1.6	1.7	1.4	1.3	1.4	1.5	1.8	1.6		
(Net) Electricity Generation by Fuel	TWh	25.9	27.4	29.1	30.7	31.0	31.3	32.3	32.4	34.3	
Solids	TWh	8.2	8.3	9.4	9.8	9.0	10.0				
Oil	TWh	1.5	2.8	3.9	5.5	5.4	5.5				
Gas	TWh	4.8	4.9	4.2	3.9	4.6	4.1				
Nuclear	TWh	13.7	13.7	14.0	13.8	14.0	14.0	14.2			
Hydro	TWh	0.2	0.2	0.2	0.2	0.2	0.2	0.2			
Total Final Energy Demand	mtoe	20.0	19.3	17.0	16.2	15.6	15.9	16.5	17.0	16.8	
Solids	mtoe	2.5	2.4	1.4	1.4	1.2	1.1	1.0	1.5	1.5	
Oil	mtoe	6.5	6.0	5.7	4.4	4.4	4.0	3.8	4.7	4.7	
Gas	mtoe	5.6	5.7	5.1	5.7	5.8	6.5	7.1	6.0	5.9	
Electricity	mtoe	2.7	2.5	2.5	2.4	2.4	2.4	2.5	2.4	2.4	
Heat	mtoe	2.3	2.2	2.0	2.0	1.6	1.8	1.8	2.3	2.3	
Other	mtoe	0.4	0.4	0.3	0.2	0.2	0.2	0.2			
Final Energy Consumption	mtoe	20.0	19.3	17.0	16.2	15.6	15.9	16.5	17.0	16.8	
Industry	mtoe	6.4	5.8	5.1	4.3	3.8	3.7	3.8	4.5		
Transport	mtoe	3.2	3.0	2.9	2.6	2.7	2.6	2.5	2.6		
Tertiary-Residential	mtoe	10.4	10.4	9.0	9.2	9.1	9.6	10.2	9.9		
District Heating											
Installed grid capacity	MW	18,817	17,604	17,966	17,841		16,389	14,525	14,264		
Connected households	1,000	639	641	647	647		645		646		
Heat Generation	PJ					89.1	79.2	74.0	66.0	62.2	
CHP Plants	PJ				46.1	43.6	45.5	42.7	41.6	38.5	
Heat Plants	PJ					45.5	33.7	31.3	24.4	23.7	

Source: DG XVII 1998, IEA 1998a, 1997, 1996, EIU, MVM

Table 10: Greenhousegas and Airborne Emissions

	Unit	1990	1991	1992	1993	1994	1995	1996	1997
CO₂	1,000 t	71,673	67,391	60,557	60,826	59,196	59,758	60,475	
Fuel Combustion (Sectoral Approach)	1,000 t	68,105	65,255	58,636	58,754	57,046	57,567	58,174	
Fugitive Emissions from Fuels	1,000 t								
Industrial Processes	1,000 t	3,568	1,382	1,168	1,318	1,397	1,438	1,548	
Solvent and Other Product Use	1,000 t								
Agriculture	1,000 t								
Land-Use Change & Forestry	1,000 t	-4,467	-3,239	-3,823	-4,697	-4,820	-4,797	-3,931	
Waste	1,000 t		754	754	754	754	754	754	
Other	1,000 t								
Memo Item: International Bunkers	1,000 t		376	386	361	532	524	560	
CH₄ (Methane)	1,000 t	545	914	808	792	776	789	813	
Fuel Combustion (Sectoral Approach)	1,000 t	6	37	24	24	21	21	20	
Fugitive Emissions from Fuels	1,000 t	366	453	383	385	379	398	425	
Industrial Processes	1,000 t		0	0					
Solvent and Other Product Use	1,000 t								
Agriculture	1,000 t	173	168	144	127	121	115	113	
Land-Use Change & Forestry	1,000 t		0	0	0	0	0	0	
Waste	1,000 t		257	256	256	255	255	254	
Other	1,000 t								
Memo Item: International Bunkers	1,000 t		0	0	0	0	0	0	
N₂O	1,000 t	11	4	5	5	5	5	5	
Fuel Combustion (Sectoral Approach)	1,000 t	7	3	3	3	4	3	3	
Fugitive Emissions from Fuels	1,000 t								
Industrial Processes	1,000 t		0	0	0	0	0		
Solvent and Other Product Use	1,000 t								
Agriculture	1,000 t	4	2	2	1	2	2	2	
Land-Use Change & Forestry	1,000 t		0	0	0	0	0	0	
Waste	1,000 t								
Other	1,000 t								
Memo Item: International Bunkers	1,000 t		0	0	0	0	0	1	
SO₂	1,000 t								
Fuel Combustion (Sectoral Approach)	1,000 t								
Fugitive Emissions from Fuels	1,000 t								
Industrial Processes	1,000 t								
Solvent and Other Product Use	1,000 t								
Agriculture	1,000 t								
Land-Use Change & Forestry	1,000 t								
Waste	1,000 t								
Other	1,000 t								
Memo Item: International Bunkers	1,000 t								
NO_x	1,000 t		229	207	202	209	205	204	
Fuel Combustion (Sectoral Approach)	1,000 t		228	206	201	208	204	204	
Fugitive Emissions from Fuels	1,000 t								
Industrial Processes	1,000 t								
Solvent and Other Product Use	1,000 t								
Agriculture	1,000 t								
Land-Use Change & Forestry	1,000 t		0	0	0	0	0	0	
Waste	1,000 t		1	1	1	1	1	1	
Other	1,000 t								
Memo Item: International Bunkers	1,000 t		2	2	2	2	2	2	
VOC	1,000 t		85	80	81	80	78	78	
Fuel Combustion (Sectoral Approach)	1,000 t		85	80	81	80	78	77	
Fugitive Emissions from Fuels	1,000 t								
Industrial Processes	1,000 t								
Solvent and Other Product Use	1,000 t								
Agriculture	1,000 t								
Land-Use Change & Forestry	1,000 t								
Waste	1,000 t								
Other	1,000 t								
Memo Item: International Bunkers	1,000 t		0	0	0	0	0	0	

Source: UNFCCC 1999

Table 11: Socio-demographic and Economic Data

Unit	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Socio-demographic Data										
Population	10.4	10.3	10.3	10.3	10.3	10.2	10.2	10.2	10.1	10.1
Population aged 15-64, total	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9
Labor force, total	5.2	5.1	4.9	4.7	4.5	4.3	4.2	4.2	4.2	
Apartments										
Apartments	3,853		3,917	3,939	3,955	3,971	3,989	4,011	4,032	4,048
Occupants	2.7		2.6	2.6	2.6	2.6	2.6	2.5	2.5	2.5
Gross Domestic Product at Market Prices										
Current Prices										
HUF	2,089	2,498	2,943	3,548	4,365	5,614	6,894	8,541		
US\$	33	33	37	39	41	45	45	46		
Purchasing Power Parities (PPP)	67	61	62	63	66	69	70	73		
Constant Prices 1995										
HUF	4,993	4,399	4,264	4,240	4,365	4,430	4,489	4,696		
US\$	50	44	43	43	44	45	45	47		
PPP US\$	77	68	66	66	68	69	69	73		
GDP Deflator	42	57	69	84	100	127	154	182		
Money										
Exchange Rate	63.2	74.7	79.0	91.9	105.2	125.7	152.6	186.8	214.5	
Inflation (Consumer Price Index)	28.9	35.0	23.0	22.5	18.8	28.2	23.6	18.3	14.3	

Source: World Bank 1999, KSH, MEH, MATÁSZ, calculations by Oeko-Institut

Table 12: Environment and Energy Indicators, Driving Forces

Unit	1990	1991	1992	1993	1994	1995	1996	1997	1998
Energy Intensity									
TPES per Capita	2.8	2.6	2.4	2.4	2.4	2.4	2.6	2.5	2.5
TPES per GDP (PPP)	0.37	0.40	0.38	0.38	0.36	0.36	0.38	0.35	
Energy Prices, Current Local Currency									
Electricity									
Residential	2.46	3.59	3.71	3.95	4.21	7.29	9.16	12.70	
Industry	4.68	4.71	4.74	4.87	4.84	5.66	7.32	10.09	
Fuel Oil									
Industry	623	1,026	1,255	1,404	1,466	1,772	2,400	2,707	
Natural Gas									
Residential	147	196	245	285	291	458	552	822	
Industry	245	331	321	312	312	352	429	573	
Heat									
Residential	120	480	500	530		546	870	977	
Greenhouse Gas Emissions (GHG)									
GHG by Gas	86,628	87,905	79,077	78,974	77,167	77,857	79,130		
CO ₂	71,673	67,391	60,557	60,826	59,196	59,758	60,475		
CH ₄	11,437	19,196	16,978	16,633	16,300	16,566	17,073		
N ₂ O	3,519	1,317	1,542	1,514	1,671	1,533	1,582		
GHG per Capita	8.4	8.5	7.7	7.7	7.5	7.6	7.8		
GHG per GDP@PPP95	1.1	1.3	1.2	1.2	1.1	1.1	1.1		
Driving Forces									
CO ₂ /TPES	2.5	2.5	2.4	2.4	2.4	2.4	2.3		
TPES/FEC	1.4	1.4	1.5	1.6	1.6	1.6	1.6	1.5	1.5
TFC/GDP	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	
GDP/POP	7.5	6.6	6.4	6.4	6.6	6.7	6.8	7.1	

Source: Calculations by Oeko-Institut

7.2 Monitoring of Accession Process

Table 13: Accession Process Monitoring Table

National responses to ...	Existing national law (name, date of adoption)	Fully in accord? (yes/no)	If not, how will transposing occur? ¹⁾	Status of trans- position ²⁾	Planned year of full trans- position	Planned year of full imple- mentation
Directives						
Directive concerning common rules for the internal market in electricity (96/92/EC)						
Objectives/substantive requirements	Act XL VIII of 1994 and Gov. Dec. 34/1995	yes		5		
Institutional requirements		yes		5		
Procedural requirements		no	L1	1	Dec. 99	2001-
Monitoring and Reporting		no	L1	1		2001-
Directive concerning common rules for the internal market in natural gas (98/30/EC)						
Objectives/substantive requirements	Act XLI of 1994, and Gov. Dec. 3/1995	yes		5		
Institutional requirements		yes		5		
Procedural requirements		yes		5		
Monitoring and Reporting		no				
Large Combustion Plant Directive (88/609/EEC)						
Objectives/substantive requirements	Gov. Decr. 107/1995, 73/1996, and 21/1986	yes		5		
Institutional requirements		yes		5		
Procedural requirements		yes		5		
Monitoring and Reporting		yes		5		
Directive to limit carbon dioxide emissions by improving energy efficiency (SAVE) (93/76/EEC)						
Objectives/substantive requirements	Gov. Decision 2399/1995	yes		5		
Institutional requirements		yes		5		
Procedural requirements		3/4 yes				
Monitoring and Reporting		no				

Source: Energy Club

Table 13: Accession Process Monitoring Table, continued

National responses to ...	Existing national law (name, date of adoption)	Fully in accord? (yes/no)	If not, how will transposing occur? ¹⁾	Status of trans- position ²⁾	Planned year of full trans- position	Planned year of full imple- mentation
Directive on the indication by labelling and standard product information of the consumption of energy and other resources by household appliances (and daughter Directives) (92/75/EEC)						
Objectives/substantive requirements	Joint Decr Internal Commerce and Industry Ministries 2/1984 (III.10), Min of Commerce, Industry and Toursim 1/1998 (I.12)	no	MO1	1	Dec. 1999	
Institutional requirements		yes		5		
Procedural requirements		yes		5		
Monitoring and Reporting		no				
Directive on efficiency requirements for new household appliances (96/57/EC)						
Objectives/substantive requirements	Ind. Min. Dec. No. 20/1998	yes	MO1	1	Oct. 2001	2001-
Institutional requirements		yes	MO1	1		
Procedural requirements		yes	MO1	1		
Monitoring and Reporting		yes	MO1	1		
Directive on energy efficiency requirements for household electric refrigerators, freezers and combinations thereof (96/57/EC)						
Objectives/substantive requirements		no	MO1	1		
Institutional requirements		no	MO1	1		
Procedural requirements		no	MO1	1		
Monitoring and Reporting		no	MO1	1		
Directive concerning integrated pollution prevention and control (IPPC) (96/61/EC)						
Objectives/substantive requirements	Act LIII of 1995, Gov. Dec. 152/1995	no				
Institutional requirements		yes				
Procedural requirements		no				
Monitoring and Reporting		no				

Source: Energy Club

Table 13: Accession Process Monitoring Table, continued

National responses to ...	Existing national law (name, date of adoption)	Fully in accord? (yes/no)	If not, how will transposing occur? ¹⁾	Status of trans- position ²⁾	Planned year of full trans- position	Planned year of full imple- mentation
Directive on the harmonisation of the structures of excise duties on mineral oils (92/81/EEC)						
Objectives/substantive requirements	Act LVI of 1995, Act LXIX of 1998, Gov Decr. 113/1995 (IX.27), Gov Decr 69/1999 (V21), Min of Enviro Decr. 10/1005 (IX.28), Act CIII of 1997	no				
Institutional requirements		yes				
Procedural requirements						
Monitoring and Reporting		no				
Planned and Proposed Directives						
Proposal for a integrated resource planning directive)						
Objectives/substantive requirements	Act XLVIII of 1994, Act XLI of 1994, Gov Decr. 105/1996 (VII.16)	no				
Institutional requirements		yes				
Procedural requirements		no				
Monitoring and Reporting		no				
Feed-In Directive (Renewables) (COM(97) 69)						
Objectives/substantive requirements	Act XLVIII of 1994	yes				
Institutional requirements						
Procedural requirements						
Monitoring and Reporting						
¹⁾ How will transposition occur?				²⁾ Status or transposition		
Legislative act (L)		Government order (GO)				
L0 No steps taken to date		GO1 No steps taken to date		MO0 No steps taken to date		
L1 Draft in process		GO2 Draft in process		MO1 Draft in process		
L2 Ministry approves		GO3 Ministry approves		MO2 Draft in consultation		
L3 Government approves		GO4 Other relevant ministries approve		MO3 Ministry approves and publishes		
L4 After first reading in Parliament		GO5 Government approves and publishes				
L5 Fully transposed and publishes						
				0 No steps taken to date		
				1 Draft in process		
				2 ...		
				3 ...		
				4 ...		
				5 Fully transposed and in force		
				- No transposition needed		

Source: Energy Club

Table 14: National Law or Policy Initiatives

	existing	proposed	planned
Decisions and Programmes			
Energy Framework Programme			
Objectives			
Institutional adoptions			
Procedural adoptions			
Monitoring and Reporting			
Coal Subsidies			
Objectives/substantive requirements	partly		
Institutional requirements	fully		
Procedural requirements			
Monitoring and Reporting			
Environmental Agreements, General Policies and Strategies			
Combined Heat and Power			
Objectives/substantive requirements			
Institutional requirements	partly		
Procedural requirements	partly		
Monitoring and Reporting			
Renewable Energy Sources			
Objectives/substantive requirements	partly		
Institutional requirements			
Procedural requirements			
Monitoring and Reporting			
Energy Efficiency			
Objectives/substantive requirements	partly		
Institutional requirements	partly		
Procedural requirements	partly		
Monitoring and Reporting			
Further National Decisions, Programmes, Policies and Strategies with regard to 'Environment and Energy'			

Source: Energy Club

7.3 Screening of Co-operation Project

Table 15: Co-operation Project Screening Table

Name of the Project (Acronym)	Description	Objectives	Co-operation Partners (Institution, Country)	Total Volume	Start (mm/yyyy)	(Planned) End (mm/yyyy)	Evaluation Report Available	Results, Objectives Achieved
Energy Saving Credit Fund (German Coal Aid)	Motivating energy saving investments at companies including small- and medium-sized entrepreneurs by providing loans at favorable conditions	Reduce energy demand, import dependence and pollution, substitute "traditional" energy for renewable and energy from wastes, prepare the conditions for savings, efficient utilization of resources, reduce loss of power at the lowest possible cost	Hungarian Fund for Developing Entrepreneurship, Hungarian Energy Agency, Energy Information Agency, ABN Amro (Hungarian) Bank	DEM 50 million	1991		Quarterly checks of the investments/projects under way	The first program that works independently and without external help except for the amount laid as the basis for the fund. Being a revolving fund, the original money has been offered to companies implementing en. eff. projects five times already
ELÉG Energy Efficiency Program* A9	Grants, trainings (4), Brochures for schools, municipalities, families, Study tour for 7 journalists to the Netherlands. TV Film (2x50 mins.) School programs Roundtables (politicians are also included) Studying possible introduction of IRP	Energy efficiency coalition building and raising public awareness. Capacity building for green NGOs	The Energy Club, EGI Rt., 21 green NGOs from all over the country, Novem, Municipalities, Electricity and gas distributors, well known representatives of Government, LMCs	NLG 186,000 for the Hungarian part	January 1995	March 1996		coalition build started. Capacity building done. Sub-program experiences: better match between trainings and grants. Brochures, films, school programs more useful at the local level. Pyramid system doesn't work. Journalist trip results only in long run

Source: Energy Club

Table 15: Co-operation Project Screening Table, continued

Description	Objectives	Co-operation Partners (Institution, Country)	Total Volume	Start (mm/yyyy)	(Planned) End (mm/yyyy)	Evaluation Report Available	Results, Objectives Achieved
a. 20 x 5 minute series on public TV (Energy ABC) + videos	Helping efficient energy use in Central- and Easter-Europe, through this supporting economic restructuring, environment and democratic development	Novem, Energy Centre, NGO-s, GKI Rt., EGI Rt., Ministries of Finance, Environment, Economy, Network for the Development of Entrepreneurship (MVA), Konkam Bt, MTESZ, TV series directors, Energy Club	NLG 555,001+ HUF 38,407,607 Energy Centre: NLG 690,000	October 1996	October 1998		
b. Brochures related to TV series							
c. Macroeconomic study							
d. Mapping NGO-s dealing with energy efficiency							
e. Personal and telephone advisory service in the given regions (Miskolc and Debrecen)							
f. Establishment of "model" organizations dealing with Energy eff. in Hband BAZ							
g. grants, trainings (4), Brochures for schools, municipalities, families, Study tour for 7 journalists to the Netherlands. TV Film (2x50 mins.) School programs Roundtables (politicians are also included) Studying possible introduction of IRP							
h. Training pack on energy efficiency							

Source: Energy Club

Table 15: Co-operation Project Screening Table, continued

Name of the Projekt (Acronym)	Description	Objectives	Co-operation Partners (Institution, Country)	Total Volume	Start (mm/yyyy)	(Planned) End (mm/yyyy)	Evaluation Report Available	Results, Objectives Achieved
Phare High-Tech. 1.	Machinery purchase (Efficiency improvement), System organization, Restructuring	Making firms more attractive before privatization	State Privatization Company (APV Rt.), Hungarian Development Bank (MFB)	ECU 10,000,000		till December 1996		
Mens en Ruimte Projekt (project established in framework of "Energy Forecast in Hungary" prog. supported by Belgian E.eff .Agency and Flemish gov.	a. General Project Management: Providing informational material about energy sector, the expected changes of energy prices.	Helping the Belgian organization in its work to transfer knowledge	The Energy Centre, The Belgian energy efficiency organization Mens en Ruimte	BEF 875,726	January 1997	April 1998.		
	b. Lighting project: Upgrading the lighting at educational institutions	Spreading the techniques, technologies of nergy efficient lighting in Hungary	idem		idem	idem		
	c. Biomass project: Writing study	Exploring Biomass use possib. in Hungary and building of Biomass burning equipment	idem		idem	idem		
Networking/twinning program for energy efficiency organisations	a. Short training, courses (on energy agency management, energy advisory services, financing energy projects, improving energy efficiency at the local governments)	Strengthening cooperation between individual EU member countries and the state energy agencies of the accession countries. Promoting EU integration in the field of e.eff.	The Czech Energy Agency, The Energy Centre (Hun.), Ministry for the Economy - Efficient Energy consumption Agency (Slov.), Slovak Energy Supervisory body - Energy Agency (Sk), Foundation for the Municipal Energy Efficiency and Environmental Protection (Sk)	ECU 50,030	March 1997	March 1998		
	b. Seminars (subjects see above)	idem	idem		idem	idem		
	c. Study tours to the partner institutions in the EU	idem	idem		idem	idem		

Source: Energy Club

Table 15: Co-operation Project Screening Table, continued

Name of the Projekt (Acronym)	Description	Objectives	Co-operation Partners (Institution, Country)	Total Volume	Start (mm/yyyy)	(Planned) End (mm/yyyy)	Evaluation Report Available	Results, Objectives Achieved
Phare 94 1. Training Energy Audit Experts	Training courses on energy audits	Providing information to end users to help them make decisions to save energy	March Consulting, Hungarian partner Iparterv, The Energy Centre	ECU 100,000	September 1997	June 1998		
2. Energy Efficiency Publicity Campaign	a. Four animated films (30 sec.)	Raising public awareness about the importance of energy saving, energy prices showing the real costs of energy, relation between energy efficiency and the environment	The Energy Centre, Scottish Development Overseas	ECU 500,000	December 1997	December 1998		Low Impact evaluation should have been ordered by independent body. Steering committee (experts, gov. officials, NGO)
	b. Radio and newspaper advertisements.							
	c. School competition.							
	d. Study tours for journalists.							
	e. Public surveys							
	f. 50000 stickers							
Phare 951. Handbook series on Energy Utilization	Publishing handbooks, professional papers - providing information for the local energy sector	Commissioning best available experts, focusing on prevailing up-to-date technologies in the EU, but considering investment possibilities in Hungary		ECU 42,200	December 1997	December 1998		
2. Setting up local and regional energy advisory offices	Establishing and operating 7 local and regional energy advisory offices (Eger, Nyiregyhaza, Debrecen, Szolnok, Pecs, Tatabanya, Győr)	Active consultancy and advisory activity for consumers, improving energy efficiency and the use of renewables	Phare Energy Office at the Ministry of Economic Affairs, The Energy Centre	ECU 364,600	November 1998	December 1999		

Source: Energy Club

Table 15: Co-operation Project Screening Table, continued

Name of the Projekt (Acronym)	Description	Objectives	Co-operation Partners (Institution, Country)	Total Volume	Start (mm/yyyy)	(Planned) End (mm/yyyy)	Evaluation Report Available	Results, Objectives Achieved
3. Energy efficiency at municipalities	Elaborating a long term energy concept and a short term action plan for ten municipalities and a handbook for others	Improving energy utilization, decreasing energy costs at municipalities, introducing energy efficiency planning that has proved successful in the EU - according to the Energy Saving Action program	The Energy Centre, municipalities	ECU 680,000	May 1998	December 1999		
4. Energy Efficiency Best Practice Training Program	Publication of 16 volumes	Improving energy efficiency in Hungarian industry, assisting consumers, especially SME-s with a new type of information system based on benchmarking feedback, preparing the introduction of voluntary agreements according to the Dutch experiences	The Energy Centre, SMEs	ECU 64,000	December 1998	December 1999		
5. Supporting energy audits	Financing energy audits, providing the necessary equipment	Preparation for the standardization of energy audits in Hun., supporting its spread	The Energy Centre	HUF 100,000				
6.E. Eff. Co-financing Program	Preferential loans for investments	Increasing e. eff., decreasing enviro. effects by implementing e. eff. machinery	The Energy Centre	ECU 7.5 million	1996	2008		

Source: Energy Club

Table 15: Co-operation Project Screening Table, continued

Name of the Projekt (Acronym)	Description	Objectives	Co-operation Partners (Institution, Country)	Total Volume	Start (mm/yyyy)	(Planned) End (mm/yyyy)	Evaluation Report Available	Results, Objectives Achieved
Energy Saving Credit Program (EHP)	Motivating energy saving investments by municipalities and their public institutes by providing a set amount of loans with conditions more favorable than the market "price"	Financing investments that result in the saving of energy cost. At least 50 % of all the savings must originate from the decreasing energy bills	Inter-Ministerial Committee (representatives of Ministries of Economy, Environment, Finance, Interior) and the Hungarian Energy Agency, Energy Information Agency, and the winner bank in the given year (Raiffeisen Bank, OTP Bank, ABN Amro (Hungarian) Bank	Changes every year; 1997: HUF 800 million 1998: HUF 1 billion + interest preference (50 % of the basic interest set by the Hungarian National Bank), is HUF 250-270 million for first year program in the following 6 years	1997	-	Secretary of the Inter-ministerial Committee writes reports regularly, quarterly checks of the investments/projects under way.	First two years, more than 160 projects implemented and about 600 GJ/year/HUF million saved. It is the en. eff. success story of the Hung. gvt., the only program through which central funding is available for e. eff. investment
Joint Implementation (JI) Program	Setting conditions for those investments that can be incorporated into JI. Creating Portfolio. Writing final report	Improve Dutch-Hungarian economic relations. Explore possible energy efficiency activities to reduce emissions. Calculate cost of typical energy efficiency investments. Calculating the costs of decreasing emissions. Know-how, knowledge transfer	Municipalities		April 1998	October 1998		
PSO 98 Program	Collecting tenders. Participating in the evaluation of tenders	Improving Dutch-Hungarian economic relations. Developing the non-governmental sector in the Hungarian economy	District Heating Companies, Hospitals, Educational Institutions, Food industry	NLG 1,000,000 + applicants had to provide at least the same amount as own funding	April 1998	December 1998		idem

Source: Energy Club

Table 15: Co-operation Project Screening Table, continued

Name of the Projekt (Acronym)	Description	Objectives	Co-operation Partners (Institution, Country)	Total Volume	Start (mm/yyyy)	(Planned) End (mm/yyyy)	Evaluation Report Available	Results, Objectives Achieved
SCORE 1998-1999*	Setting up sustainable energy efficiency infrastructure adapted for disclosing all the local and nationwide initiatives for the permanent improvement of energy eff. at the end users		Novem, The Energy Centre, NGO-s, The network of MTESZ, Governing Bodies: Ministry of Finance, Ministry for the Environment, Ministry for the Economic Industry, Network of Foundation for the Development of Entrepreneurship (MVA), Energy Advisory Centers	NLG 650,000 (HUF 67 600,000)	April 1998	December 1999 (maybe June 2000)		
1. Establishing Sustainable Energy Efficiency Infrastructure	a. Energy Centre's long term strategy and business plan b. Inform ministries c. Information and activate MPs . Deal with EU integration process effects e. media relations f. quarterly newsletter	Make economic and political decision-makers understand social, economic advantages of energy efficiency improvements. Key factor: adequate institutional background	The Energy Centre	a. NLG 2,000 (Hungarian resource)b. NLG 5,000 (Score)c. NLG 16,000 (Score)+NLG 4,000 (Hungarian)d. NLG 5,000 (Score)e. NLG 35,000 (Score)Altogether: NLG 102,000 (Score)+NLG 610,000 (Hungarian)	September 1998	November 1999		
2. Activity of Regional Advisory Centers	a. Setting long term strategy and business plan	Establish basic conditions for local sponsorship. For this, find common interests with local partners, create a transparent business plan	Local Advisory Organizations: MTESZ, green NGO--s, MVA (+SZTÁV Rt.)	NLG 16,000 (Score) + NLG 8,000 (Hungarian)	August 1998	November 1999		

Source: Energy Club

Table 15: Co-operation Project Screening Table, continued

Name of the Projekt (Acronym)	Description	Objectives	Co-operation Partners (Institution, Country)	Total Volume	Start (mm/yyyy)	(Planned) End (mm/yyyy)	Evaluation Report Available	Results, Objectives Achieved
	b. Transferring Know-how	Create supplementary educational material in 8 subjects covering e.eff and all enviro. business and advisory related activities	idem	NLG 96,000 (Score)+NLG 32,000 (Hungarian)	idem	idem		
	c. Shops for Energy Eff.	Develop training materials for shop assistants, questionnaires, campaign and label for "shops for e.eff and environment"	idem	NLG 12,000 for the training material, NLG 9,600 + NLG 6,400 (private contribution) for the training, NLG 24,000 for the prizes, NLG 12,000 for the campaign and label	idem	idem		
3. Demonstrative Regional Activity in County Hajdu-Bihar	Commercially sustainable energy efficiency advising for small and medium sized companies		MVA in Hajdu-Bihar	NLG 150,000 (Score)+NLG 132,540 (Hungarian)	August 1998	December 1999		
4. Energy Efficiency Prize, or How can You Be the Best? - Competition for the most saving.	Countrywide Energy Efficiency Campaign - creating energy efficiency prize tradition for the inhabitants	Creating the tradition of an "energy efficiency prize" and promoting measurable savings. Targeting families through the youth, involving local communities	Advisory Organizations and local communities (secondary aim to improve links between these)	HUF 11,000,000	August 1998	November 1999		

Source: Energy Club

Table 15: Co-operation Project Screening Table, *continued*

Name of the Project (Acronym)	Description	Objectives	Co-operation Partners (Institution, Country)	Total Volume	Start (mm/yyyy)	(Planned) End (mm/yyyy)	Evaluation Report Available	Results, Objectives Achieved
Thermie B Program: Co-operation with EU Energy Agencies	ICAEN: a. Publishing magazine, publishing brochures; c. Exchanging experience LDK: Analyzing market potentials for small sized co-generation power stations ESV: Improving the level of advisory activities by training involving international experts	Tenders in close co-operation with e. eff agencies from the EU in the field of efficient energy technologies	E. Eff Agencies: ICAEN of Spain, LDK of Greece, ESV of Austria, The Energy Centre		June 1998	June 1999		
Synergy 97	1. Study on the enforcement of EU directives (EC 96/92) on electricity in Hun	1. Concluding the future effects of EU Directives, proposals for future directions of Hung e. policies	The Energy Centre	1. ECU 30,336 (ECU 3,336 of it from Hung sources)	January 1998	July 1998		
	2. Seminar on the consequences of the EU Directive on the Hung electricity market	2. Providing info. about the study		2. ECU 17,888 (ECU 3,888 of it from Hung sources)	January 1998	September 1998		
	3. Study on the restructuring and privatization of the Hun e. sector	3. Taking primary lessons on the operation of electricity and gas distributors, proposals for future regulations		3. ECU 33,544 (ECU 8,544 of it from Hung sources)	January 1998	July 1998		
	4. Seminars on EU programs in Hun.	4. Providing info on Thermie and Save II		4. ECU 17,888 (ECU 3,888 of it from Hung sources)	January 1998	May 1998		

Source: Energy Club

Table 15: Co-operation Project Screening Table, continued

Name of the Projekt (Acronym)	Description	Objectives	Co-operation Partners (Institution, Country)	Total Volume	Start (mm/yyyy)	(Planned) End (mm/yyyy)	Evaluation Report Available	Results, Objectives Achieved
Synergy 98	1. Study on the enforcement of EU directives (EC 97) on gas	Providing info. on the expected consequences of the implementation of general rules on gas in the EU for the gas industry, the actors of energy sector and the political decision-makers. Concluding the results of the implementation of EU directives in Hun	The Energy Centre, Ministry of Economy, ad of the Environment, actors of the gas market	ECU 29,480 (ECU 3,100 of it from Hung sources)	February 1998	June 1998		
	2. Organizing seminars about the effects of EU Directives	Let the employees of the Ministry of Economy and that of Environment and the Hungarian Energy Agency know the conclusions of the study above	The Energy Centre, Ministry on Economy, Ministry on the Environment, Hungarian Energy Agency, actors of the gas market, DGXVII	ECU 17,968 (ECU 3,680 of it from Hung sources)	September 1998	Second quarter of 1999		
	3. Organizing Roundtables on the tasks and role of e. eff. agencies in the Hung political structure	Introducing foreign and Hung e. eff. agencies to each other at a meeting. Later, Hung members went on in harmonization and taking lessons from other e. eff. institutions. Providing info on roundtables about the need for a national and a Europe-wide e. eff	The Energy Centre, Foreign agencies	ECU 16,160 (ECU 10,000 of it from Hung sources)	March 1998	October 1998		
	4. Organizing dialogue-panels to further develop Hung energy policies. Study-tour, b. Evaluating report, c. Analyzing the possibilities of local implementation	Make Hung e. policy actors meet EU counterparts to gaining experience, knowledge to further develop hung e. policies, know advantages/disadvantages of current and new economic and financial methods for the sake of the implementation in Hun.	The Energy Centre, EU-partners	ECU 22,040 (ECU 7,980 of it from Hung sources)	May 1998	1999		
	5. Operating and developing the library of The Energy Centre	Improving access to the library, developing it according to process of accession to the EU, providing financial and legal documentation on European energy sector	The Energy Centre	ECU 6,700 (ECU 2,000 of it from Hung sources)	June 1998	September 1998		

Source: Energy Club

Table 15: Co-operation Project Screening Table, continued

Name of the Projekt (Acronym)	Description	Objectives	Co-operation Partners (Institution, Country)	Total Volume	Start (mm/yyyy)	(Planned) End (mm/yyyy)	Evaluation Report Available	Results, Objectives Achieved
Phare-High-Tech. 2.	Machinery purchase (Efficiency improvement), System organization, Restructuring	Making firms more attractive before privatization		ECU 22,000,000	1999	December 1999		
Fellow member of the OPET Network program (Femopet)	The aim of the network is to play an active role in facilitating the process of market creation. Introduction of a west- European method based on end user feedback	Enlarging the network of organizations being established to spread energy efficient technologies in CEE. Eliminating the constraints that prevent the spread of energy efficiency improving technologies	SMEs, Market actors, Producers, Companies from the EU, Professional organizations, Educational institutions	ECU 164,700	January 1998	December 1998		Adequate marketing strategy; measuring eff. of technologies in 3-4 sectors; improving e.eff. in long run; introduction of new, efficient technologies, improving Hungarian e.eff. market; forster relationships btw H and EU partners
1. Cooperation with the actors of the energy/energy efficiency market	Developing a promotion strategy to introduce sectoral energy efficiency technologies and other related activities	Building a long term, transparent strategy together with market actors. Evaluation of market situation re given sectors/technologies	SMEs, Energy experts, EU partners	ECU 32,940	idem	idem		
2. Measuring technological demand, identification of outside technology providers (bench-marking in 5 technological areas)	Making detailed questionnaire, advisory activity during the process of writing the plan of energy efficiency investment	Measuring the current energy efficiency state of the given sectors	SMEs, Energy experts, EU partners	ECU 32,940	idem	idem		

Source: Energy Club

Table 15: Co-operation Project Screening Table, continued

Name of the Projekt (Acronym)	Description	Objectives	Co-operation Partners (Institution, Country)	Total Volume	Start (mm/yyyy)	(Planned) End (mm/yyyy)	Evaluation Report Available	Results, Objectives Achieved
3. Promotion of energy projects and programs, providing targeted information to actors of the energy market		Publishing the (anonymous) data collected and evaluated through the bench-marking activity	SMEs, Energy experts, EU partners (indirectly)	ECU 32,940	idem	idem		
4. Providing information to EU institutions on Technological Research and Development (RTD) potentials of Hungarian companies		Measuring RTD potentials of SME-s participating in bench-marking. Information transfer about investment possibilities in the field of renewable energies	Hungarian companies and companies in the EU	ECU 16,470	idem	idem		
5. Coordination of the information providing activity achieved in the Joule-Thermie program		Introducing and promoting the activity of Femopet in Hungary. Providing information for and advisory activity to potential energy investors	SME-s, Energy experts, professional institutions, associations, universities, Energy Advisory Centers	ECU 8,235	idem	idem		
6. Helping local companies in getting acquainted with new technologies, and in technology transfer		Helping SME prepare bankable energy investment projects. Spreading information about possible financial tools	SMEs	ECU 8,235	idem	idem		

Source: Energy Club

Table 15: Co-operation Project Screening Table, continued

Name of the Projekt (Acronym)	Description	Objectives	Co-operation Partners (Institution, Country)	Total Volume	Start (mm/yyyy)	(Planned) End (mm/yyyy)	Evaluation Report Available	Results, Objectives Achieved
7. Distribution of documentation and information about the EU energy programs and RTD related subjects	Editing newsletter, writing articles, participating as a lecturer on training, seminars	Keeping up to date with EU energy programs, collecting information about them and making them available to professionals in the energy field. Maintaining and improving the professional level of the library of The Energy Centre	Energy experts, professional institutions, associations universities, Energy Advisory Centers	ECU 8,235	idem	idem		
8. Creating and updating database including energy technologies, energy markets, and relevant decision-makers		Establishing and permanently updating database for SME-s containing info on the most recent technologies. Marketing of this information	SME-s, Actors of the energy and e.eff. market	ECU 8,235	idem	idem		
9. Management tasks		Coordinating the Femopet program of the Budapest Energy Centre, its implementation and administrative tasks, daily relations with EU partners, the members of European Energy Directorate General (DG XVII) and the OPET-CU		ECU 16,470	idem	idem		

Source: Energy Club