ENVIRONMENTALLY HARMFUL SUBSIDIES IN THE HUNGARIAN ECONOMY

Edited by: Károly Kiss
Clean Air Action Group – "Lélegzet" Foundation

Budapest, 2004

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Introduction

The large deficit of state finances is the most serious problem that the Hungarian economy has to face. Along with a low economic growth rate, these cause a series of critical difficulties – already gaining political importance in Hungary – concerning the reduction and redistribution of incomes. In order to control this situation, the Hungarian Government has made efforts in many fields and has already introduced various measures; however, up until now it has not made use of the possibilities which may be opened up by environmental policies. The most obvious solution to the problem would be to levy higher taxes on the activities which are environmentally harmful; but this solution would come up against a virtually insurmountable opposition by both the Hungarian society and the economic interest groups, even if it is implemented as we propose, in a manner neutral from the aspect of revenues – coupled with the reduction of other taxes[1]. In our study we propose a novel method which has not yet been applied by the Hungarian economic policy: *the removal of environmentally harmful subsidies (EHS)*.

This solution is promising from the aspect of environmental protection as well. Initially, the Hungarian environmental policy used direct (administrative) methods; thereafter, in the 1990s, economic instruments gained ground – among these the emphasis was placed on taxes and charges. (Later on, the so-called voluntary instruments came into vogue, followed by combined solutions.) However, up until now a perfectly tangible and practical solution has never been used: the withdrawal of subsidies which are harmful to the environment. This method often brings more benefits than other environmental protection tools, for it may ensure the attainment of environmental objectives and the increase of state revenues without placing additional burden upon those concerned; all it does is to put an end to the former preferred status. However, in most cases, the removal of such subsidies means offsetting the uncovered environmental damage; and therefore, ultimately it leads to raising the existing taxes and charges or to imposing new ones. A new approach to the matter, as well as a different rhetoric and attitude make this solution more promising than the already applied methods.

Under economic conditions similar to Hungary's current situation, the withdrawal of the EHS is of primary importance because – in contrast to other solutions, e.g. the forming of separate funds, through which the revenues return to environmental protection – it clearly brings extra revenues for the state budget. (The favourable environmental impact manifests itself in the reduction of the damaging and polluting activities as a consequence of the removal or cutback of subsidies, whereas the competitive disadvantage of the environmentally more favourable activities is alleviated.)

It is important to stress in advance that the scope of our research *does not include the assessment of the potential economic drawbacks* which may emerge in the wake of the removed subsidies. This is a matter of economic policy decisions. Our task is limited to pointing out the areas where subsidies causing damage to the environment are granted. On the other hand, it is also important to understand that the potential economic drawbacks ensuing from the removal of EHS do not justify (at least theoretically not) the continuation of such subsidization. Firstly, because if any environmental damage (negative externalities) are caused, that already in itself means a subsidy (since those causing the damage do not have to pay compensation for it); consequently, granting any further subsidy is „doubly" groundless. Secondly – and this is a fundamental economic theory axiom – it is only justified to grant such subsidies which produce public goods or broaden the

[1] See Clean Air Action Group's regular annual green budget reform proposals.

supply of such goods. And, where negative externalities (uncovered damage) appear, we cannot speak of any public goods.

The withdrawal of EHS also brings about obvious national economic benefits. This is due to the fact that such subsidies do not allow prices to reflect true costs, which leads to faulty decisions at all levels of the national economy. Changing this situation contributes to developing a more up-to-date and more competitive economic structure.

Besides the current objectives of cutting down the deficit of state finances and at the same time protecting the environment, the present research also serves a third task, very much on the agenda today. Namely: it contributes to *making the Hungarian subsidization policy conform to EU norms.* We think that in the course of Hungary's preparation for the EU accession, the tasks of getting acquainted with, and adjusting to, the Union's subsidization policy and practice were not adequately completed. Subsidization issues, though, play an extremely important part in the community policies owing to the fact that the single market, and its smooth operation, constitutes the backbone of the European integration. The different types of subsidies, however, may often and in many respects disturb the single market and distort the conditions of market competition. It is to be feared that the insufficiencies of the Hungarian subsidization policy will yet cause many problems to the country in the future.

Firstly, the research embraces several branches of the economy; secondly, it provides an overview of the subsidies broken down by their different forms; and finally, it analyzes the mechanisms that convey the subsidies to the beneficiaries. We carried out in-depth investigation of the issue in the following sectors: *mining, water management, energy sector, transport, agriculture, building affairs.* In these assessments we also made detailed calculations in order to show the environmentally harmful subsidies. In many other sectors and fields we only indicate EHS and their forms of appearance, without comprehensively taking stock of them. The reason for doing so was that in the latter fields, such calculations are very complicated and/or the necessary data are not available; moreover, our research also had its limits concerning both time scale and funding. In our study we explored the forms, nature, grantors and sources of the environmentally damaging subsidies received by the above sectors. (From the entire set of all subsidies our assessment only covers the subsidies which are harmful to the environment.) We have also examined whether the criteria of environmental protection are enforced or not during the evaluation of applications for subsidies made available by the Hungarian Ministry of Economy and Transport.

Within Hungary, up until now major research activities and investigations have been conducted in three sectors. The Institute of Environment and Land Management of the Saint Stephen University in Gödöllő focuses on exploring the possibilities of converting the huge traditional subsidies granted to agriculture (which strengthen the environmentally damaging intensive farming methods) in a manner that they can contribute to multifunctional, environment-friendly agricultural activities. Environmental economists of Clean Air Action Group and the Hungarian Traffic Club have shown the forms and the extent of EHS in the *transport and energy sectors,* and they have also surveyed the subsidies appearing in the fields of *land use and housing.*

Relevant chapters in Clean Air Action Group's green budget proposals (elaborated on a regular basis in each year) deal with the subject at a more general level, similarly to the following studies:

– Tanyi, Anita: Incorporating Environmental Protection Criteria in the Hungarian Subsidization System. Budapest University of Economic Sciences and Public Administration, Department of Environmental Economics and Technology, "Zöld Belépő" ("Green Entry") No. 80, 1999;
– Kiss, Károly: Subsidies in OECD Countries and the European Union – Environmental Economic Evaluation. Budapest University of Economic Sciences and Public Admin-

istration, Series of the Institute of Environmental Sciences, No. 22, 2003.

In the West, *particularly* in Western Europe, several scientific research institutes and government agencies, as well as *environmental NGOs deal with the topic. The OECD and the European Commission have already published a number of noteworthy studies on the subject of subsidies. (See References.)*

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I Environmentally Harmful Subsidies (EHS)

1 Identification of EHS

Evidently, prior to the identification of EHS it is necessary to define the activities that we regard as environmentally harmful. From a theoretical viewpoint, this seems to be a very simple task: we can speak of environmentally harmful activities when such environmental damage (negative externalities) emerge which are not borne by those causing the damage but are shifted to third parties (the society). However, this definition is so broad that it may refer to virtually anything, considering that there is no such thing as zero pollutant emission or environmental load, and these (or most of these) are usually borne by the society as a whole.

Therefore, one of our starting points has been that if there is a *realistic* environment-friendly alternative to an environmentally damaging activity, we qualify that activity as harmful. However, we do not consider an alternative as realistic if it can only be implemented in the long run (e.g. the elimination of a large part of the Hungarian cereal production in consideration of the climate change), or if it would require radical restructuring (e.g. switching over to the use of renewable energy sources). We will only make brief reference to these environment-friendly alternatives; during this research, which has a rather limited time scale and which is not very generously funded, it is not possible to elaborate such scenarios.

On the other hand, energy efficiency improvement and energy saving enhancement are positive examples. The European Union has already issued several political declarations in relation to these topics; what is more, relevant legal regulations have also begun to appear lately (for instance in connection with the specific energy use of buildings or cars). In Hungary, several government decisions and parliamentary resolutions stipulate the requirement of energy efficiency improvement. Consequently, if the advancement of energy efficiency falls behind the possibilities, to such extent we definitely have to consider the production and use of the non-renewable energies as harmful.

Once we have identified the environmentally damaging activities, we have to qualify – in an apparently obvious manner – the subsidies granted to such activities as EHS. The emphasis is placed on the first step, and if it is successfully completed, the second step already follows from that automatically. The problem of this method is that it lacks any economic and environmental economic considerations. Because if the environmental policy is efficient, if more environment-friendly alternatives do not exist, if the demand is inelastic to price changes, if the beneficiary of the subsidy has a monopoly position, or if the subsidy is not directly related to production, the withdrawal of the subsidy concerned will not result in any environmental improvement. The essence of the matter is that we should examine whether the removal of a specific subsidy does indeed lead to the improvement of the environment.

Accordingly, in the latter case it would not be necessary to identify in advance the environmentally harmful activities and subsidies; what we should assess here is whether the withdrawal of a given subsidy will entail or not an advancement in the state of the environmental elements.

In the latest OECD publication on the issue[2], a study by Jan Pieters lays great emphasis on analyzing the connection between the „points of intervention" and their impacts. This depends on how closely related the subsidy and the production are, and on what the target areas of the subsidy are: whether the subsidy affects the output within the company, the inputs, the profit and the incomes, or increases social demand outside the company. The study analyzes in detail the consequences of subsidy

[2] OECD: Environmentally Harmful Subsidies: Policy Issues and Challenges. OECD, Paris, 2003.

withdrawal according to different target areas. It is also important to explore whether the subsidy concerned influences the variable costs or the fixed cost, because depending on that, once again, there are great differences in the environmental impacts prompted by the subsidy removal.

In practice, it seems to be a feasible method to make up a so-called *check list,* because by going through the list, it will be revealed whether the withdrawal of a specific subsidy does indeed result in positive environmental effects. Let's see:

- after the description of the subsidy concerned,
- the question is to be asked whether the environmental policy regulation is efficient or not,
- because if it is effective, the removal of the subsidy will be futile, and significant environmental results will not be attained;
- if the environmental regulation is not effective, then follows Question No. 2: Are environmentally more favourable alternatives available or not?
- if not, then see the previous outcome;
- if yes, Question No. 3 is to be asked: Does the subsidy increase the extent of the environmentally harmful activity or not?
- because if not, see the first outcome;
- if yes, then follows Question No. 4: Is the market of the subsidized activity monopolized or not?
- because if it is so, the outcome of the withdrawal is uncertain;
- but if it is not, then the removal of the subsidy under consideration will ultimately lead to an improvement of the environment.

With the above train of thoughts we wished to give an idea of a procedure which is correct from an economic and environmental economic viewpoint. The financial resources and time scale available for our work, however, have not made it possible to conduct a systematic investigation in accordance with the above outlined procedure. Because if we had wished to proceed by following the spirit of the above method, then it would have been necessary to assess all the subsidies, without any „pre-qualification", and a given subsidy could only have been qualified as environmentally harmful after the completion of an investigation following the logic of the above „check list". Nevertheless, in places where we had the possibility to do so, we made reference to the economic conditions of the subsidy's withdrawal. This type of investigation is more feasible when we wish to explore the environmental impacts of *a specific* subsidy, as opposed to when we want to know the effects of all subsidies.

Healthcare and social issues have so much pervaded our way of thinking and our problem perception that often they are almost inseparably mixed with the environmental dimension. This is the reason why we deem it necessary to delimit our subject as follows:

Health damage may only be regarded as environmental damage, if it is caused by the contamination of environmental elements. However, if the cause of such damage is low income level, poverty, commercial fraud, bluffs, etc., it may by *no means* be regarded as environmental damage, and the permissive economic policy related to the sectors at fault may not be qualified as EHS either.

Similarly, we also draw a line concerning the linkages between environmental and social impacts. If unfavourable social and welfare effects (e.g. fall of income, unemployment, increasing regional and income differences, low civilization standards) are *directly* prompted by economic policy decisions or activities, they do not belong to the scope of our research work! They only form part of our subject when the above problems are triggered by the deteriorated quality of environmental elements or the reduced supply of environmental services.

If we do not regard the above issue in the way that we have just outlined, the title of this research should be changed to *Subsidies harmful to the environment, human health and the society!* The „health" attachment is still tenable, but the „social" and welfare dimension is already an ideological and political question, and by no means an environmental policy issue; consequently, it would be unacceptable in this respect.

Low personal income levels and high public utility and service charges cause social tensions in Hungary. Only one consequence of this problem may be relevant: if it causes migration from rural areas to towns, and this has a provable environmental loading effect. Falling living standards, intensifying regional income differences and unfavourable health impacts do not belong to the scope of this research.

It is a question what position to adopt if an EHS is granted in order to make the sector concerned compliant with an EU requirement. (The exaggerated sewage treatment and waste management investment projects are typical examples of the above case.) We believe that it is definitely necessary to show the environmentally damaging nature of such subsidies, but we also have to call the attention to the existing EU requirement. (It is an analogous case when a subsidy is harmful to the environment, but without such subsidy those concerned would e.g. lose international markets or would incur other substantial economic damage, and the substitution alternative is not realistic.)

EU policies are dominated by the operation of the single market and by considerations aiming at levelling out the conditions of market competition; subsidies – often even the environmentally beneficial ones – are factors which disturb the operation of the market. The European Commission is of the opinion that the solution to the problem is not to subsidize the environmentally beneficial activities, but rather to enforce the *"ppp"* (the "polluter pays" principle) vis-à-vis activities which are harmful to the environment. Even with this position of principle, the Commission grants, or gives permission to, a great variety of subsidies in order to bolster environmental protection. All this is of secondary importance here, because what we are now interested in is that no subsidies should be granted to harmful activities.

The scope of our research task is to identify and point out EHS. It would be unreasonable to interpret this assignment in such a restricted manner that once arriving to that point we should refrain from drawing the possible direct economic policy conclusions and avoid making our proposals. However, it is not our task to go beyond that and make recommendations for environmentally *beneficial* subsidies.

2 Forms of Appearance

Knowing the forms of appearance of environmentally harmful subsidies (EHS) is essential in understanding the entire problem of such subsidies. The following is the list of these forms of appearance:

- *Direct and indirect state subsidies* (Direct budget allocations, allowances from state funds and state budget funds, preferential credits, release or reduction of taxes and other liabilities, etc.)
  In this case the withdrawal or cutback of subsidies may be effected within the framework of customary budget procedures or government measures, and there is no need to ensure an environment-oriented „change of attitude".
- *Use of natural resources under their value*
  This category comprises the cases where natural resources are valued at an unrealistically low level, and so the users of such resources obtain substantial subsidies (e.g. in land use or mining). In contrast to the previous category, here it is already necessary to modify the existing attitude in order to cut back these subsidy types.
- *Non-internalized environmental damage*[3]
  We have to regard each case where the consequences of an environment-polluting or damaging activity are borne by others, i.e. where external costs are incurred, as if the polluter was granted a subsidy corresponding to the extent of the negative externalities. It is so because, in our opinion, in this case the costs should be borne by the sec-

[3] This environmental economic technical term refers to the case when the costs of the damage caused to third parties – i.e. of the „external" environmental damage (negative externalities) – are not borne by those causing such damage, and so the negative externalities are not „internalized".

tor involved. In economic sciences this is an accepted thesis, but the current economic policy practice is rather far from realizing it. This is why we would definitely like to call the attention of the traditionally minded economic policy-makers to this solution – even if we cannot reckon with its implementation in the short run.

- *Publicly funded infrastructural developments of harmful orientation*

  The cases when the economic policy is not aware of the environmental damage ensuing from the infrastructure to be developed (e.g. motorways or regional waste dumping sites) constitute a characteristic EHS form. From a public law viewpoint the projected (or already implemented) investment is qualified as a public good (for its funding was approved by the legislation), but from an economic aspect the programme causing damage to the environment may not be regarded as a public good, and so its funding is qualified as an unjustified subsidy. In such events, modification of the economic policy may bring about substantial savings in public spending, but without a significant change of attitude of legislators we cannot expect an implementation in this case either.

We will see that among these forms of appearance, the non-internalized environmental damage has the largest volume. At this point, however, the topic under review comes into close overlapping with the subject of environmental taxation. Namely: environmental taxation is the primary method of realizing the internalization of environmental damage, i.e. of placing the burden on those causing such damage.

It would be reasonable to carry out the assessment *along functional cross-sections as well,* according to the sort of subsidies that are brought about

- by the *economic policy and the development policy,*
- by the *income and tax policy,* as well as
- by the characteristic features and priorities of the *regulatory system.*

(Here, once again, we can only say that the limited funding and time scale of this research do not allow such assessment; nevertheless, we will make such statements wherever it is possible.)

We hope that this three-dimensional analysis (sectors, forms of appearance, functional cross-sections) will comprehensively and thoroughly clarify the problem of subsidies, by giving answers to the following questions:

– *Where, i*n which sectors do these subsidies appear?
– *What* are their forms of appearance?
– *How,* through what mechanism or regulation are such subsidies granted?

The three different approaches partly coincide, and overlap one another; but this is natural because we explore the same phenomenon from various aspects. As a result of the third dimension's analysis, we can draw conclusions regarding the areas where regulation and economic policy should be changed, while the second cross-section highlights the fields where a change of attitude is needed.

In the areas where there are no direct subsidies – for in the member states these are forbidden by the European Union –, incomplete or biased regulation, inadequate control and lack of internalization of the negative externalities constitute substantial and discriminatory subsidies. These devices are widely used – in a rather mean manner – throughout the EU since the time that restrictions were imposed on direct subsidies. The removal or correction of these schemes, too, may bring about extra (tax) revenues, or enable cutting back public spending. When surveying land use, food processing, etc. we will list these methods – instead of direct subsidies.

II Sectoral Assessments

1 Water Management

Drinking water supply in Hungary is based on different types of water sources. Subsurface waters: bank filtered (primarily along the Danube), ground water, karstic, strata water resources including thermal resources and surface waters: rivers, lakes... Water users pay a water abstraction fee to the state, according to the quantity of water they use for their activities. Since the change of regime in Hungary, water fees have gradually increased, which – along with the favourable restructuring of the national economy – has led to a significant drop in the aggregate level of water utilization. The rate of the water utilization fee, however, is still low – especially in international comparison – and its differentiation does'nt reflect the resource management affects on the natural water circulation of our riverbasins (as the regulation rather concentrates on the users differentiation. As a consequence, current regulations do not provide adequate stimulation for the sparing use of water, and this may jeopardize the long-term reproduction of subsurface water resources.

The present structure of wateruse by watertypes is not good from water resource management interests, but the current regulation doesn't reflect this problem.

Over and above the water abstraction fee, water users also pay a price to service providers, or bear the costs of production. The latter factor represents the dominant share within the service price. The price also contains the capital costs of the operation and the renewal of the entire service system – in a varying degree; although the comprehensive provisions of the Water Management Act have set this as the yardstick for pricing. Consequently, the laxity of central control results in granting subsidies to all current consumers at the expense of future users, and so the level of water utilization is also higher than it could be expected in the case of prices covering the expenses. However, we do not regard this problem as part of the subject of our research work because at present there are no comprehensive estimates available for the actual level of cost-covering prices. On the other hand, according to the provisions of the Water Framework Directive, this discrepancy has to be eliminated in the medium run, due to the implementation of the Water Framework Directive.

As from 1st January 2004, various types of environmental load fees enter gradually into force in Hungary; it will only be possible to form well-founded opinions on the impact of these fees when the first summary results become available.

The current mode of the distribution of water stocks causes efficiency losses because the fixed rights do not have a secondary market, and so the old users are interested in the preservation of the rights, whereas the new entrants are interested in making the authorities extend the scope of the rights to be allocated.

As compared to the differentiations justified from the aspect of water stock management, the current Hungarian regulatory system contains several elements which are unjustified. Accordingly, most types of differentiations according to utilization functions may be regarded as problematic, for they attempt to implement economic and social policy objectives through the system of instruments of water management. On the whole, this makes the actual impacts of social redistribution more difficult to monitor, and may even counteract the intended goal.

The main problem with the subsidies granted in the form of general price allowances is that they are not sensitive to the quantity used in case of public purposes. It doesn't differentiate between basic needs and the additional consumption that correlates with income.

As regards the international comparison of water utilization fees, the scope of the available assessments is limited. It can be said in general that water, as a natural resource, is undervalued. However, Hungarian water prices are around-below the average, but especially the fees

with allowances are low in relation to the international price level.

The general fee allowances can be considered as subsidies *if they are compared to the non-discounted fee of the given water types. It's calculated on the basis of the following allowances:*

- fee allowances of the share of water utilization over and above the primary needs of water utilization for public purposes,
- fee allowances of drinking water utilization for economic purposes;
- fee allowances of water utilization for irrigation;
- fee allowance of water utilization for animal husbandry;
- fee allowance of water utilization for the operation of baths.

Accordingly, this type of differentiation in abstratction fee regulation the value of allowances that can be considered as environmentally harmful subsidies (EHS) amounted to HUF 2.1–4.7 billion in 2002 (the range depends on the quantity assigned to the basic public need).

2 Energy Sector

Mining tax

In petroleum and natural gas production, low mining taxes are a form of appearance of EHS. Since consumer prices are formed on the basis of the world market price level, the state should draw away the difference between the import price and the acknowledged domestic production costs, in the form of mining taxes. Currently, however, this is not carried out to full extent. Up until 1997, only approximately 18 per cent of the justified mining tax was drawn away by the state; and since 1998, only 12 per cent. Consequently, 88 per cent of the mining tax remains with MOL Co. (This arrangement serves the purpose of making MOL's shares fly high on the stock exchange – so that the proprietors can come off well.)

In 2003, the amount of the natural gas mining tax remaining with MOL (i.e. the EHS) totalled HUF 69.3 billion. In 2004, a law obliged the company to pay further HUF 35 billion into the state budget, in addition to the mining tax amounting to HUF 13.2 billion. (This served as a cover for the natural gas sold to households at a price base under the world market price level.) Therefore, the value of EHS granted in the form of non-collected mining taxes came to HUF 61.9 billion in 2004.

In the petroleum division, the difference between the calculated and the actually paid mining taxes was HUF 31.8 billion both in 2003 and in 2004; and so the value of EHS corresponded to the same amounts.

As far as coal is concerned, no mining taxes are formed, since in 2002, coal's specific production costs were as high as 525.3 million HUF/PJ, whereas the costs of import coal, calculated free on border, were only 423.35 million HUF/PJ. In spite of that, the coal-mining sector was compelled to pay mining taxes worth HUF 1021 million into the state treasury. Coal mining and the use of coal cause very heavy environmental load, so the above HUF 1 billion might even be regarded as environmentally justified taxation – but the skimming of this amount is based on other reasons. (In later sections of this study we will show what would be the amount of the environmentally justified taxation.)

Price gain

After the price rises and VAT increases of 2003 and 2004, consumer price subsidies are not typical any more in Hungary (there is still a small subsidy on gas prices). Prior to that, domestic prices (primarily the natural gas prices) were kept lower than the import prices by devoting a part of the mining taxes to that purpose. However, this solution was contrary to the European Union's energy pricing principles. (As we have mentioned, in the case of natural gas this practice has remained in effect.)

As a result of the measures taken in 2003 and 2004, domestic hydrocarbon prices exceeded the import prices, and so producers and service providers have realized substantial price gains (monopolistic price, commercial rent). It is even more so in the case of electricity. Hungarian electricity prices of both household and industrial users are noticeably higher than in the

advanced Western European countries. It is a question how to evaluate this situation.

Experts of Clean Air Action Group have been criticizing the practice of low domestic energy prices for some fifteen years, because such prices do not stimulate energy saving; consequently, the environmental load is heavier. In contrast, today's energy prices are already adequately high – what is more, they are even higher than in Western Europe. Evidently, this situation is favourable from the aspect of environmental protection. Nevertheless, we cannot be content with this state of affairs, because the price gain does not make the state finances and the Hungarian citizens richer; instead of that, it contributes to increasing the profits of foreign-owned companies. It would be a normal approach, if the state skimmed the price gain, and devoted most of these revenues to energy efficiency enhancement programmes. In that case, higher prices would bring about a greater degree of energy saving. For lack of such measures, however, the environmental (energy saving) impact is not sufficient, while social tensions grow owing to the higher prices.

Environmental load

Besides unpaid mining taxes, non-internalized environmental damage (i.e. the practice of not paying for the environmental and health damage emerging during energy generation) constitutes another major form of EHS within the energy sector. The European Commission is currently conducting very complex and thorough research activities in this field – the programme runs under the name *ExternE.*

We have calculated the environmental damage brought about by Hungarian electricity generation by using the specific coefficients determined for Great Britain in the above mentioned research programme. The assessments have revealed that in 2003, coal production and utilization in Hungary caused external costs worth HUF 98–156 billion; the environmental damage of natural gas production was HUF 20–40 billion, while that of petroleum production totalled HUF 47–77 billion. At the same time, these sums represent the value of the granted EHS.

Concerning the order of the above amount of environmental damage, we can draw an important conclusion: after the privatization, Hungarian economic policy-makers made a mistake by not charging the environmental damage – in the form of taxes – to electricity, because thereby they contributed to increasing the profits of foreign companies. Hungary has to make up for this omission now by reducing gradually the company profits down to the average level of the European Union – through the incorporation of external costs into the prices (in the form of taxes). Otherwise Hungary will doubly lose by it: it will have to bear the costs of both the environmental pollution and the outflow of profits.

Up until recent times, there have been in effect some other, minor forms of subsidies in coal mining. (1) During the opening up of a mining area, mining companies only had to purchase the area actually taken into production at a given time, and so land-owners incurred substantial losses on a continuous basis (because they could not freely dispose of their land any more, but they only received the price of their property with delay). This unlawful state of affairs was put an end to by the Hungarian Court of Constitution in 2004. (2) After the abandonment of coal mining, up until now recultivation has always been financed by using state budget funds (the 2004 state budget, however, does not contain an allocation for such purposes any more). (3) In the course of closing down coal-mines, a significant part of miners was given the possibility to retire on pension with age exemption – which may also be regarded as a form of state subsidy.

The volume (in fuel value) of the production and import of coal is only a fraction of the petroleum and natural gas utilization. On the other hand, its specific environmental load is much heavier (but its price is only half of that of hydrocarbons). This is a case when environmental protection, economic and social (employment) aspects clash, and it is a political task to set the priority order.

Consequently, through uncollected mining taxes and unpaid environmental damage, Hungarian coal-mining receives EHS worth HUF 100–150 billion annually, whereas petroleum and

natural gas production and distribution receive EHS worth HUF 80–110 billion individually.

3 Environmentally harmful subsidies related to mineral raw materials other than hydrocarbons

Mineral raw materials and other natural resources to be found in the depths of the earth are owned by the Hungarian state, regardless of who is the actual owner of the land property concerned. Consequently, so-called mining taxes are to be paid to the state upon the extraction of such resources; it is the task of the relevant legal regulations of any given time to determine the applicable rate of the mining taxes. For hydrocarbons (petroleum and natural gas), the current rate is 12 per cent – although in 1993 it was still as high as 40 per cent. Mining tax rates payable upon the mining of non-metallic mineral raw materials (sand, gravel, building materials) are significantly lower: only 5 per cent of the extracted value is due to the Hungarian state. When mining tax rates are low, producers can acquire the natural treasures under their real value. As a result, mining enterprises do not pay for the environmental damage they cause through the extraction of raw materials; this must be borne by the state, i.e. the Hungarian society as a whole. Moreover, current prices do not reflect the fact that these raw materials are non-renewable resources, and so their exploitation (and particularly their export) diminishes Hungary's national wealth. The possibility to acquire state property under its true value constitutes a case of **direct** state subsidization.

In 2002, the average mining tax rate paid upon the extraction of building raw materials was less than HUF 14 per tonne (and HUF 5 in the case of ceramic raw materials), which are ridiculously small sums. Despite a registered output of 53.9 million tonnes, state revenues only totalled HUF 0.75 billion. In our research, we could only perform calculations for the sand and gravel mining sectors, and we found that as a consequence of the current low mining tax rates, the annual level of environmentally damaging direct subsidies reached HUF 4 to 5 billion in Hungary.

Environmentally harmful **indirect** state subsidies appear in the following forms:

- public funds spent on the restoration of landscape injuries (in the 1990s, landscape rehabilitation tasks were mostly left to the state when mines had been closed down),
- low land prices (for mining activities, Hungarian land areas can be acquired extremely cheaply as compared to Western European prices),
- low level of compulsory security deposits (mining enterprises usually undertake only limited liability for the long-term environmental damage which is caused in the course of mining operations and/or which emerge after the mines have been closed down),
- mine-opening anomalies (opening large numbers of sand and gravel mines without performing proper environmental impact assessments, etc.).

Low Hungarian mining tax rates encourage enterprises to step up production and exports, especially because the neighbouring Western countries apply, among other instruments, strict regulations in order to keep under control the production of primary building raw materials. As a result, relatively large volumes of mineral raw materials are being exported from Hungary. During the past decade, ex border average prices of stone, gravel and sand produced in Hungary have never come up to EUR 3 per tonne. In the course of the extraction of such materials, the caused environmental damage exceeds by several orders of magnitude the economic profits which are realized by the individual producers involved – i.e., all in all, the present scheme constitutes a „negative-sum game".

Furthermore, the currently available environmentally harmful subsidies and the existing price system do not make the secondary utilization of most of the raw materials economically worthwhile in Hungary. It would be necessary to establish such price conditions which make the reutilization of these materials cheaper than their mining.

4 Building and Construction Sector

In the building and construction sector, EHS primarily appear in indirect forms. On the other hand, direct harmful subsidies are the consequence of the fact that in the course of public procurement procedures and when granting interest and other subsidies to citizens, the aspects of environmental protection are pushed to the background and are not included in the system of criteria.

Direct subsidies (favourable building loans and other subsidies) appear in the following modes:

In recent times, building subsidies have been granted in a normative manner, without appropriate environmental protection prerequisites. This will cause negative externalities with a long-term effect. It is probable that the extra budget revenues which result from the budget amounts granted as subsidies will not offset the negative environmental impacts of, or the increasing burdens imposed on the state budget by, for example, the inevitable need for extending public transport services as a consequence of sprawling developments, along with the need to restructure the capacity of healthcare and educational institutions. Interest subsidies granted without any preconditions for the construction of new homes bring about long-term burdens for the state budget, whereas the subsidization of energy saving interventions, for instance, could also alleviate Hungary's dependence on energy imports.

Only a lax system of environmental prerequisites is applicable today to the utilization of interest subsidies, state guarantees and public funds.

Public funds in the order of HUF 300 billion flow into the *overground construction sector* annually, and interest subsidies related to housing represent a considerable part of that amount. The state budget spends HUF 250 billion on the real property sector in 2004, including direct housing subsidies, tax and duty allowances, and normative state subsidies. This sum surpasses the 2003 level by some HUF 50 billion. Social policy and dwelling subsidies make up around one-twentieth part of those funds. Except for these, we may regard all subsidies as harmful until they are not tied to sustainability (environmental protection and energy efficiency) criteria.

Home construction entailing considerable environmental damage and the squandering of natural resources should be replaced by the modernization of the existing stock of buildings, and/or by the development of an environmentally less harmful and socially more efficient stock of flats. This would result in continuous savings for the state budget (in healthcare, public safety, environmental protection and energy aspects). Subsidies tied to appropriate preconditions could also accelerate the process of improving the technical state of Hungary's stock of buildings.

The subsidization of constructions should only be continued if it is coupled with the simultaneous modification of the tax system. Interest and other investment subsidies place incessant burdens on the central budget. By applying differentiated real property taxes and by imposing local taxes on real properties it would be possible to prompt local governments to pursue more favourable settlement development policies; and a part of the profits realized on speculative real property transactions could be ploughed back into the implementation of community goals.

It would be necessary to grant subsidies for the purpose of developing an energy saving stock of buildings, for gentle interventions aiming at modernization and extension, for the construction of special homes (homes for students and the elderly, as well as "nesting" homes), for the development of public utility networks, for housing R&D and for the development of an efficient settlement structure to use sparingly both natural resources and costs.

The overwhelming majority of the existing buildings are obsolete and do not even meet current energetic standards. Up until 2006, the EU intends to introduce a new uniform *energetic qualification* system, which will also apply to old buildings. Neither the general public nor the Hungarian building sector is prepared for that requirement.

Indirect subsidies may appear in the following forms:

- undervaluation of the price of natural resources,

- lack of internalization of the identified negative external costs, primarily in the case of material-, energy- and transport-intensive activities, waste treatment and the so-called green-field investments,
- the current lenient practice of building regulation and authorization procedures,
- lack of construction site controls.

Building materials sector

In the building materials sector, indirect subsidization occurs in the following manner: the manufacturing of large volumes of cement, bricks and similar building materials causes serious damage to nature and considerable pollution to the environment, but low energy prices, transportation costs and mining taxes do not cover this damage. Low mining taxes, and the lax control of illegal building materials mining, waste treatment and dumping do not stimulate reutilization. Local governments do not control the ongoing constructions, and the materials which could still be used, and/or even the hazardous materials are dumped in bulk into designated or illegal dumping sites. In Germany, at most 15 per cent of the construction and demolition materials are dumped as waste, and pre-selection on the construction site is a requirement. In Hungary, according to the provisions of the National Waste Management Plan, the 50 per cent rate of further utilization must be attained by 2009. The price does not contain the costs of recultivation and the caused landscape aesthetical losses.

If we trace subsidization in the practice of applying *low mining taxes,* we can state that in 2002, for example, the mining tax paid upon 1 tonne of building raw material was HUF 13.8, and upon ceramic raw materials only HUF 5. The rates of these mining taxes are by far lower than even the 12 per cent rate that we criticized in the case of petroleum and natural gas production. The difference between the 12 per cent rate and the actual level was in the order of HUF 3.9–5 billion in 2002; consequently, we qualify this sum as EHS.

„Liberalization" of mining. Owing to the laxity of regulations, well-known anomalies occur in Hungary: e.g. foreign mining companies transport sand from here into Austria, Germany and Slovenia. Also in this case, the caused environmental damage represents the extent of subsidization; but the solution would be to impose restraints on the mining of such materials.

Land prices, which are low in international comparison, also constitute a form – and the quantifiable extent – of the subsidization of surface mining. Budgetary expenditures on the *recultivation of closed mines* are clearly identifiable cases of subsidization.

During the manufacturing and use of building materials, as well as in the process of their becoming wastes, lots of *hazardous wastes* are produced. This is not reflected in the prices. At present, the natural materials posing less danger to the environment are difficult to procure, or – being imported goods – are very expensive.

5 Chemical Industry

Advancement of the chemical industry has created vast new horizons in agriculture, in medical sciences, in building structures, and in the appliances and articles that we use in our everyday lives. However, the unrestricted and ever expanding use of chemicals – the neglect of the principle of precaution – in the past few decades has led to higher external costs in some areas than the related social benefits. Besides the Paks Nuclear Power Plant, the manufacturing and transportation of chemicals is the primary catastrophe risk factor in Hungary.

World chemicals production grows at an annual rate of ten per cent. The main environmental dangers are water, soil and air pollution (during manufacturing, transportation, storage, use and annihilation), the storage of hazardous wastes, as well as the contaminations related to large energy consumption. There are numerous (mutagenic, carcinogenic, etc.) chemical agents, which do not decompose even in centuries, and/or whose continuous accumulation seriously damages living organisms. (In the European Union, investigations have just been launched to assess the effects of antibiotics which have been used in animal husbandry for several decades. Pharma-

ceutical residues and hormone preparations are continuously carried with liquid manure into the soil, and into surface and underground waters.)

Consumers should bear the costs of the selective collection and disposal of chemicals, paints, etc., of the remediation, and of the catastrophe prevention and standby services, in proportion to their use of chemicals. A large part of the environmental protection costs is currently being shifted to the society. The costs of the consequences are many times more than the costs incurred by those causing the damage. (Another serious problem is that remediation and selective waste collection make only very little progress owing to current budgetary restrictions.) If the expanding contaminations pollute the water bases, destroy the soil, etc., later on these can only be decontaminated at huge expenses, if at all.

The following may be regarded as hidden and also *environmentally damaging subsidies:*

- The long-term environmental risks of most of the chemicals are unknown. At present, there is no uniform chemicals regulation which would guarantee adequate safety.
- Harmful substances are often not replaced even when less problematic alternative materials are available.
- The practice of banning hazardous chemicals is not harmonized even in OECD member states.
- The possibility exists to relocate – because of the restrictions applicable within the EU – certain dangerous phases of the manufacturing processes into other countries (the Ukraine, China, etc.).
- The regulations pertaining to the collection of communal hazardous wastes (pharmaceuticals, paints, etc.) are not consistent within the European Union, and are virtually ineffective in Hungary.
- There are no uniform eco-taxes in the EU to internalize the negative externalities of chemicals.
- The hidden subsidization of energy and transport, as well as the excessive tax burden imposed on live labour encourage the wasteful use of chemicals.

As regards the subsidization of the Hungarian chemical industry, we do not know of any direct subsidies. Indirect subsidies have been granted through the practice that during several decades, *the conditions of the manufacturing, use and disposal of chemicals were not properly regulated. No funds were formed to handle the problems of environmental damage, contaminations and wastes.* At present, public funds in the region of HUF 10 billion are spent annually on the decontamination of polluted areas. From EU funds some HUF 15 billion may be used for remediation between 2004 and 2006. Both sums mentioned above are very limited in relation to the large number (approximately 60 thousand) of registered contaminated areas.

It is a worldwide phenomenon that for decades, chemicals have been manufactured and used without proper regulation. Although chemical additives are used in ever more places and in ever growing quantities, even today we do not have reliable data available regarding the health and environmental impacts of 95 per cent of these materials. We have no adequate scientific knowledge of the interaction, and the impacts of the simultaneous application, of various chemicals which have been used for decades. On the basis of the new European draft regulation, *REACH*[4] , the impact and interrelation of some 30–40 thousand chemicals must be investigated and monitored during a period of 11 years. The costs, estimated to amount to EUR 5–6 billion, are to be borne by the chemical industry and by the users. Currently, the draft regulation is still in the phase of ongoing negotiations, and the chemical industry lobby does its utmost to dilute the provisions of the regulation. Even if it is introduced, its positive results will only appear after several years. All this is just the first step made towards ensuring that the use of chemicals does not cause a disproportionately large environmental load, as it does today.

General recommendations of the environmental NGOs:

- The principle of substitution should be compulsory: no authorization should be granted

[4] Registration, Evaluation and Authorisation of Chemicals

to any hazardous materials if better alternatives are available.
- There should be no relief from the obligations in the case of materials which are produced in an annual quantity of less than 10 tonnes; the original one-tonne limit value should be kept, and/or the regulation should also be extended over polymers (plastics, e.g. PVC) and intermediates.
- The right of access to information should be fulfilled, including the indication of the specific chemicals which are contained in a given product (accurate labelling).
- Companies should not be allowed to make reference to business secrets concerning the chemicals they use.
- Citizens' environmental awareness should be raised in connection with chemicals.
- External costs should be incorporated into the prices.

6 Agriculture

Budget subsidies

In advanced tertiary countries, agriculture receives the largest volume of direct state subsidies among all economic sectors. The European Union devotes 43–44 per cent of its budget to the subsidization of agriculture. These subsidies essentially serve the purpose of keeping the agriculture competitive against cheap overseas products, and so they ensure that, along with agricultural production, also the narrow social stratum of farmers may survive. Traditionally, this social group plays a significant role in shaping the moral and political features of the Western European societies, in preserving their traditions, and not least in tending the cultivated lands of those countries.

All this would be sufficient to regard the European Union's agricultural subsidization system as a scheme which – besides food production – also generates positive externalities, i.e. produces public goods; and consequently, to accept it without reservations. However, we are fully aware of that these general social objectives are attained by subsidizing an agricultural system which – through its energy-intensive, mechanized and highly chemicalized intensive production – puts an extremely heavy load on the environment, pollutes the soil and the waters, reduces biological diversity, and also contributes to climate change. (What is more, it results in a loss-making surplus production.)

In the course of reforming the Common Agricultural Policy in 1992, important changes took place: having recognized the contradictions of the subsidization system, the EU made it possible that subsidies can also be granted to the environment-saving organic or "bio" farming; what is more, farmers can already obtain substantial subsidies as a consequence of simply reducing the extent of their intensive farming.

Parallel with that, the Union's rural development policy was also transformed within the framework of the Common Agricultural Policy. In accordance with the new policy, agricultural activities must not be narrowed down to their food production function only. Food production should be complemented by the traditional functions of agriculture, which have already fallen into oblivion: its cultural and ecological role within rural development.

The subsidization policy, transformed on the basis of these new principles, set the aim of reducing gradually the portion of the market/production/income supplement subsidies prevailing within the system of subsidies, and of replacing them with the so-called „second pillar" subsidies, which, over time, would become the dominant subsidy form representing the largest share within the system.

Up until now, the narrow-minded Hungarian agricultural policy-makers have not recognized the tendency of the changes taking place within the European Union. They keep insisting on the subsidy type which will become insignificant after a while, and they hardly make any use of the ever expanding scope of the „second pillar" subsidies.

Among these theoretical frameworks and new arrangements, we have to find an answer to the question: to what extent may the Hungarian agro-economic subsidies be regarded as environmen-

tally beneficial or harmful. Although not all of the „first pillar" activities are definitely harmful to the environment, our starting basis is that because the agricultural subsidization system has an available environment-friendly alternative, we should accept the latter one as beneficial.

On the basis of the evaluation criteria that we had established, we weighted the individual subsidy forms, depending on whether their use brings along more positive or more negative externalities. The amounts of subsidies, which in our view are harmful, received a weighting of 70–80 per cent. We weighted the less damaging subsidies with 50 per cent, while the subsidies having predominantly favourable environmental (social and nature protection) impacts obtained a weighting of 0–10 per cent. In the course of performing the weighting we assumed that the subsidy's impact may be clearly positive only in extreme cases (e.g. village development, technical assistance). Therefore, in general we did not apply the two extremes of the weighting (0 and 100%).

The summary results show that in 2004 more than HUF 218 billion are available in Hungary for agricultural subsidization purposes, taking into account both the domestic and EU resources. Within that sum, nearly HUF 108 billion are represented by the frame amounts of subsidies which, in our view, are harmful and bring about negative externalities. This sum makes up nearly 50 per cent (49%) of all Hungarian agricultural subsidies.

As regards the non-internalized environmental damage, calculations have not yet been prepared in Hungary. Some bases of comparison for such calculations may be offered by an assessment carried out in England, which revealed that in 1996, the external costs of agriculture amounted to GBP 150 (HUF 50–60 thousand) per hectare in the agricultural areas of the United Kingdom. By weighting the individual cost factors (air pollution, soil pollution, water pollution, causing danger to living organisms, health damage) in accordance with the characteristic features of Hungary, the external costs of agricultural activities may be estimated at nearly HUF 45 thousand per hectare. On the basis of that estimate we may conclude that in the aggregate, the agriculture burdens the Hungarian society with external costs worth at least HUF 250 billion.

7 Food Industry

It is natural that foodstuffs have to be preserved and packed – within reasonable limits. Today, however, the foodstuffs available in commercial distribution comprise an unduly large portion of chemicals and packaging materials. Natural foodstuffs, which are more favourable from an environmental and a dietary physiological aspect, are increasingly squeezed out of commercial distribution. This adds to the volume of communal solid waste which cannot be processed or only at very high costs (combined, plastic and other heavily contaminated packaging materials), and increases the chemicals content of sewage. Several additives which are currently used and authorized in Hungary are proved to have mutagenic, carcinogenic, etc. impacts. The latter ones carry serious risks for all living organisms. Artificial preservatives, flavour enhancers, aromas, colorants and substance improving agents reduce considerably the risks of processing (unvarying quality; taste and state which are deceptively similar to those of the natural materials; minimization of deterioration losses, etc.), and are much cheaper than natural raw materials. Therefore, their use brings multiple benefits to manufacturers. This advantage is further increased by the uniform, preferential VAT classification of foodstuffs – except for a regulation in effect as from May.

A *direct* and well quantifiable mode of granting EHS to the food industry is related to the VAT. Foodstuffs come under the preferential VAT rate of 15 per cent. Food processing companies may reclaim the 25 per cent VAT content of the used packaging materials and chemicals, while the consumers only pay 15 per cent VAT upon the end product.

Based on data taken from the Utilization Table of the Balance of Intersectoral Relations of 2000, the sum of the subsidies calculated in the above manner may be estimated at HUF 21

billion in 2000, after deduction of the value of beverages and tobacco. The worth of such subsidies may be put at HUF 25 billion in 2001; and it increased to HUF 27 billion in 2002, on account of growing sales volumes. According to preliminary data, subsidies in 2003 totalled HUF 30 billion. In 2004, the extent of subsidization will diminish as a result of the increase in the VAT rate of foodstuffs, but the expected price increase will offset this to a certain degree. Accordingly, the subsidy amount may be estimated at HUF 25 billion in 2004.

There are several other environmentally damaging modes in place for the subsidization of the Hungarian food industry, but these are already *indirect* subsidies, which are unquantifiable, or can only be quantified with difficulties. Some examples:

- In advanced countries, the free movement of goods is promoted by the subsidization of transport costs.
- The development of large commercial networks has been subsidized for a decade, through various preferences granted by the state and by local governments (tax allowances, the construction of free infrastructure, normative investment subsidies, lenient building regulations, etc.).
- In the early stages of the change of regime in Hungary, food processing went into the ownership of large foreign companies. These concerns are capable of purchasing raw materials at very low prices from any part of the world. As a result, domestic goods – which are environmentally friendly, less transport-intensive, and of higher quality but smaller volume – lose their competitiveness. Large-scale agricultural production, which is often unfavourable from the aspect of environmental protection, survives in the market – by taking advantage of a situation where the negative externalities are not internalized. Apparently, this serves the interests of consumers, primarily those living in urbanized areas, by supplying cheap goods. (The health impact of such goods is already another matter.) On the other hand, this undermines the existence of small producers living in rural areas; so, the state will have to take care of them in the future: landscape tending, nature protection and the preservation of meadows and pasture lands will have to be paid for by using EU and Hungarian budget funds. And large-scale farming brings along soil degradation, the unfavourable biological and climatic impacts of monocultures, great energy need, etc.
- Despite being a WTO member state, the USA imposed steel customs duties in 2003. In contrast, in Hungary Spanish tomatoes and Portuguese plums are offered in the supermarkets in August. It is true that these products are more expensive than the Hungarian tomatoes and plums in the market hall; but who has the time to go shopping to the market hall every day? So the Hungarian small producers – with their tasty but more perishable products of rich variety assortment – are gradually squeezed out of the market. As a consequence, even more lands remain uncultivated.

8 Transport

Transport is the largest energy user, and accordingly, it is one of the main air polluting and greenhouse gas emitting sectors. In the European Union, carbon-dioxide emission has been diminishing in the principal branches of the economy (apart from the energy sector) since 1990; and it has been falling even in the energy sector since the end of the 1990s. In contrast, emission levels keep steadily growing in the transport sector. This fact clearly illustrates that transport is a key area from the aspect of environmental protection.

At the beginning of the 1990s, the publications of competent international organizations generally estimated the negative environmental externalities caused by transport at 3 to 5 per cent of the GDP; this share has gradually grown to 7–8 per cent by now. In countries where motorway tolls are collected and the tax contents of fuels are high (like in England, for instance), state revenues from road transport cover the costs of the construction and opera-

tion of the transport infrastructure, and have a positive budget position. However, if we also include the caused environmental damage in the equation, the balance will be negative in each country, without exception.

Since 1991, Clean Air Action Group has regularly prepared calculations to determine the balance between the environmental damage caused by transport and pertinent state expenditures on the one hand, and state revenues collected from the transport sector on the other. Needless to say: each of these calculations has concluded that road transport is seriously indebted vis-à-vis the environment and the Hungarian society. This balance indicates the aggregate order of the subsidies granted to transport (evidently, to road transport), the largest part of which is made up by non-internalized environmental damage. In the following passages we will outline the main components of the above calculation.

In 2004, state finance *revenues* from road passenger and freight transport total HUF 570 billion, the predominant part of which (HUF 400 billion, i.e. 70 %) comes from excise duties levied on fuels. Further major items in the value range of HUF 10 to 50 billion are: registration tax, motor vehicle tax, motorway tolls, motor vehicle transfer duty, taxes on company cars, product charges.

On the other hand, *state finance expenditures and/or losses of revenues* in connection with motor vehicle traffic *amounted to over HUF 3900 billion, which means uncovered costs worth more than HUF 3300 billion. In our study's interpretation this represents the value of subsidies granted to motor vehicle transport,* equalling 16 per cent of this year's GDP, which means as much as 54 per cent (!) of all state budget expenditures. Consequently, the opinion of the general public saying that the Hungarian state realizes huge profits on road motor vehicle transport and that motor vehicle owners pay unfairly large amounts of taxes is far from corresponding to true facts.

Let us review the elements making up this huge sum total of state finance expenditures and/or lost revenues. Environmental and health damage occupies first place on the list with a value of HUF 1200 billion. Much to our surprise, an incredibly large amount (in excess of HUF 800 billion) results from the preference which makes it possible to account the private use of motorcars as expenses against the tax base. On the other hand, in 2004 the Hungarian state budget only spends slightly more than HUF 270 billion on its favourite and widely advertised development priority: on the construction of high-speed roads; whereas free parking and motorcar storage represent state subsidies worth approximately HUF 350 billion. Further items over the value limit of HUF 100 billion were: other damage – nearly HUF 200 billion; losses and lost revenues caused by underhand fuel dealings and the peculiar practice of road transport wage accounting – HUF 160 billion.

The annual value of the damage caused by heavy trucks comes to hundreds of billions of HUF. The introduction of road charges would contribute to the internalization of these costs. Road charges could increase state budget revenues by some HUF 30 billion in the first year, and by much larger sums in subsequent years. Road carriers enjoy a competitive advantage worth HUF 100 billion a year, because the Hungarian state draws away this sum from their main rival, railway freight transportation – in a manner which is contrary to fair market practices. Furthermore, we can estimate at some HUF 100 billion the additional gains which road carriers realize on smuggling and similar criminal acts.

Hungarian fuel prices correspond to the Western European price level; therefore, in this respect there are no possibilities for the internalization of the environmental damage (or for the reduction of the subsidies, as understood here). However, it is incomprehensible and unacceptable that the Hungarian Government does not take any measures in order to restrict and/or to tax the preferences in connection with the private use of motorcars, making up such an exorbitant sum. The curtailment of free parking and/or motorcar storage could also add substantial amounts to the limited budget of local governments. Similarly, the curbing of fuel smuggling and underhand fuel dealings could result in extra revenues for the Hungarian Government.

III Infrastructure Development and Land Use

The past 15 years have seen major infrastructure developments in Hungary. First the country-wide natural gas distributing network was built, then the sewage disposal and purification system was significantly improved, narrowing down significantly the large gap between the scope of water supply and sewage disposal services. Construction of the high-speed road network has been one of the key ambitions of recent Hungarian government policies. Establishment of the national network of regional waste dumping sites is currently under way.

It was perceptible already at the time of developing the gas distributing network that the programme was oversized: it is unreasonable to build out the pipeline in the small villages of Hungary's mountainous regions, for the locally available firewood is cheaper than the gas supplied through pipelines; and moreover, gas prices have gradually increased ever since. Inhabitants of these villages incurred unnecessary costs, and the state subsidies were irrationally used. If we evaluate the situation from an environmental aspect, we can conclude that environmentally harmful subsidies (EHS) were granted, for this scheme supports the use of a non-renewable energy source instead of renewable ones. These subsidies are also harmful because spending in other ways the unreasonably utilized public funds (*the op*portunity cost) would have been more profitable or – if properly used – more environment-friendly.

In the following sections of the present study we will review the other two key issues: the construction of the high-speed road network and the environmental protection infrastructure (this term refers to the sewer network, to sewage purification plants and to waste dumping sites). The subsidization of rural development – which is becoming ever more important as a consequence of Hungary's EU accession – would also belong to the subject of this chapter, but we will not deal with that topic because those subsidies are for the most part environmentally *beneficial.* (Naturally, it would be justified to carry out a detailed analysis in that area as well, which could reveal that not all of those subsidies are environmentally friendly – during the present research work, however, we did not have the opportunity to look into this problem.)

1 Transport Infrastructure

Since the time of industrialization, construction of the transport network has been regarded as a task which (along with other background sectors of the production activities, i.e. with other infrastructures) constitutes an indispensable precondition of economic development. Considering that the establishment of such networks is highly capital-intensive and has a long payback period (which means that it is a very expensive activity), in most cases this task was implemented by the state – from public funds. Private capital participation in these developments (primarily in the form of concessions) was in general limited to the most profitable areas, and was often coupled with various state guarantees.

In the past two decades, as a result of the work of environmental NGOs, fundamental changes took place in the evaluation of this issue. In the advanced tertiary societies, motorway constructions do not serve any more the purpose of meeting transport needs in general; they rather provide ground for a particular form of manifestation of the consumer culture: automobilism. The question has been raised: what is the relation between motorway constructions and economic performance/development? In the European Union, investigation of this topic has become ever more pressing because from the Structural Funds, and especially from the Cohesion Fund, the EU spends huge sums on motorway construction in the less developed southern member states, with the intention of promoting also in that way the catch-up process of these countries.

These analyses have revealed that there are no evident linkages between motorway construction and the catch-up of backward regions, or between road traffic and economic growth. What is more, in some cases the built motorways have further intensified the difference between centre and periphery.[5] Dozens of factors influence the selection of the sites of capital investments, and motorway accessibility is only one of them. (Naturally, public road access is a prerequisite.)

Realization of the above rule puts into a totally different context the necessity and the funding of motorway constructions, because if motorways actually do not serve the public purposes (economic growth, catch-up of backward rural regions) which are referred to as a justification of such constructions, then it is not reasonable to finance them from public funds. If motorways are private goods, they must be constructed from private money, because in that case the use of public resources means unjustified subsidization. Moreover, since road transport causes more than 90 per cent of all the serious environmental damage attributable to transport, motorway construction from public funds must be qualified as *environmentally damaging subsidization.*

This starting point of the analysis can be further refined by examining whether other transport modes, which cause less environmental load, are able or not (and if yes, to what extent) to substitute motorways; because only to such extent can we regard the traffic and the subsidization of motorways as environmentally harmful. We must remember, however, that new roads, and particularly new motorways, generate additional traffic; consequently, it is not justified to accept the entire volume of the non-replaceable traffic as necessary.

The Hungarian state budget of 2004 projected HUF 270 billion for motorway construction. And according to the "Motorway Act" approved at the end of 2003, Hungary will devote some HUF 1400 billion to the construction of high-speed roads between 2005 and 2007.

At this point the question may be raised: How shall we proceed about motorway constructions in Hungary? It is our firm belief that instead of building motorways, we should maintain and modernize the country's existing road network, and develop the environmentally friendly transport modes. If, despite all that was said above, the constructions continue, we should at least correctly proceed about the financing of such investments. That is: since the motorways are not public goods, their construction should be implemented by using private capital. If, nevertheless, motorways are constructed from public funds, then it would be necessary to have such fees paid for their use which cover the costs of their land occupation, construction, operation and maintenance. But Hungary is a small country with a small population and average income level. The World Bank stated already in the second half of the 1990s that it was not possible to implement privately financed motorway constructions in Hungary... Consequently, there are no available alternatives left: our reasoning has arrived to the same conclusion from both directions.

2 Environmental Protection Infrastructure

Environmental protection has been a critical area of Hungary's EU accession. Although in terms of environmental efficiency (environmental load per unit of GDP or sectoral output) Hungary lags behind the advanced western countries, but the Hungarian per capita pollutant emission indicators are usually more favourable (lower), and the state of the environment is in general better than in those countries. Hungary's backwardness primarily appeared in the matter of environmental infrastructure (sewage treatment and purification, waste management).

Since the launch of the First National Environmental Protection Programme (1997-

[5] See: T&E: Roads and the Economy. Brussels, 1995.

2002), Hungary has made great efforts to make up this arrearage.

Sewage treatment and purification:

Since the last third of the 1990s, Hungary has spent HUF 70–80 billion annually on sewer network constructions and on the development of sewage purification. The environmental costs of Hungary's EU accession to be financed between 1996 and 2010 were estimated at approximately HUF 2300–2900 billion at 1997 prices (to which further 15–25% operational and institutional development costs were added). More than the half of this sum was made up by surface water protection, and within that amount communal sewage treatment represented HUF 770–800 billion. This huge sum resulted from the swelling of the National Environmental Protection Programme's original estimate of HUF 256 billion (growing to HUF 300 billion at 1997 prices).

This excessive increase of the estimates was caused by the pressure exercised by various interest groups involved in these activities (local governments, public utility companies, water management organizations). The analyses have revealed that the efficiency of the sewerage system development is gradually diminishing (because the specific number of hook-ups to the newly built lines has been decreasing), and that the development is accompanied by large-scale squandering and widespread corrupt practices. The utilization rate of the sewage purification facilities' capacity is low.[6]

In Hungary the rate of the supply with sewerage services was low even within the Central and Eastern European region (as compared to e.g. Poland or the Slovak Republic). Proper sewage treatment and purification are fundamental environmental protection criteria. In spite of that, we have to say in the light of the above facts that the developments implemented in the past few years were exaggerated and wasteful, and to that extent also *environmentally harmful*, because the public funds destined to environmental protection would have brought about more environmental benefits in other fields (e.g. in the improvement of urban air quality or the elimination of earlier contaminations).

Consequently, environmentally damaging subsidization also occurs in the area of sewage treatment and purification. Moreover, these subsidies were environmentally harmful in such degree as traditional systems could have been replaced by alternative (root zone) sewage treatment, but this replacement was not permitted by the environmental protection authorities (!), and/or no subsidies were available for the establishment of such facilities.

Construction of regional waste dumping sites

Up until recently, waste treatment has been performed at a very low cultural standard in Hungary. Each small village and town operated its own above-ground waste dumping site, without waste selection and without meeting even the basic sanitary, aesthetic and environmental protection specifications. Hungary's EU accession has entailed strict requirements in this area, too. Construction of the so-called regional waste dumping sites was launched. These facilities comply with relevant specifications, receive waste from several towns and villages, and perform selective waste treatment. Out of the nearly 3000 waste dumping sites, only slightly more than 100 facilities will remain in operation.[7]

Apart from the serious problem of the affected inhabitants' opposition against the waste of others, an environmental protection dilemma appears here because the concentrated waste collection significantly increases the system's transportation need, which causes considerable environmental load. The situation is complicated, for the European Union only grants sub-

[6] Kerekes, Sándor – Kiss, Károly: Impact Assessment of the Environmental Protection Preconditions of Hungary's EU Accession, 1999.

[7] See: Socio-Economic Impact Assessment of the Hungarian Application of Environmental Protection Directives...1998.

sidies for the construction of adequately large-sized waste dumping facilities...

It would be difficult to quantify the factors of this situation: the additional air pollution caused by the increased volume of transportation should be compared with the improved soil and underground water quality and the eliminated aesthetic pollution brought about by the operation of waste dumping sites conforming to pertinent regulations. We assume that the balance of this comparison would be negative, and accordingly, to that extent the Hungarian public funds and the EU competition funds spent on these investments should be qualified as EHS. (These risks have been recognized in the West. There are many regional waste dumping sites, in the case of which the impacts of selective collection and prevention were not taken into account, and so the facilities are oversized. Another problem of the large regional waste dumping sites is that instead of prevention they rather stimulate the swelling of waste volumes, similarly to waste incineration plants. Waste collection networks, operating as *for-profit* enterprises, are interested in increasing the amount of waste, and so they also form part of, and make stronger, the lobby group of the manufacturers of packaging and advertising materials.)

3 Land Use

With the development of consumer societies, land occupation, unjustified by social necessity, has accelerated everywhere owing to the distortions of market economies and/or as a result of direct or hidden subsidies (roads, sprawling towns and villages, residential parks, entertainment complexes, shopping centres, parking houses and car parks, green-field investments, industrial parks, water storage facilities, mining, etc.) This has led to the widespread appearance of biologically impoverished cultivated landscapes.

The area of arable land, one of Hungary's most valuable assets, is decreasing at a quick rate. Especially in the years following the change of regime in Hungary, this process has accelerated to an alarming pace. Data of the Central Statistical Office of Hungary show that the area of land taken out of agricultural utilization comprised only 6.6 per cent of the country's total area in 1983 and it went up to 11.5 per cent by 1990. Then this portion increased to 13.8 per cent by 1996, and already reached 16.9 per cent in 2001.

Excessive land use brings about biological and landscape degradation, which are partly irreversible and partly manageable, but at too high costs. Additionally, it requires the construction of expensive and low-efficiency technical and human infrastructures. On the other hand, it should be our duty to hand down the country's natural heritage – in an undamaged state – to future generations. It is difficult to interpret the pecuniary value of the losses, and this hinders the internalization of the damage caused. Therefore, consistent domestic and international regulation and prevention may be the solution to this problem – besides the withdrawal of subsidies and other economic instruments.

Characteristic examples of environmentally harmful, excessive land use:

- In 78 towns and villages within the Budapest Agglomeration, the area of land assigned in advance for building up in 2001 could have satisfied 40 years' development area need.
- In the Northern and Western Buda areas of the Agglomeration, the size of the built-up areas and the number of inhabitants have in some cases increased by as much as 40 % during a short period of only a couple of years.
- Half of the sports fields in Budapest have fallen victims to the change of regime – they have been replaced by petrol stations, commercial centres and other non-green-area functions.

In our opinion, the following are the most important causes*:*

- One of the main reasons of the destruction of green areas in Hungary, and of the serious corruption which has become virtually general in this field, is that the profits resulting form the appreciation of real properties make the owners richer, while the damage caused to the society is borne by the community. Such damage may be caused by the

destruction of valuable green areas, the „spoiling through construction" of ventilation channels, views and insolation, the increased transport needs and the accompanying environment pollution, the need for additional infrastructures – water, sewers, healthcare services, schools, etc. – and parallel with that the deterioration of the rate of utilization (and so the efficiency) of the elsewhere already existing infrastructures.

- The concentration of public funds and private capitals: the competition systems of the Hungarian and EU public funds, just like the lending policy of banks, favour large-scale projects – owing to high operational costs. In the energy sector and transport, as well as in other infrastructure developments, priority is given to regional waste dumping sites, large-capacity power stations and high-speed roads.
- Sectoral policies do not take into consideration the intersectoral effects and the principles of sustainable development (finances, agriculture, water management, building and construction, transport, energy sector).
- Local governments are not directly interested in protecting the public interest and preserving the quality of the environment. This can be partly attributed to the particular features of the Hungarian budgetary and taxation system.
- The Hungarian taxation system places more burdens on activities than on environmental load and on accumulation (real properties). Adequate funds are not formed for the purpose of enforcing the public interest.
- With a view to eliminating the deficit of local democracy, the Hungarian Act on Local Governments, enacted after the change of regime, granted excessive rights to local governments.
- National and regional development plans play a subordinated role in relation to local governments.
- The fact that the damage caused to the environment is not reflected in transport costs, considerably contributes to the sprawl of Hungarian towns and villages, and to the spread of a travel-intensive way of life.

Numerous instruments can be used in order to prevent excessive land use practices. These may range from administrative regulation and economic incentives to the harmonization of sectoral policies and the coordination of the local, regional and national settlement development plans.

The promotion of excessive land use is to be qualified as an EHS. Its extent may be estimated by using various methodologies. One such method may be to calculate (in hectares) how much area is taken away by these land occupations. Their value in towns and cities – where green areas are scarce as a rule – may be expressed numerically by using the value of city parks. The issue of land areas taken away from agriculture represents a more complicated case: although the gold crown value of the arable land can be calculated, but the result is hardly tenable economically considering the oversupply, and the lack of markets, of agricultural products. The micro-climate improving and global climate change moderating impact of forests, however, suggests that the land prices converted by using the forest-value may correctly express the value of the EHS.

Environmental evaluation has several sophisticated methods which may be used for the quantification of the value of a landscape, a habitat or a land area. In this manner we can express how much depreciation is brought about by the biological degradation of the land areas taken away from nature or from agriculture. However, relevant calculations are currently only available in certain specific cases,[8] and during the present research work we only had opportunity for giving an idea of the problem and for outlining the possible methods of solution.

[8] See for example the study of the Department of Environmental Economics of the Budapest University of Economic Sciences and Public Administration on the depreciation of the Szigetköz region as a consequence of the barrage construction on the Danube; and various publications by Mrs. Szerényi, Zsuzsa Marjai.

On the other hand, it is difficult to define the concept of „*excessive*". Perhaps specific indicators would be the most suited for that purpose (the proportion of individual and public transport within the traffic of a given town or village, the portion of active green areas, the per capita ratio of flats, offices and commercial facilities, the portion of covered areas, etc.). Similarly, informative values could be established to measure the density of inhabitants, the investment and operational costs of the infrastructure, and the efficiency. If the new developments deteriorate these efficiency indicators, the costs should be charged to them. At present, hidden subsidization of the moves to outer areas of settlements may be as much as four times more than the infrastructure construction costs to be borne by those moving out – which are paid partly by the local and the central budgets, and partly by the older users of the infrastructure, through cross-financing.

IV Summing Up

1 Conclusions

1.1 Sectoral Subsidies

Among the different branches of the Hungarian economy, by far the largest amount of environmentally harmful subsidies is granted to *transport:* approximately HUF 3300 billion in 2004. This position in the ranking is not only due to the fact that we have been working for nearly fifteen years on the quantification of the environmental damage caused by transport, and during that time we have elaborated the manifold methodology enabling such quantification, whereas in the case of other sectors, usually we can only indicate that EHS exist, and we are just in the initial stages of the quantification work. The actual reasons for the above fact are that motorization is dynamically expanding, and up until now, advanced tertiary economies have not managed to reduce their GDP's specific transport-intensity (although in Hungary the change of regime brought about a temporary decline); that transport is one of the largest energy users, and that transport is the only sector which was not able to stabilize its CO_2 emission. Out of this huge amount, uncovered environmental damage represents approximately HUF 1200 billion, and more than HUF 800 billion are made up by the preferential use of motorcars.

In advanced tertiary economies (especially in the EU), *agriculture* is the most intensely subsidized sector as far as direct state subsidies are concerned. Within Hungary, out of the aggregate amount of agricultural subsidies granted in 2004 (HUF 218 billion), we could identify HUF 108 billion as EHS, by following the principle that these subsidies do not serve the development of a multifunctional agriculture with lower environmental load level. In addition, uncovered environmental damage worth around HUF 250 billion is brought about every year in the Hungarian agriculture.

In the field of *hydrocarbon production*, MOL Rt.'s profit increases by approximately HUF 100 billion annually owing to the non-levied mining taxes (environmentally harmful subsidization). Within the energy sector, electricity generation has the largest share of non-internalized environmental damage (HUF 100–150 billion annually).

In the other reviewed sectors, the most we could do was to express numerically one specific case of EHS in each sector; our analysis was limited to presenting the existence and the causes of EHS, as well as the possibility of their removal.

1.2 Forms of Appearance of the Subsidies

(a) Direct and indirect subsidies[9]

In the wake of the change of regime, the scope and extent of *direct* subsidies have significantly shrunk in the Hungarian economy. The subsidies granted from state finances to the production sectors have become almost entirely eliminated – partly owing to the internal disequilibrium, and partly for ideological reasons. Regarding the gradual abandonment of consumer price subsidies – which was based on the same reasons as above – the schedule of implementation was elaborated by the IMF. Practically the only consumer price subsidies which remained effective in Hungary are the public transport and the railway subsidies – and these are environmentally beneficial. (Subsidization of the agriculture is another story, as we have already mentioned above.)

However, an increased number of EHS appear in the form of *indirect* subsidies. Some key examples:

[9] Naturally, this term here means the subsidization of private activities and private consumption.

- inadequate regulation applicable to the use and manufacturing of hazardous chemicals,
- preferential loans for building and construction are not tied to energy rationalization and environmental protection prerequisites,
- favoured use of motorcars,
- preferences granted to car manufacturing companies (corporate tax allowance, government guarantee for foreign credits, inexpensive real properties, operation in customs-free zones, permission to choose at discretion the applicable method of book-keeping and foreign exchange accounting, etc.),
- low transit charges imposed on road carriers,
- tax allowances of air transport,
- reclaiming 25 per cent VAT on the packaging materials of foodstuffs.

(b) Utilization of natural resources under value

Within this category, the undervaluation of *land (arable land) and land property* is the most frequently occurring case. Land is used under value by mining (the recultivation funds do not even cover the costs of landscape rehabilitation), industry (green-field investments), building industry ("residential parks" and huge shopping centres occupy particularly large land areas) and by transport (land needed for motorways and parking). The market value of arable lands depends on the market conditions – which, today, are determined by buyers owing to the oversupply of agricultural products – and so the use of land for non-agricultural purposes may often be many times more profitable. Nevertheless, if we accept as a base of comparison the time needed for the biological-mineral development of arable soils, then our situation is instantly recognizable: we use up arable land at a many times quicker pace than its rate of development. The so-called "gold crown value", which has been used and even today is still being used as a standard for measuring the value of land, is not a satisfactory base of comparison any more. Among other factors, it fails to take into consideration the biological diversity of the land areas and their climate-influencing impact.

As far as the use of Hungary's *water stock* is concerned, it cannot be clearly stated that the rate of the water intake is quicker than the speed of reproduction of water stocks. In international comparison, however, the Hungarian water stock utilization fees are rather low, which involves the risk that water-intensive manufacturing industries move in and settle in Hungary. Besides that, the differentiation of the water utilization fee by water users is not sufficient either. As a consequence, the regulation does not provide adequate stimulation for the sparing use of water, and this may jeopardize the long-term reproduction of ground waters and karstic waters. (The actuality of the problem is indicated by the fact that the used water quantity has started to increase once again in recent years, and that among the foreign companies which moved into Hungary, enterprises operating in water-intensive industries have begun to appear.)

In the course of mining Hungary's *petroleum and natural gas reserves*, the requirement of sustainability would demand that these resources are only exploited at such rate as we can replace the extracted quantity by other means (renewable energy sources, energy efficiency enhancement). In reality, of course, this is far from being so, and today it would still be unrealistic to stipulate such a precondition. It is a realistic expectation, however, to have adequate rates of mining tax paid. Among current Hungarian circumstances, this should be the difference between the domestic production price and the import price, for consumer prices are formed on the basis of relevant world market prices. And yet, only 12 per cent of the justified mining tax is drawn away by the state, and 88 per cent of it remains with MOL.

In the case of *construction materials of mineral origin*, too, mining taxes are of a low rate (or the regulation is loose), and these cause a number of anomalies: landscape aesthetical damage (detruncation of mountains), other environmental harms, considerable volumes of sand and pebble export (into Austria, Slovenia and Germany), as well as the low reutilization rate of demolition materials, and, as a consequence, dumping problems and land occupation.

(c) Non-internalized environmental damage

Such calculations have been prepared in the most sophisticated and detailed manner for *the transport* sector (both in Hungary and in other countries), obviously because transport causes the most environmental damage. As we have already mentioned, the order of the environmental and health damage caused by transport in Hungary may be estimated at HUF 1100 billion.[10] These calculations (both in Hungary and in other countries) are highly relative; the impact which contributes to climate change is only included as an indication within the calculations (they reckon with relatively small amounts compared to the degree of damage that this process is likely to cause). The transport sector's land occupation is also significant.

The *energy sector*, too, has a very large environmental load effect: environmental damage is caused during the mining, manufacturing (processing) and use of the energy sources. Electricity generation brings about environmental damage worth some HUF 100–150 billion annually. Since transport is one of the largest energy users (besides households and industry), the environmental damage ensuing from the energy use of transport is already known. (The calculation of the damage emerging in the other two areas of energy use is still in the initial stages in Hungary.)

In terms of causing damage to the environment, *chemical industry* probably belongs to the front-rank. For instance, new chemicals come out at such a rate that the investigations aiming at exploring their impact upon human health are unable to keep the pace (and then we have not yet mentioned their perfectly unknown, but surely not insignificant, joint synergic effects). Environmental damage caused by chemicals appears in the agriculture (agrochemicals), in the food industry (colorants, flavouring agents, substance improving additives), in building and construction (paints, covering and insulating materials), as well as in car manufacturing (if things go on like this, plastics will have a larger weight in cars than metals) and in furniture-making.

Agriculture causes environmental damage primarily through air pollution, reduction of biodiversity and soil pollution. To estimate this damage, we have used a calculation prepared in England as a starting base, and we have come to the conclusion that the annual environmental damage caused by the Hungarian agriculture is worth at least HUF 250 billion.

Land occupation by the *building and construction industry* is exaggerated to the extent as greenfield investments are implemented instead of utilizing brown fields; residential parks are built in green areas, and the new constructions lack compactness. To the degree that activities shift from labour-intensive renovations to material- and energy-intensive new constructions, they are also environmentally harmful. (Naturally, we only give indication of this type of environmental load.)

(d) Infrastructural developments of harmful orientation and extent

We regard the entire value of *motorway constructions* as EHS, since Hungary has a fully developed public road network providing access to all areas of the country, and environment-friendly transport modes (railway, combined transportation) do exist. It has proved to be a delusion that the development of the high-speed road network contributes to reducing the backwardness of the affected regions, and that – as a multiplying effect – it promotes economic development. Consequently, if this argument is the basis of reference for such investments, then motorways may not be considered as public goods, and so it is not justified that public funds are spent on such constructions. It would be much more reasonable to properly maintain and to modernize the existing road network.

It was a justified move to qualify *sewage treatment and purification* as a top priority environmen-

[10] Usually we speak about uncovered environmental damage, but this is only appropriate if this amount is understood within the „net social debt" of the road transport sector, i.e. if we deduct the state finance revenues collected from road transport from the aggregate sum of all environmental damage, state expenditures and lost revenues.

tal tasks in the First National Environmental Protection Programme, and then during the preparation for the EU accession, because in this respect Hungary was underdeveloped even within the Central and Eastern European region, and this unsolved problem seriously polluted the country's soil, as well as its underground and surface waters. During the implementation of the programme, however, the costs have escalated, exceeding the national economic optimum, and have gradually become adjusted to the needs of the pressure groups interested in the development – while the environmental economic efficiency has steadily deteriorated. It would be difficult to quantify this exaggeration (we can only state that a part of the 15-year development programme, representing a value of HUF 770–800 billion at 1997 prices, belongs to this category).

Similarly, constructing the network of *regional waste dumping sites* in Hungary also seems to be an oversized environmental protection infrastructural investment, and therefore a part of it belongs to the category of EHS. It is justified and reasonable to eliminate the formerly operated great number (around 3000) of usually small-sized waste dumping sites. These did not comply with the pertinent specifications, caused considerable pollution and were unacceptable aesthetically; however, the regional waste dumping sites (numbering about 100) will have so large a transportation need which may exceed the advantages ensuing from the high standard construction of these facilities. The situation is further complicated because Hungary wishes to build the dumping sites by using EU support, and the development of this concentrated regional network is the precondition of the access to EU funds.

1.3 Subsidization Mechanisms

(a) Economic policy and development policy

Environmentally harmful subsidies, ultimately, depend on, and are the consequences of, the views professed and the decisions taken at the level of the economic policy and the national economic development policy. From the aspect of our research work's subject, the key elements are as follows:

- The importance of infrastructural development is unquestionable. The problem is that within this field the Hungarian Government attaches exaggerated importance to road infrastructure, and even within that to motorway constructions, and neglects environment-friendly alternatives, as well as the maintenance and modernization of the existing road network. Successive Hungarian governments have been treating and presenting motorway construction as an issue of political importance – wrongly.
- Motorway constructions are also underpinned by the idea that this is the only way to ensure that backward regions catch up with the more developed ones, and that employment problems are solved in Hungary's peripheral regions – but this is a misconception.
- The Hungarian economic policy considers and treats motorization almost as a civilization fetish. Accordingly, it intends to give motorization a key role in the manufacturing industry and in the advancement of Hungary's technical development – and so it is willing to grant any preferences to foreign car manufacturers. However, it would be possible to realize more technical development for example in the fields of information technology, energy efficiency enhancement or recycling.
- As regards agriculture, the Hungarian economic policy once again professes ultraconservative views. It is still under the magic spell of highly mechanized and chemicalized large-scale farming, and does not even recognize that – without any environmental considerations – simply the utilization of the EU subsidies would require that the multifunctional and environment-friendly farming methods are promoted.
- Within the energy policy, the prices are already adequately high, but the preconditions of energy saving and rationalization are not yet satisfactory. The resulting extra profits

should be drawn away by the state, and should be spent on financing the energy rationalization programmes.

- Concerning developments, the Hungarian industrial policy should place the emphasis on the state-of-the-art IT, electronic and energy/resource saving sectors. Instead of that, it favours car manufacturing.
- It can be said that as a rule, the Hungarian economic policy is a slave to the consumer society and to a hedonistic view of life. In order to serve these, it sacrifices biological diversity and the possibilities of future generations. For such an approach, natural habitats, green areas and landscape variety do not represent any actual value; they are only the localities of production and housing. The satisfaction of today's consumption needs is considered to be more important than citizens' health and future.
- Global environmental problems are only included in the Hungarian economic policy-making as international obligations to be ticked off formally, but they do not play a significant role in the long-term concepts.

These principles and views are reflected in the income and taxation policy and the regulations generating the current extensive system and huge proportions of EHS in the Hungarian economy.

(b) Income, taxation and price policy[11]

- Cost accounting of motorcar use and the private use of company cars are widely used methods of providing non-taxable fringe benefits to employees. This arrangement results in an incredibly large amount of EHS, exceeding HUF 800 billion.
- Motorway constructions are exempt from the payment of VAT.
- Road charges do not even cover maintenance costs (not to mention the costs of road constructions).
- The annual transit traffic of over 1 million heavy trucks roaring through Hungary causes damage to the country's environment and road network in the value of more than HUF 200 billion, whereas the revenues collected from road charges only amount to a few billions of HUF.
- Natural gas prices are still too low as compared to import prices.
- Household prices of the natural gas cross-finance the use of natural gas in sparsely built-up rural towns and villages, which makes the use of renewable energy sources (e.g. biomass) uneconomical.
- Food manufacturers reclaim 25 per cent VAT on the packaging materials used, while foodstuffs are subject to payment of a 15 per cent VAT rate.
- The costs of live labour are excessively high in Hungary, even in international comparison. This hinders the development of environment-friendly structures of low specific energy- and material-intensity.
- Whereas in most countries of Western and Northern Europe, ecological tax reforms have been launched in recent years, in Hungary this solution has not even been placed on the agenda.
- Utilization costs of the natural resources are low (mining tax, land use fee, water stock utilization fee); consequently these are overused.
- The starting base for the determination of motor vehicle storage (parking) fees is still not the scarcity of urban areas, but rather the parking needs of car users.

(c) Insufficiencies of the regulatory system

In the previous section we listed some examples to illustrate how the Hungarian income, price and taxation policy grants revenues to polluters, or reduces their expenditures; in this part of our study we will discuss the ways of attaining the same through missing or insufficient regulations.

[11] We only list the most significant cases.

- The autonomy of local governments enjoys stronger rights than the entities representing regional or national interests; to make matters worse, the elaboration of the national and regional territorial planning schemes and settlement development plans is only making very slow progress. As a result, parochial local interests dominate the land use practice.
- In order to solve the environmental problems appearing in the building and construction sector, it would be necessary to operate a single building control function instead of the authority of several different ministries. Building permission procedures are too lenient, and controls are inadequate.
- The production and export of building materials are excessively liberalized.
- The risks posed by chemicals are hardly investigated at all; therefore, the pertinent regulations are unacceptably lax. Even the advanced countries have just recently started to elaborate in detail various systems and registers to ensure that these materials are registered, their use is monitored and their health impacts are investigated. It was only in 2003 that the European Union has completed the draft version of its new regulatory system by the name of *REACH (Registration, Evaluation and Authorisation of Chemicals)*. After the consideration of incoming comments, the draft regulation should be approved by 2005 at the latest, so that by 2012 all chemicals can be investigated. REACH is aiming at ensuring that chemicals are controlled from a healthcare and environmental protection aspect before being allowed to enter commercial distribution. Under the new system, the manufacturers – rather than the authorities – will be responsible for guaranteeing the safety of chemicals.
- The Hungarian regulations applicable to demolition materials are extremely lax. According to the specifications of the National Waste Management Plan, until 2008, at most 50 per cent of these materials are allowed to be dumped as waste. The Hungarian mining and building sectors have to make preparations to meet this requirement. And in the Third National Environmental Protection Programme, Hungary should reach the German level of processing. Germany and Austria stipulate high quotas for the reuse of demolition materials. Hungary should follow this example.
- The scope of the Hungarian environmental product charge system is inadequate. Various other waste materials should also be made subject to these charges (e.g. precisely the building scraps and demolition materials).
- Subsidies are not tied to lifecycle and/or strategic impact assessments and environmental protection prerequisites – although without these no subsidization systems should be allowed to operate.

As a general conclusion it can be said that each occasion when the caused environmental damage is not internalized (i.e. the relevant regulation is inadequate or does not exist) is a case of environmentally harmful subsidization.

2 Recommendations

Finally, we formulate a few comprehensive recommendations. (Actually, each discussed insufficiency or anomaly would necessitate a detailed proposal for the solution.)

(a) It is necessary to identify and show as precisely as possible the environmentally harmful subsidies (EHS) – including the non-internalized environmental damage –, and to raise awareness of these even at government /economic policy level.

(b) It should be ensured through wide-ranging educational work that such information and knowledge become accessible to, and understood by, the general public.

(c) Direct and indirect EHS should be withdrawn. This would bring huge revenues for state finances, and would trim down social overhead costs (through cutting back health and environmental damage).

(d) Natural resources should be made available for use at value in order to preserve their regenerating capacity.

(e) Infrastructural developments of harmful orientation and extent should be abandoned.
(f) The Hungarian subsidization policy should focus on environmentally friendly alternatives.
(g) In numerous areas, erroneous or insufficient regulation provides financial advantages to environmentally damaging activities (e.g. land use, chemical industry). These inadequacies of the regulatory system should be eliminated.
(h) Environment-friendly alternatives should be subsidized from the extra state revenues resulting from the withdrawal of EHS.
(i) An economic restructuring strategy should be urgently elaborated in order to inform foreign capital investors intending to move into Hungary about our intention to promote and encourage the settlement of environment-friendly and natural resource-saving activities in the country – instead of highly raw material-, transport- and energy-intensive enterprises operating with a low rate of added value.
(j) The criteria of environmental protection should be enforced within the competition systems of the Hungarian Ministry of Economy and Transport, as well as of other ministries and Funds.

List of Studies Prepared in the Course of the Present Research Work

1 *Environmental Economic Evaluation of Subsidies* (Károly Kiss)

2 *Environmental Protection and Subsidization Policy in the European Union* (Károly Kiss)

3 *Environmentally Harmful Subsidies in Mining* (Zoltán Szabó – Lázár Pavics)

4 *Assessment of Environmentally Damaging Subsidies in Water Management* (Gábor Ungvári)

5 *Environmentally Harmful Subsidies in the Energy Sector* (Lázár Pavics – András Lukács)

6 *Energy Subsidies in the European Union* (András Lukács – Anita Tanyi)

7 *Environmentally Harmful Subsidies – Chemical Industry* (Erzsébet Beliczay)

8 *Building and Construction Sector* (Erzsébet Beliczay)

9 *Environmentally Harmful Subsidies in the Agriculture* (Norbert Kohlheb – László Podmaniczky – József Ángyán)

10 *External Costs in the Agriculture* (János Pál)

11 *Environmentally Harmful Subsidies: Foodstuffs* (Erzsébet Beliczay)

12 *Transport Subsidies* (Lázár Pavics – András Lukács)

13 *External Costs of Transport in Two Regions of Europe* (Anita Tanyi)

14 *The 2004 Competition System of the Hungarian Ministry of Economy and Transport* (Zsuzsanna Győri)

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ENVIRONMENTALLY HARMFUL SUBSIDIES IN THE HUNGARIAN ECONOMY

Governments are keen on reducing state budget deficits, however generally they have not yet ventured to contemplate the benefits of removing subsidies which finance activities seriously damaging the health of people and polluting the environment. Such a measure would also enhance considerably the efficiency of the economy. The aim of the present study is to stimulate the process of eliminating environmentally harmful subsidies in Hungary.

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