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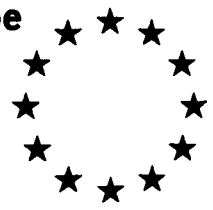

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REPORT

ON

FINANCIAL INSTRUMENTS TO PROMOTE SUSTAINABLE DEVELOPMENT

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I Introduction

The economic analysis of environmental policy shows that in a number of cases financial instruments[1] would be more effective than the common regulative instruments of rules and prohibitions.

Although there have been numerous surveys, case studies and economic and ecological analyses on the use of financial instruments at the national level[2], there is, until now, virtually no information about their usage at the local level.

Survey for CLRAE

For this reason, the Working Group on Sustainable Development of the Congress of Local and Regional Authorities in Europe (CLRAE) decided to carry out a survey on the implementation of financial instruments by regional and local authorities throughout Europe. The design of a questionnaire and the evaluation of the results was undertaken by the International Council of Local Environmental Initiatives (ICLEI). This survey is the result of the working process.

Structure of the text

First the notion, the principles and the advantages of financial instruments are described (*chapter II*). Then there is a discussion of the implementation of the instruments at the local and regional level (*chapter III*). The following *chapter IV* discusses the results of the survey. The aim is to give a glance of the different conditions under which authorities in Europe are working - and the effects on implementing financial instruments. *Chapter V* tries to draw some conclusions for the future work on financial instruments and the need to gather more information about the implementation in Europe. *Chapter VI* summarises the results, *chapter VII* gives a glossary of terms used and *chapter VIII* presents the literature references.

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[1] In this report the expression "financial instrument" is used, because it is thought to describe the character of the instruments best. While "market-based instruments" and "economic instruments" seem to be too wide categories, comprising eg eco-labelling of products, "environmental taxes" on the other hand describe only a small part of the existing financial instruments. For local and regional authorities these are not even the most important ones (cf.Chapter IV). For definition of financial instruments see Chapter III.

[2] cf. OECD 1995, NORDIC COUNCIL OF MINISTERS 1996, WUPPERTAL-BULLETIN 1992-1996

II Financial instruments for the environment

Common environmental policy often consists of rules and prohibitions. While strict prohibitions are justified in cases where a specific threat to the environment (or to the health of citizens, the security of neighbours, etc.) is to be avoided immediately, rules are often designed to achieve the best available solution for the environment.

Lack of flexibility of regulatory instruments

The common problem is that rules can only describe a limited number of cases. They often lack of flexibility and therefore discriminate against the unusual case. This often strikes small and medium sized businesses as well as it undermines the acceptance of environmental policy. The other problem is that rules can only describe already achieved standards. For this reason they do not give incentives to implement technologies and solutions protecting the environment beyond the legislative standard.

Advantages for small and medium sized enterprises

Financial instruments do not regulate how a process or action has to be handled, but they try to give incentives through price signals. Environmentally friendly behaviour is encouraged, pollution is penalised by higher costs. In the words of the NORDIC COUNCIL OF MINISTERS: "Economic (Financial, CE) instruments have several appealing properties, and if properly designed, they may promote economic efficiency by:

Cost effectiveness

* allowing market agents themselves to decide upon the best way to reduce pollution, as only market agents themselves have full information regarding their own cost functions (cost effectiveness)

Dynamic efficiency

* providing permanent incentives for technological improvements. While direct regulations usually provide little incentives for reducing pollution below the regulatory limits, economic (financial, CE) instruments may entail continuous incentives for emission abatement (dynamic efficiency)

Administrative efficiency

* reducing the size of bureaucracy required for regulatory approaches and minimising compliance costs (administrative effectiveness (cf. NORDIC, COUNCIL OF MINISTERS 1996, P.21)

The Organisation for Economic Cooperation and Development (OECD) promotes the use of financial instruments at the national level. A survey identifies the importance of eco-taxes in different countries. The following picture gives an overview on fuel taxation as a percentage of the end-user price for automotive fuels (OECD 1996, p. 48):

Total taxes as per cent of end-user price for automotive fuels

	1990		1991		1992		1993		1994	
	Gasoline[a] households	Diesel industrial	Gasoline[a] households	Diesel industrial	Gasoline[a] households	Diesel industrial	Gasoline[a] households	Diesel industrial	Gasoline[a] households	Diesel industrial
Australia	44.9	52.7	46.8	48.8	46.2	47.7	49.1	50.3	n.a.	n.a.
Austria[a]	54.1	45.5	55.7	46.5	60.7	48.8	60.8	48.2	63.9	49.1
Belgium	65.5	46.8	66.6	46.3	70.0	54.0	71.8	54.9	74.2	57.3
Canada[a,b]	42.4	34.5	42.2	34.7	46.2	39.0	48.7	40.5	50.0	41.6
Denmark	69.1	0.0	67.8	20.9	67.2	39.7	64.6	40.2	68.0	41.5
Finland	55.2	50.2	61.2	51.7	68.0	53.7	71.8	54.9	n.a.	62.3
France	74.3	53.8	75.2	54.2	77.2	57.8	78.6	59.9	80.8	65.1
Germany	63.1	50.8	67.6	51.8	72.4	58.0	73.5	59.0	76.9	62.5
Greece	63.8	26.7	67.6	42.2	69.1	57.9	74.8	58.5	75.1	62.6
Iceland	67.7	19.7	67.1	19.7	69.6	19.7	65.4	19.7	n.a.	n.a.
Ireland	67.1	51.4	66.2	49.8	66.6	51.5	65.6	41.8	67.3	44.2
Italy	74.9	59.9	75.9	64.6	75.8	66.3	74.6	64.0	76.1	65.1
Japan[a]	45.6	35.1	46.3	36.0	47.6	35.5	48.2	37.1	n.a.	n.a.
Luxembourg	54.2	32.6	54.9	32.0	62.0	45.7	66.0	51.9	68.7	56.3
Mexico	n.a.	n.a.	12.5	0	9.1	0	9.1	0	9.1	0
Netherlands	64.5	43.3	68.1	45.9	72.4	49.6	72.5	54.2	75.9	59.7
New Zealand	45.7	29.7	45.4	11.8	46.6	11.8	46.5	11.8	48.0	11.9
Norway	62.9	15.1	68.1	24.3	71.4	22.6	72.1	31.0	67.3	46.0
Portugal	67.8	52.3	72.2	56.3	75.4	62.6	73.2	59.2	73.5	59.4
Spain	63.0	48.8	65.4	51.1	69.8	57.4	68.2	54.6	68.6	56.9
Sweden[c]	65.5	27.2	67.7	30.3	69.2	32.3	74.7	31.7	76.5	48.3
Switzerland	59.2	59.1[a]	59.5	58.6	62.5	61.7	68.8	67.8	71.3	68.9
Turkey	52.9	50.3	59.6	53.5	63.7	56.0	64.5	57	66.2	58.6
United Kingdom	61.9	52.8	66.0	56.5	69.5	59.2	70.6	59.2	73.5	63.6
United States[a]	26.7	27.9	32.9	34.1	33.9	35.6	30.7	35.6	34.4	39.6

At regional and local level, financial instruments set incentives for environmental behaviour, where before there had been no reason to behave in an environmentally friendly manner other than to substitute or assist existing regulatory schemes. This is due to the fact that local and regional authorities are much closer to the citizens and are able to meet needs and set incentives relevant to every day life. The next chapter describes the main existing instruments and gives examples how they are implemented in different European countries.

III Financial instruments at local and regional level

This chapter introduces some principal forms of financial instruments for the environment and describes their (possible) implementation at local or regional level.

III.1 The objective

In this report the following definition for financial instruments is followed:

Definition for financial instruments

Financial instruments for the environment

* influence the price to be paid for a certain action or process
* in a way that environmentally friendly behaviour becomes relatively cheaper than the environmentally unfriendly choice.

The focus of this report are financial instruments at the local and regional level. The question is what defines the local or regional character:

Geographical character of the instrument

- the instrument can be implemented by the authorities,
- the instrument can be implemented nationally but differentiated by the authority and
- the revenues can contribute to the authority's budget.

Though these questions are of a decisive importance for the authorities, it is often impossible in this survey to differentiate between these characteristics. This is due to a lack of information provided through the answers to the questionnaire and other publications. Differentiating these questions for all the different countries would exceed the range of this survey.

III.2 Incentive price structures and tax differentiation

The most common instrument is when an authority sets the prices for services like solid waste collection/disposal, energy- or water supply. The question, how these prices are structured can have a major influence on the behaviour of the citizens and business. Nowadays, prices often do not dependent on for example, the amount of waste disposed of, but are fixed for a time period.

Incentive for each household

When charges are dependent on the quantity of the delivered product or service there can be an incentive to avoid pollution. Some cities for example have introduced a system to the waste collection services, which allows the actual amount of waste in the container to be measured each time it is collected. A computer chip measures the weight and sums the total waste disposed of during the month. For each month, a special invoice is created and the household has to pay for exactly the amount of waste produced.

Need for linear tariffs

But when services are charged it is also important whether big polluters are treated equally or get a special service. If cheap electricity prices are only available when a certain amount of electricity is demanded, the incentive is to use more electricity.

Incentive price structures favour sound environmental choices and cover the full cost of service supply. Tax differentiation provides tax releases for environmentally friendly choices.

III.3 Permits and other fees

Pollution sometimes cannot be prevented but it can be made unattractive by permits and fees to reflect it's impact on nature. The revenues can fund environmental programmes.

Fee for entering protected land

When permission is necessary for setting up an industrial plant, the administrative costs could be covered by the authority or could be charged to the pollutant. Moreover, there can be special fees e.g. for entering protected landscapes.

Permits and fees generate funds for local environmental programmes and discourage environmentally undesirable choices.

III.4 Special taxes and surcharges

In addition to the charges and fees for administrative services or permissions, special taxes and surcharges on environmentally costly practices, services and developments can improve the environmental situation.

Protecting the atmosphere

In Estonia and Bulgaria, for example, there are taxes for air pollutants (though not local), which must be paid when a certain quantity of emissions is exceeded. For this reason, the businesses could think of investing in better technology or reorganising the production process so as to avoid emissions.

Limits of local taxes

Local and regional authorities are not allowed to raise taxes to any extent they want. In Germany, for example, regional taxes are not allowed at all, but only surcharges are allowed. At local level, the right to raise taxes is restricted to fields where no national tax exists and where the taxed action or process is strictly limited to the local level (e.g. tax on alcohol consumption in local public houses).

III.5 Incentives, bonuses, subsidies and tax reliefs

Citizens are often motivated to make an environmentally friendly investment, but are unable (or unwilling) to afford the costs on their own. In this case, incentives, bonuses, equipment subsidies and tax reliefs can help.

Subsidising clean technology

Energy-saving light bulbs for example, are very expensive compared to ordinary light bulbs. If there is a subsidy on them, the choice of the environmentally friendly product is more accessible. Programmes like this can be funded through the instruments described in chapters III.2 to III.4.

These instruments are rewards for environmentally-friendly behaviour.

III.6 Counterproductive subsidies

Contrary to the positive subsidies mentioned above, there often are counterproductive subsidies. This means that services for environmentally-unfriendly behaviour are subsidised or not charged their full costs.

A common example is the subsidising of car parking. Big supermarkets often do not charge car-borne customers for the ground they use while parking. This is subsidised through the overall turnover of the supermarket. But even where parking is charged, as in inner cities, these costs often do not cover the full capital costs for an inner city piece of land or for a multi-storey car park.

Counterproductive subsidies degrade natural resources

When environmentally and/or economically expensive practices are not charged or are supported by public funding, the eco-system suffers.

IV Results of the survey

To gather information about the use of financial instruments in different European countries a questionnaire was designed by ICLEI and reviewed by the members of the Working Group on Environmental Protection and Sustainable Development of the CLRAE.[3] It was translated into French and German and mailed to municipal organisations, regional authorities and some ICLEI-experts in the different member States of the Council of Europe.

The questionnaire was sent out in October 1996 and replies were received between November 1996 and March 1997[4].

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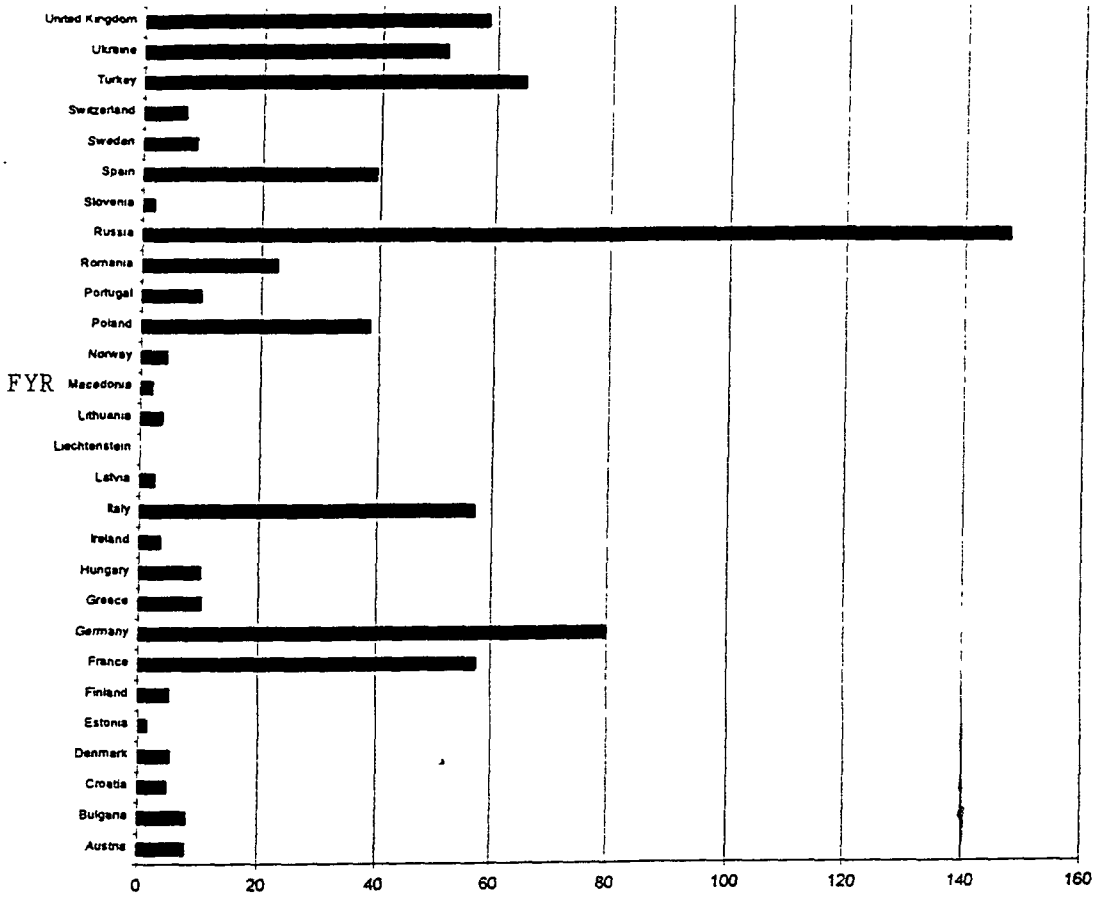
[3] Amendments were made by Messrs Jo Leinen, Germany, and John Harman, United Kingdom.

[4] Because of time and funding restrictions only the first three answers from each country could be considered in this survey

The following diagram shows, which countries responded to the questionnaire:

Countries responding to questionnaire represented by their current population

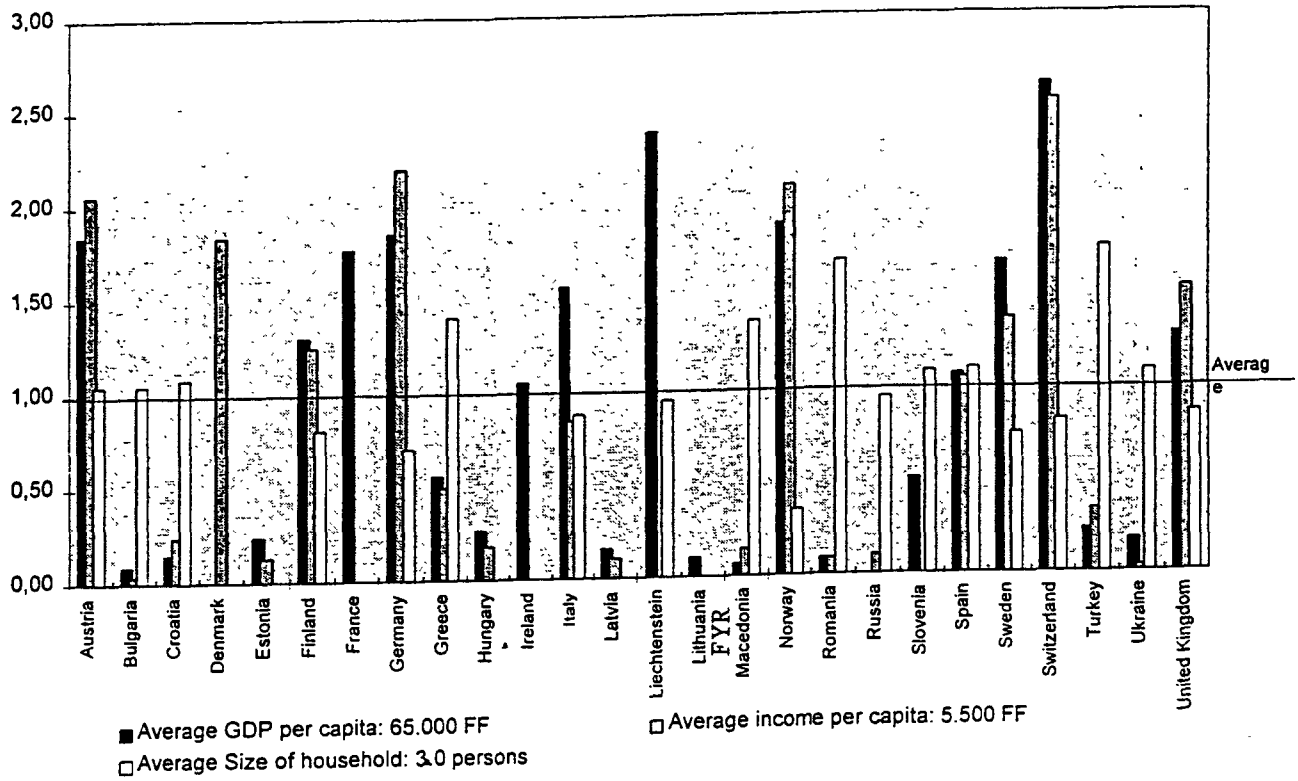


Twenty eight countries responded to the questionnaire with a total population of 715,000,000. More than one answer was received from the following countries:- Turkey (3), Bulgaria (2), Sweden (2), Estonia (3), Switzerland (7), the United Kingdom (7), Romania (4), Denmark (4), Finland (5), Austria (8), Italy (3), Russia (2), Portugal (2), Germany (3) and Spain (3). Several important countries, including the Netherlands, did not respond[5].

[5] It has to be stated that the reliability of the results is uncertain and should be regarded with some caution

IV.1 Different social conditions for the authorities

GDP (1993) and income per capita, size of households in comparison with the average (=1)[6]



The questionnaire included a section for general data about the country. This section was mainly included to facilitate a comparison of results later in the questionnaire. But the results also provide an insight into the different conditions faced by authorities in the member States of the Council of Europe.

IV.2 Different legislative conditions for the authorities

Legislative conditions for authorities throughout Europe differ. The questionnaire could not take account of the different circumstances in every country and therefore makes little contribution to answering the question what authorities are entitled to do and what they are prohibited from doing by national law.

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[6] GDP-Data from FISCHER 1996, other data from experts answering the questionnaire. The results indicated do not necessarily reflect the current situation in every detail. In particular some values may be wrongly calculated because they refer to a different base year than the exchange rate used. The average values are unweighted.

Local taxes/surcharges allowed, except Sweden and Norway

Nevertheless the questionnaire asked whether, in principle, authorities are allowed to raise taxes and/or surcharges. The answers show that, in most countries, *local* authorities have the right to do so (or at least the experts think they could do so).[7] Only in Norway and Sweden are the local authorities restricted by principle of covering real costs. (Portugal did not answer the question).

Regional taxes/surcharges often prohibited

There is a different picture at the regional level. In ten countries (Denmark, Italy, Liechtenstein, Russia, Spain, Bulgaria, Romania, Switzerland, Croatia and the Ukraine) experts expected that regional authorities would be allowed to raise taxes/surcharges, while the other countries' representatives thought this to be impossible (France, Portugal, Slovenia, Greece and Lithuania did not answer this question). It is interesting to note that the possibility to raise regional taxes is not dependent on the size of the country or the size of the regions.

IV.3 Energy prices and support of renewables

The price for electric energy and gas supply is very important for the motivation of citizens and industry to avoid wastage. These prices are often set by the local or regional energy suppliers and to some extent are under control of the authority.

The questionnaire for this reason intended to assess the prices paid in the different countries.[8] The following graph compares national prices to the unweighted average (gas about 0,5 FF/m3, electricity about 0,3 FF/kwh). Denmark, Germany and the Former Yugoslav Republic of Macedonia have much higher gas prices, whilst the United Kingdom, Finland, Bulgaria, Russia, France and Romania (only private households) are relatively cheap. Liechtenstein, Sweden and Switzerland have relatively high electricity prices for private households, whilst the consumers in Russia, Romania, Bulgaria and Hungary pay less than a third of the average price.

It can also be seen that prices for private households and for businesses sometimes differ significantly. Moreover it must be assumed that, where no difference is given, prices for big industries were not known or were not available to the public. It is interesting to note that in the United Kingdom gas is very cheap while electricity charges are about double the average.

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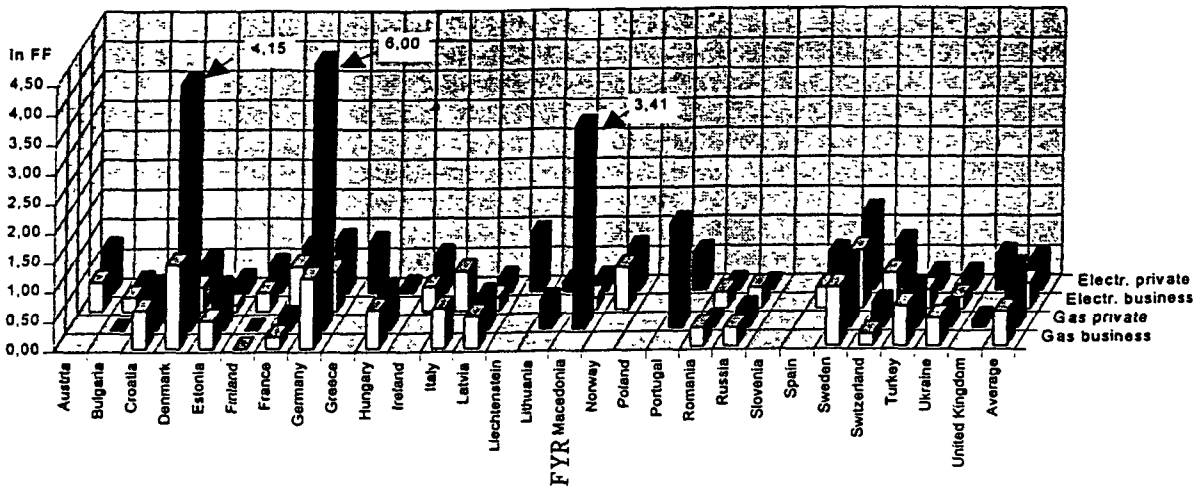
[7] It is interesting in this case, that both Swedish experts thought there was the right to raise taxes/surcharges for local and regional authorities but one corrected his answer later and stated, that this was not possible.

[8] Some answers gave a span of possible prices, differing in terms of day or night tariffs and total consumption of the buyer. It would have been interesting to assess the criteria for price differentiation in each country.

Gas and electricity prices in Europe



There are significant differences in energy prices within the countries. For example, gas prices in Palma de Mallorca are about twice those in the rest of Spain. Greek data was submitted from an island region and electricity prices there are higher than the European average.

On the other hand, prices in Switzerland - though relatively high - are quite similar in all the seven responses. Tariff differentiation plays a much higher role here.

An interesting example is the Danish region of Vejle, where a local energy tax raises energy costs to about double those in the rest of Denmark (and Europe). Another two responses (Romania and Switzerland) indicated that there are taxes or surcharges on energy at local or regional level.[9]

While the price per energy unit calculated in convertible currency (here FF) is to some extent determined by the energy prices on the world market, decisions of the citizens are directed by the relative cost for the business or household (opportunity costs). For this reason in the following graph there is a calculation of the percentage of income used for energy consumption:

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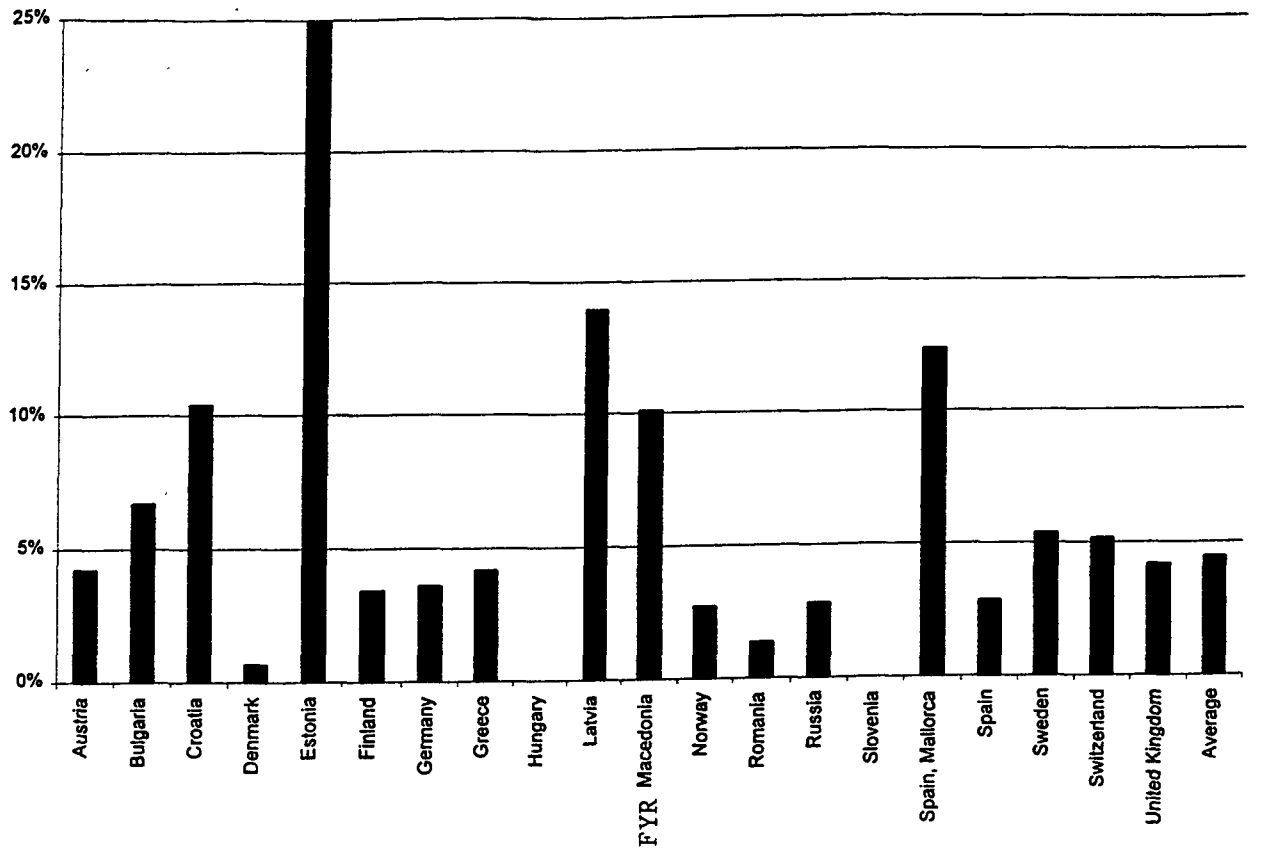
[9] A possible misunderstanding due to the wording of the question could be that the Value-Added-Tax (VAT) was seen as an energy tax/surcharge.

Percentage of income spent on energy



The answers also showed that subsidies paid for the usage of renewable energy are quite rare. They are paid in Finland, Denmark, Switzerland, Romania, Slovenia, Spain, Italy, Austria Germany and Sweden.[10]

IV.4 Solid waste

A major urban problem is the disposal of solid waste. The amount of waste per capita differs between 200 (Germany, Latvia, Lithuania and Turkey) and 500 kg/year (United Kingdom and Norway).[11] In Croatia, Latvia, Poland, Portugal, Estonia, Spain, Turkey, Slovenia, Romania, Greece, Bulgaria and Hungary there is a significant amount of waste deposited illegally in the countryside.

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[10] Of the two answers from Switzerland, Romania and Sweden one indicated subsidies and the other did not. In this case it is supposed that the indication results from concrete knowledge in the region - and therefore is true.

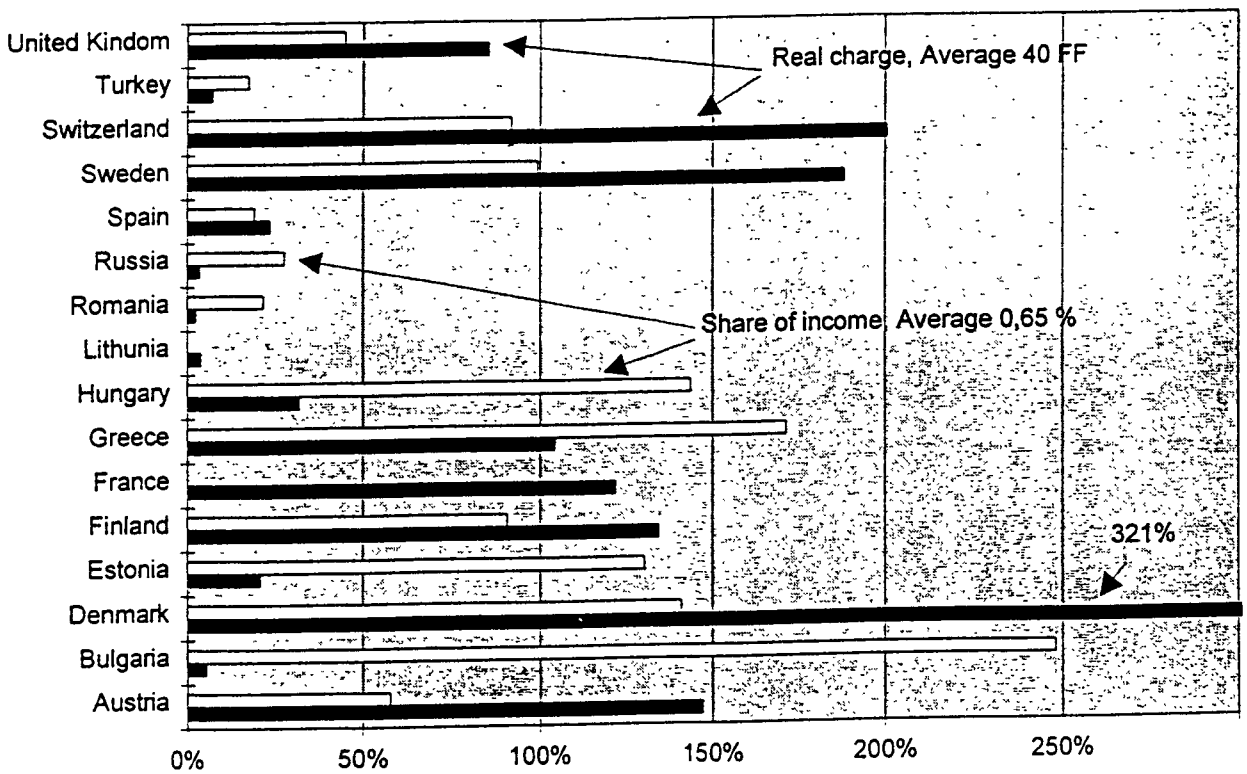
[11] In fact the three answers from the United Kingdom give the values 500, 750 and 1875 kg per year, one answer from Denmark 2.100 kg. It is assumed that the higher values are not representative or do not represent household waste.

Even though, in most countries waste collection charges exist, they do not always depend on the amount of waste. Only Estonia, Austria, Germany, Denmark, Ireland, Liechtenstein, Poland, Finland, Hungary, Switzerland, Spain (Catalonia) and Sweden indicate that charges are always or often dependent on the amount (container size or in some cases on the weight of the waste).[12]

There are waste charges for business waste in all countries implemented.[13] In contrast to the household waste, in all countries, except for Greece, Croatia, Spain and Bulgaria they depend on the amount of waste.

The amount of charges was assessed for private households as the average spending per month. It differs significantly between the different countries. While the unweighted average is about 40 FF per month and household, the charges in Lithuania, Russia, Bulgaria and Romania are less than 5 % of this sum (0,95 to 2,2 FF per month). On the other hand charges exceed this amount in Denmark and Germany by three times and in Switzerland and Sweden by two times. When charges are calculated as the share of monthly income the differences shrink significantly and differ between 0,5 and 1 % of the income. The extremes are Bulgaria, where the given values indicate that people spend 1,6 % of their income, and Spain, Turkey, Russia and Romania, where people pay less than 0,15 %. The next graph presents an overview of the charges.

Waste Charges per month compared in FF and as a share of the income (average = 100%)



[12] There may be a misunderstanding in the case of Hungary, where the answer is, that the charge never depends on the actual amount, but is always dependent on the container size.

[13] The French answer indicates that there are no charges at local level, but only at department level.

High charges for the disposal of non reusable products prompt the illegal dumping of such waste in the countryside or in public rubbish bins. To address this problem taxes/surcharges can be raised at the point of purchasing. There was a big debate recently in Germany on whether local authorities are entitled to raise these charges. As a result there are taxes for fast-food packaging in some German cities (e.g. Kassel). According to the replies to the questionnaire such taxes do not exist in other countries, except Switzerland.

Toxic waste is often collected free of charge to avoid people disposing of it in the ordinary household waste. The following table shows where toxic waste disposal is charged for. Moreover it shows, where there is a special tax on it (mainly for industrial waste):[14]

Charges for Toxic Waste

Charged[15]	**Taxed**	**Not charged**	**Not taxed**
Bulgaria	Bulgaria	Austria	Austria
Denmark	Estonia	Croatia	Croatia
Estonia	Finland	Finland	Denmark
Germany	Germany	France	France
Hungary	Lithuania	Greece	Greece
Ireland	Norway	Italy	Hungary
Norway	Sweden	Latvia	Ireland
Russia	United Kingdom	Liechtenstein	Italy
Spain		Lithuania	Latvia
Switzerland		FYR Macedonia	Liechtenstein
Sweden		Romania	FYR Macedonia
Turkey		Ukraine	Romania
United Kingdom			Russia
			Spain
			Switzerland
			Turkey

[14] Another German example of a waste-related tax is the regional surcharge on hazardous waste in the regions of Baden-Württemberg, Hessen and Niedersachsen.

[15] The answers to the questionnaire indicate, that the local/regional focus of the questionnaire might have been disregarded.

IV.5 Air quality

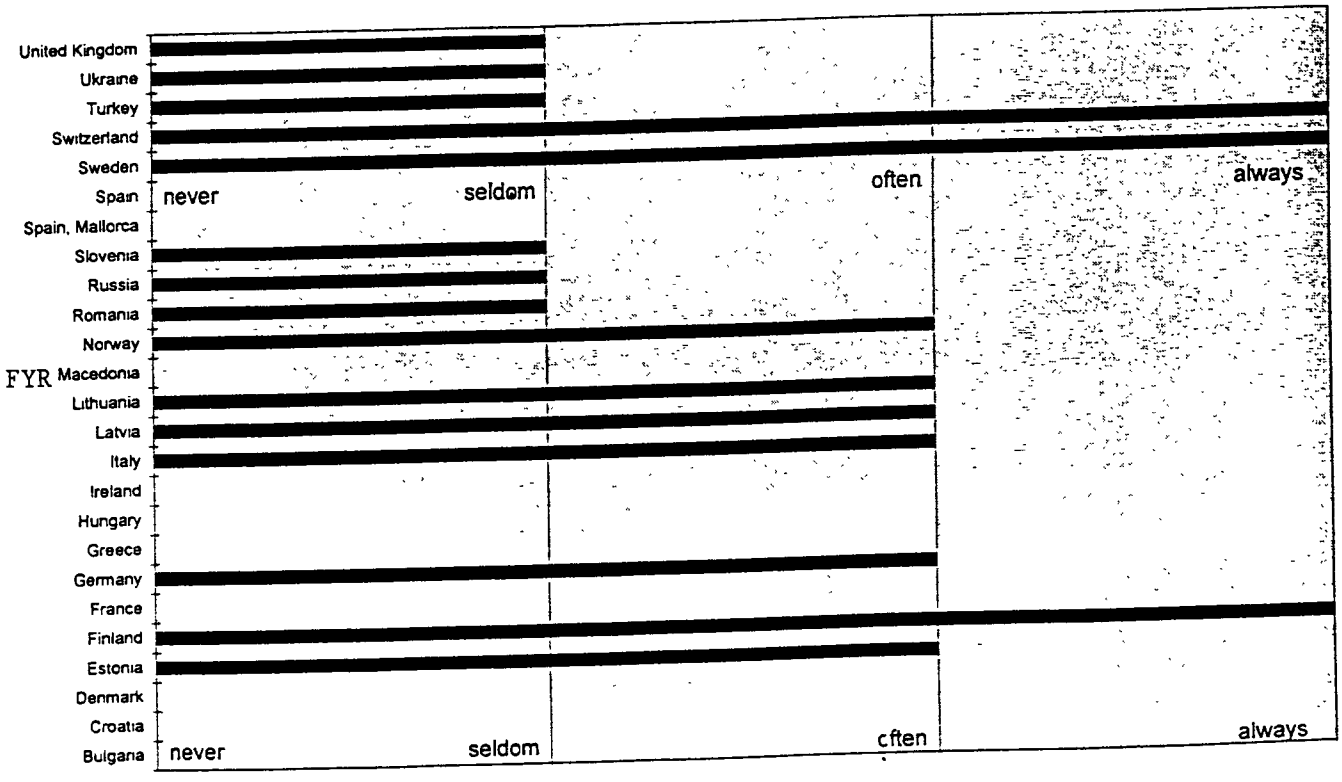
Air quality is one of the major threats to the health of urban population. The most effective financial instrument would be a tax/surcharge on harmful emissions. The answers to the questionnaire reveal that countries in Eastern (Estonia, Latvia, Poland, Bulgaria, Romania, Russia) and Northern Europe implemented this instrument at national level, while Western countries did not.

There is no example where taxes or surcharges are implemented at local or regional level.

A much weaker instrument is to let businesses pay for administration and monitoring costs. There are a lot of differences between and within European countries. Contradictory replies were received from Estonia, Switzerland, Finland and Romania.

Varying answers within one country could also indicate that it was difficult to answer this question. The same fee may be judged differently by different people. Nevertheless, the following graph tries to give an overview of the implementation:

Air quality: administration and monitoring costs charged to businesses



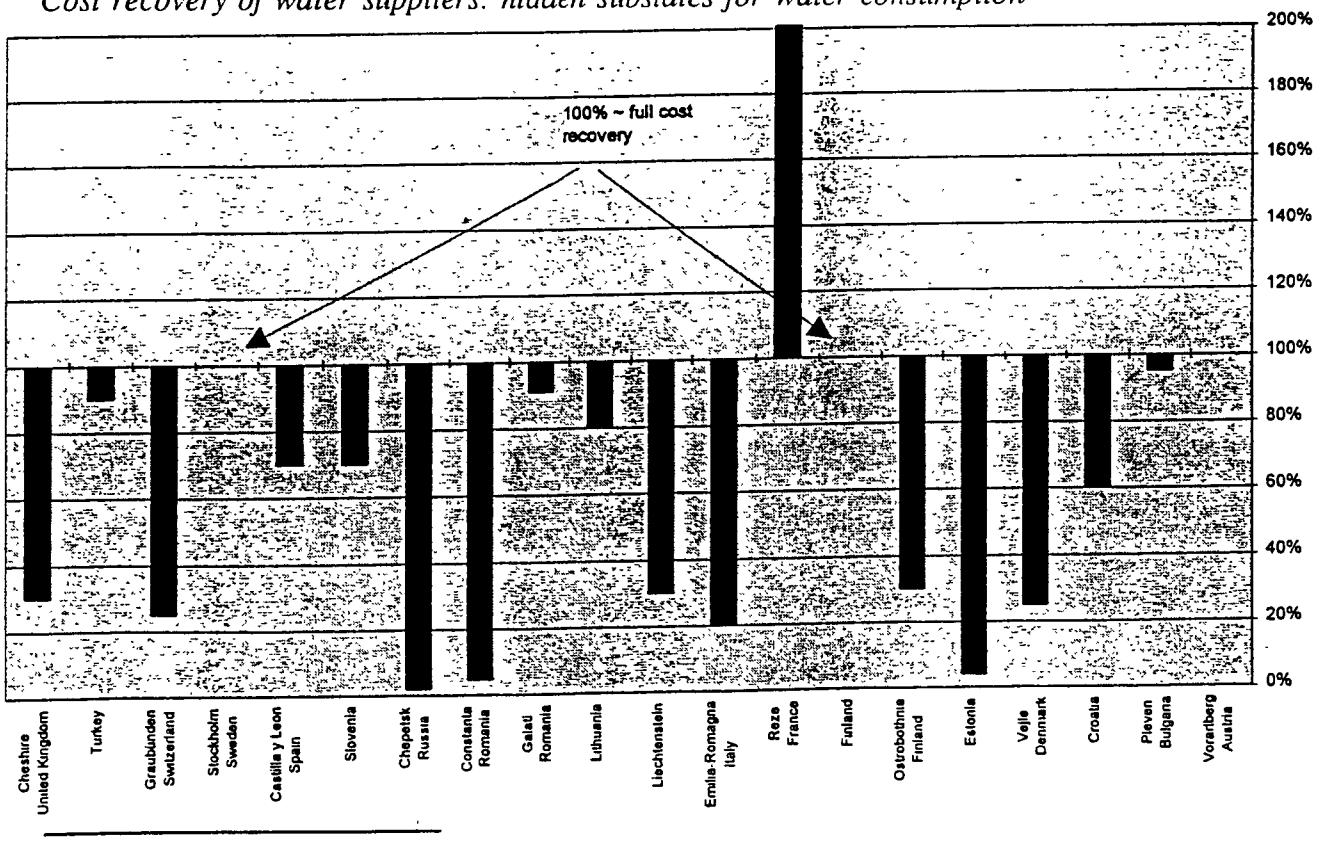
IV.6 Water resources

The shortage of water resources is only a threat to some regions in Europe. The Experts from Austria, Denmark, Estonia, Finland, Germany, Hungary[16], Liechtenstein, Latvia, Lithuania, Norway and Switzerland indicate that shortage of water rarely ever appears in their countries. Despite this water usage is charged in these countries - and often not charged in some countries with severe water shortage problems: Bulgaria, Former Yugoslav Republic of Macedonia, Romania,[17] Greece.

It was also asked whether big consumers are charged relatively more or less than small consumers (progressive or degressive tariffs). All experts indicated that big consumers are charged more, while Hungary indicates equal charging and Sweden, Denmark, France, Ireland and Liechtenstein indicate lower prices for big consumers. It can be assumed that the question was not posed clear enough in this case.

Also, the question, to what extent the production costs of water suppliers are covered, is not answered in a satisfying way.[18] The extreme values on the one hand are 2 % (Russia) and 4 % (Estonia and Romania), on the other hand 210 % (France). Answers from Denmark, Finland, Italy, Liechtenstein, Switzerland and the UK state that charges cover around 30 % (which would mean heavy subsidies). Charges in other countries more or less covered production costs.

Cost recovery of water suppliers: hidden subsidies for water consumption



16 Information is only valid for certain regions

17 Some answers from Bulgaria and Romania state that there are water charges

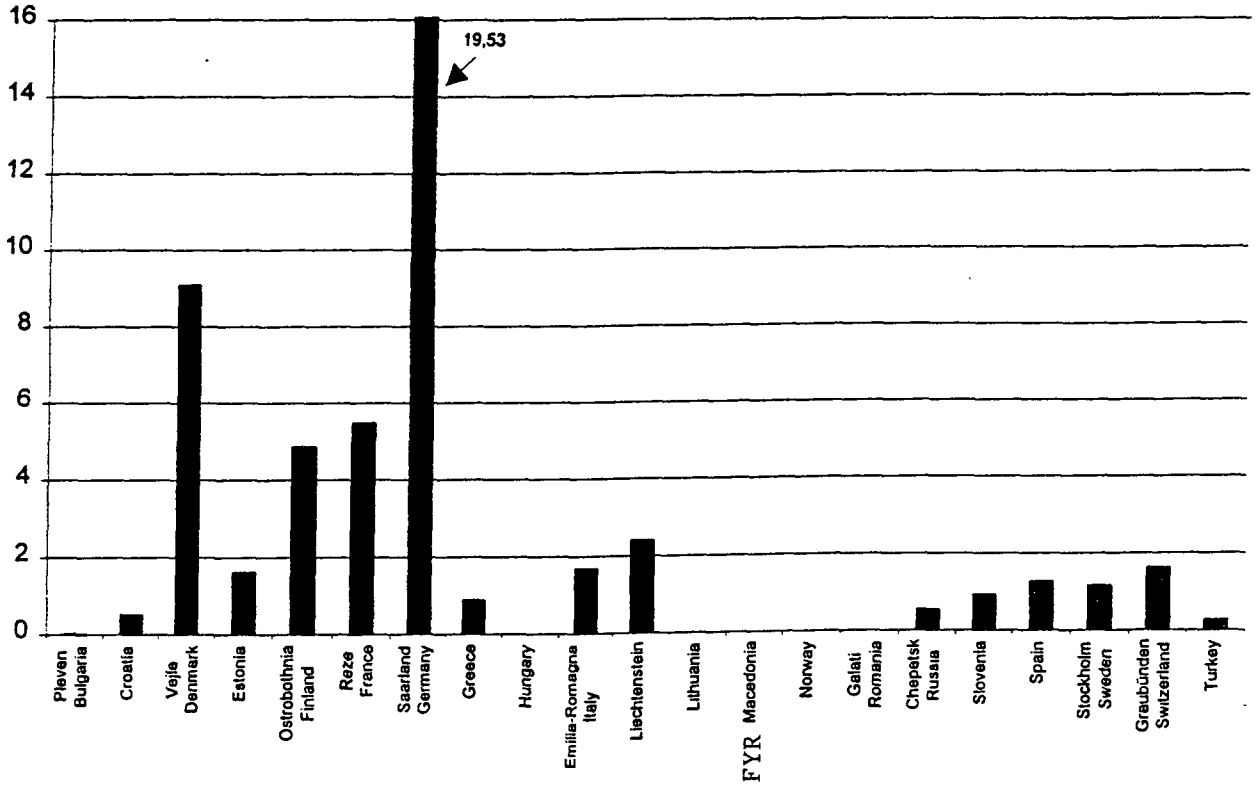
18 Obviously it is hard to define production costs. A decisive aspect is, for example, whether equipment costs are calculated on the basis of historic or replacement value.

Ecological farming is subsidised for reasons of groundwater protection for example in Pleven (Bulgaria), Emilia Romagna (Italy), Ostrobothnia (Finland), Liechtenstein, Constanta (Romania), Castilla de Leon (Spain), Baden-Württemberg (Germany) and Graubünden (Switzerland).

IV.7 Waste water

Many river systems and coastal regions are polluted by waste water. Financial instruments aim to set incentives to avoid waste water production. The main instrument is the charge for sewage treatment. In this connection it is interesting to know that such charges are rare in Russia, Romania, Ireland, Italy, Ukraine and Croatia. The following graph shows the amount of the charges:

Average Sewer Usage - Rate in FF/m³

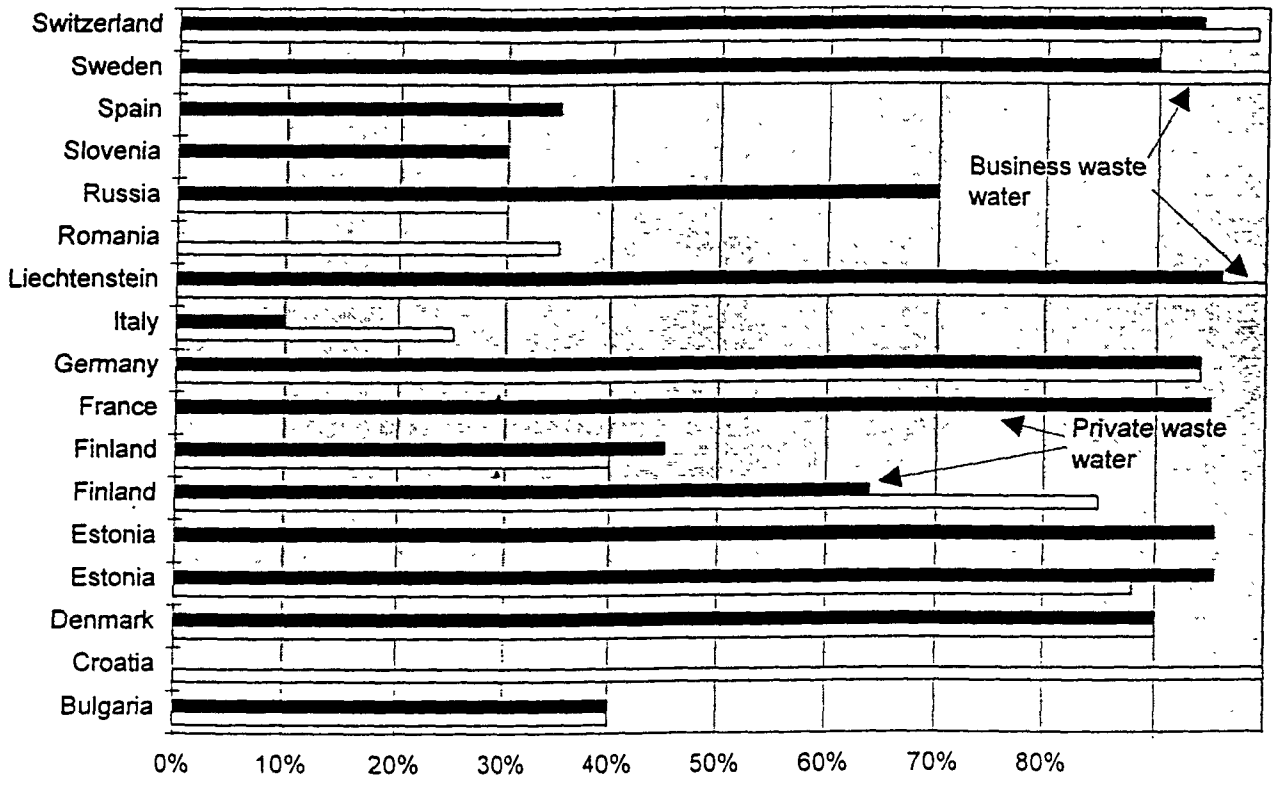


The waste water charge in the simplest case depends on the amount of waste water, as in France, Greece, Norway, Turkey and Croatia as well as parts of Finland, Germany, Sweden, Switzerland and the United Kingdom. The problem in waste water though is not the water, but the waste. For this reason there are charges for pollutant substances in some countries. These systems mostly combine a pollutant charge with a charge on the water volume.

Waste water is not only a local or regional environmental problem when polluting rivers or seas, but more and more seen as a threat to global environment when polluting marine waters. In the Mediterranean, the Baltic and the North Sea it is especially the nitrate load, that is a problem to the marine eco-systems. Therefore it was asked whether charges depend on this substance as an indicator for consciousness on cross-border pollution. The answers show that the nitrate load is considered important in Denmark, Estonia, Lithuania, Germany (Hamburg), Latvia, Ukraine and Russia.

Waste water treatment is quite an expensive way of avoiding pollution. There is still a significant volume of the waste water not treated in sewage plants. This can be judged as a tremendous externalisation of costs. The following graph provides an overview:[19]

Share of waste water treated in sewage plants



[19] In a number of cases the replies seem to differentiate between business and household waste water. In this case the given numbers are misleading in that they do not show the quantity of the waste water disposed of directly into rivers. These cases are not represented in the graph.

IV.8 Land use

Historically one of the first resources treated as a rare commodity was available land surface. The management of this commodity and the power that the control of this commodity generates brought amongst other measures a wide variety of land use taxation. This is implemented in all countries, except Bulgaria, Hungary, Liechtenstein, Ireland and Sweden.[20]

Whilst land use taxation is quite common the important question is whether it is implemented in a way which can have an environmentally guiding effect.

When the value of the property is the guiding parameter, it does not matter how much land you use. Answers from Denmark, Estonia, Finland, Germany, Lithuania, Norway, Romania, Switzerland, Turkey, Ukraine and the United Kingdom stated that this is the case.

When the surface of the land is guiding, it matters much more - and careful use of the resource becomes more important. This is the case especially in Austria, Estonia, France, Greece, Italy, Latvia and Russia. In the other countries there is a mix of both or no answer was given.

It is especially interesting that Bulgaria, Estonia, Denmark, Finland, Slovenia, Spain and Turkey stated that the taxation method depends on the local authority.

The following table summarises the last paragraphs:

Taxation methods for land use

Taxation by surface	Taxation by value	Taxation locally variable
Austria	Denmark	Bulgaria
Estonia	Estonia	Estonia
France	Finland	Denmark
Greece	Germany	Finland
Italy	Lithuania	Slovenia
Latvia	Norway	Spain
Russia	Romania	Turkey
	Switzerland	Latvia
	Turkey	Portugal
	United Kingdom	

The level of taxation varies very widely from country to country. Because of the few answers provided and the problems in comparing results no further evaluation can be given.

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[20] Again a possible misunderstanding could be the expression "local/regional tax for land use", which could have led some replying experts not to mention the national system of land use taxation.

When thinking about incentives to avoid soil pollution it is important to assess who has to pay for the cleaning. If companies have to be afraid of being responsible for costly cleaning measures they either have to be very careful or have to pay high liability insurance fees. Unfortunately the answers to the questionnaire do not enable us to give an overview. It seems, that in almost every country there is some liability for cleaning measures, but by the time the pollution is discovered it often is not possible to make the polluter responsible any more. A close look at the legal position in each country is necessary to report the differences.

IV.9 Traffic

One of the main polluters in urban areas is road traffic. It therefore is interesting to have a look to which extent financial instruments are used to limit it.

A very common measure is parking fees. These are widely implemented, except in some parts of Denmark (Vejle), Greece, France (Reze), Germany (Saarland), Hungary, Liechtenstein, Russia, the Ukraine and Spain (Catalonia). Another common measure is subsidies for public transport which are operative in all countries, except in some parts of Hungary, Ireland, Liechtenstein, Finland, Slovenia, United Kingdom and Portugal. In some countries there are also local/regional tolls for road use, such as Austria, Lithuania, Romania, Norway and Turkey.

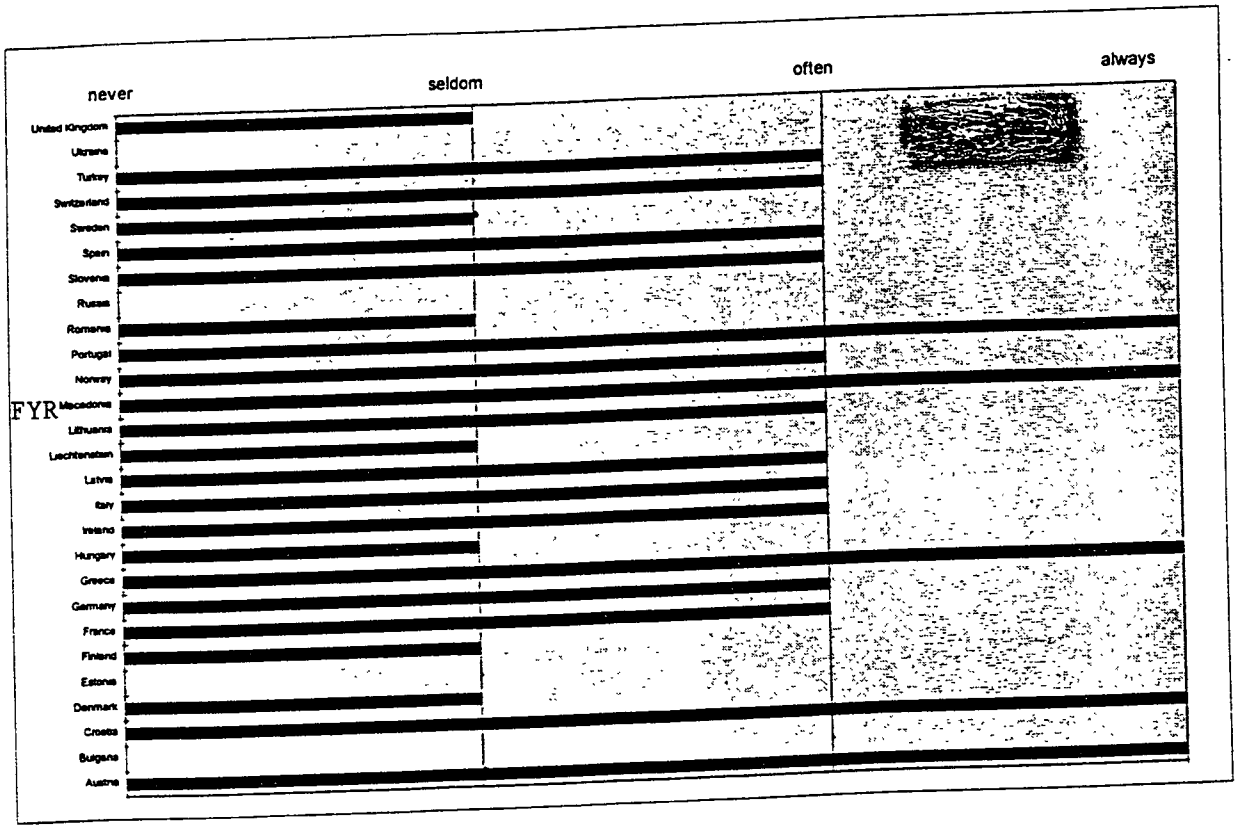
These results are summarised in the following table:

Financial Instruments in Traffic Policy

No parking fees	No subsidies for public transport	Tolls for road use
Denmark (Vejle)	Hungary	Austria
Greece	Ireland	Lithuania
France (Reze)	Liechtenstein	Romania
Germany (Saarland)	Finland	Norway
Hungary	Slovenia	Turkey
Liechtenstein	UK	
Russia	Portugal	
Ukraine		
Spain		

One of the main spending areas on traffic is the investment in infrastructure - often for new residential or business areas. These investments are made by the local authority and can be charged to the new users of the area. That this is not customary in all countries is shown by the next graph:

Investments in infrastructure charged to new users



The average contribution of the new users was answered by a few experts only. The given value ranged from five to 50 %.

V Conclusions

V.1 Conclusions for future research work

At the beginning of this project, the members of the Working Group and the ICLEI staff found it hard to believe that there is virtually no systematic approach to financial instruments at local or regional level. The last few months have shown that they were right. Even the national associations of local authorities and the regional authorities in the member States of the Council of Europe seem to have problems providing an overview of the situation in their countries.[21]

This shows that the CLRAE and ICLEI were right to start the project even with the limited resources of time and money. But the results show more about the character of information that is necessary to gather rather than provide reliable data. For this it would be necessary to ask the experts once more about the nature of their information.[22] It could also help to have a closer look at the responses provided and to compare questionnaire returns from different countries.

There are also some specific topical aspects which would require more investigation.

Ecological need for differentiated water tariff

- It would have been interesting to compare the relationship between water charges of industrial consumers and small consumers (tariff structure) and the incidence of water shortages.[23]

Cost recovery of public services

- A comparison of economic costs and charges of infrastructure investment, water supply, waste water treatment, waste disposal and energy supply would also be most interesting. Therefore it would be necessary to compare the calculation models for the economic costs and compare them to the revenue from charges. This needs differentiated economic analysis.

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[21] The only exception is a report by the Danish Environmental Protection Agency on charges and levies in Denmark (cf. DEPA 1995).

[22] An extra column on the questionnaire asking for the nature of information (e.g. local example, estimate, reliable national data) could have helped. Adding the words local/regional in front of the questioned instrument brought confusion to the answers, because sometimes existing national regulations were not mentioned. A totally different picture is perceived when (a) only national taxes exist and (b) when neither local nor national taxes exist.

[23] Where no water shortages exist water charges can be calculated on economic costs. On the other hand there is reason to calculate ecological costs for water consumption where there are water shortages.

Land taxation models

- Another interesting point would be the assessment of the different land taxation models - and to what extent they can be differentiated by the local authorities. There could also be a comparison of common prices for urban and agricultural land with the rates of the land use tax.

Hidden traffic subsidies

- An ambitious field of research is the assessment of hidden traffic subsidies (cf. WI 1995). Public parking space, which is free of charge, uses land that is often in areas where business and residential land is very expensive.

Legal situation should be assessed by each country

Questioning the status quo is one side of the coin. The other is, what local or regional authorities can do - and are allowed to do. This is a very broad field, requiring detailed assessment of national frameworks. In a subsidiary sense of politics this should be left to the national actors of environmental protection. International coordination can only give hints here and present successful cases of implementation.

V.2 Conclusions for policy

As poor as the reliability of some results might be, the survey provides some significant information about the influence of financial instruments on the environment.

Charges and fees have a much greater importance at local level than taxes and surcharges have

When there is talk of financial instruments, one often thinks of environmental taxes, specific surcharges or other "innovative" measures. The reality shows that such ordinary measures as charges and fees have a much greater importance at local level than taxes and surcharges. At regional level both instruments seem to be less important - except when the water and/or energy suppliers are organised regionally.

Big differences in levels of charges

Responses to the questionnaire also confirmed that there are big differences in the levels of charges. There can be three reasons for these differences: -

(a) different levels of factor prices (e.g. energy resources, wages),

(b) different environmental standards for the services,

(c) different levels of cost recovery (respectively levels of subsidies).

The difference is bigger in waste collection charges (labour intensive) than in energy prices (resource intensive). The influence of the different factors cannot be quantified but the answers show that (c) plays an important role (cf. chapter I.9).

Differences in importance for residents

While the nominal prices are very different in different countries, the picture changes when prices are viewed in the light of the disposal income of the residents. This shows that social effects are important and have to be considered when discussing financial instruments.

Pollution subsidies should be restricted

The fact that some regions are still subsidising the use of environmental goods quite heavily leads to unfair competition within the (relatively) free trade zone of Europe. It encourages enterprises to pursue the lowest charges within Europe before making an investment in a region. Therefore there is a need to discuss minimum standards for the cost recovery of ecologically relevant charges. Regarding the difference in price levels it is not useful to implement minimum prices for resources - or only for OECD countries. But as international organisations are currently working on standards for subsidies, ecologically counterproductive subsidies should also be considered.

Guiding examples for European regions

Though there are few examples where taxes or surcharges are implemented at local or regional level (and no example for air emissions), the Estonian and perhaps also the Bulgarian examples are interesting (cf. ALAKIVI 1996, GORNAJA 1996). These countries are no bigger than some regions in other countries, e.g. Germany. This is important because it confronts one argument against taxation of air emissions which suggests that taxation has to be implemented on a big territory, otherwise the benefits from the measures are mainly received by neighbouring regions whilst the costs only affect the local industry.

All in all the survey shows that the consideration of price effects through financial instruments should have an increasing role in European policy.

VI Summary

Survey by the CLRAE

Financial instruments are tools to encourage decentralised decisions on innovative solutions for the environment through price signals. The Working Group on Environmental Protection and Sustainable Development of the CLRAE initiated a survey on their use in September 1996. This was carried out during the following three months by the ICLEI European Secretariat by designing a questionnaire and analysing the responses.

Results from 28 countries

By 31st March 1997 there were 60 answers from 28 countries. Several important countries such as the Netherlands did not respond. The answers varied from country to country. The reliability of the information is uncertain and therefore the results have to be regarded with caution.

Different social conditions

Social conditions were described by the Gross Domestic Product (GDP) and the level of income. The European extremes are represented by Romania (less than 10% of average) and Switzerland (more than 250%).

Varying energy and waste charge levels and tariff structure

The levels of energy charge vary by a factor of 20. There are subsidies for renewable energy forms in eight countries. The waste charges vary by a factor of 100 in real prices and by a factor of 10 in relation to the income. Waste charges are not raised on the amount of waste in 13 countries, but by a general (e.g. household) tariff.

Poor cost recovery in pollution administration and water supply

Financial instruments against air pollution are implemented only at the national level and only in Northern and Eastern Europe. Moreover in ten countries the administrative costs for pollution control are not charged to the polluter. Whilst shortages in water supply are only a threat to some regions, nearly all regions subsidise the exploitation of water resources by charging less than economic costs. The prices of waste water treatment again varies significantly by a factor of 100 (in real prices). In some countries though it seems to be more important that a significant amount of waste water is not treated at all.

Land use taxation often not by surface

Land use is taxed in nearly every country, but mostly not for ecological reasons. Six countries stated it to be dependent on the surface of land used (ecological orientation), while nine countries tax land use by the value. Local variation of taxes is possible in seven countries. Parking fees are introduced in 14 countries, while there are no subsidies for public transport in six countries. Tolls for road use are operative in five countries. The benefits from infrastructure investment are subsidised in nearly all countries.

Reconfirmation of data needed

Further research work is supposed to reconfirm the collected data by contacting the initial responders. This would include a deeper analysis of the answers provided. Furthermore there are a number of specific investigations needed. International organisations are advised not to investigate the legal situation in all countries. The publishing of cases of good practice is encouraged.

Hidden subsidies to be avoided - guiding examples

Politics should concentrate on the practice in charges rather than in taxes. The differences in the levels and the cost recovery of charges is identified as partly due to subsidising environmentally damaging practices. A discussion about international minimum standards in cost recovery is seen as necessary. Furthermore it is advised to analyse the Estonian and Bulgarian air taxation on air pollution, because these countries are no bigger than some regions in other states.

Summarising, the undertaken efforts are judged as a good starting point for future investigations.

VII Glossary

The following glossary shall provide the reader with an overview of some terms used in this report. Its aim is not to define scientific terms but to prevent misunderstandings.

Charges - payments for a special service such as water or electricity supply, waste (water) disposal or transportation services.

Economic instruments - measures to influence environmentally critical behaviour in accordance with market economy rules, e.g. financial or regulatory instruments.

Fees - payments for administration services such as licences and permits.

Financial instruments - measures to influence environmentally critical behaviour through price signals.

Levies - Term used by the Danish Environmental Protection Agency as a synonym of taxes and surcharges.

Subsidies - measure by the authority to provide incentives for environmentally friendly behaviour through lowering the (market) price of such activity (a) by direct payment or (b) by waiving charges and/or taxes. Subsidies for purposes other than environmental ones can be ecologically counterproductive .

Surcharges - payments to the authority for certain activities to provide an incentive for environmentally friendly behaviour and to finance specific environmental measures.

Taxes - payments to the authority for certain activities to provide an incentive for environmental friendly behaviour and to finance the public treasury.

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IX Appendix

IX.1 Appendix 1: Questionnaire sent out by the CLRAE

1. EXPLANATORY NOTES

Please answer the questions as far as possible

* If there is no reliable national information available on some items, it might help us to learn about a local or regional example, or even an estimate. In such cases please indicate the type of information.

* It is quite difficult to pose questions in a way which is relevant to every country. For this reason, if a question seems ambiguous to you, please try to answer it and explain the information you provided. For example, if there is a question about charges, and there are several such charges in your country, please give us one example and explain it in some detail.

Please try to provide the most recent data

* Where concrete data are asked for, please try to give the figures for 1995. Otherwise please indicate the year of reference alongside the figures.

Please try to answer the questionnaire quickly and return it as soon as possible.

2. EXPERT INFORMATION

In this part we should like to obtain some information about the expert completing the questionnaire:-

Name: . . . . . .

Qualification: . . . . . .

Organisation: . . . . . .

Status in Organisation: . . . . . .

Address: . . . . . .

Postcode:. . . . . City: . . . . . .

Country: . . . . . .

Tel. No(s):. . . . . .. Fax No(s) . . . . . .

E-Mail: . . . . . .

Date of receipt of questionnaire: . . . . . .

3. GENERAL DATA ON COUNTRY

This part asks for some general information about your country to make it easier to compare the answers.

3.1.1. Population: . . . . . .

3.1.2. Percentage living in cities with a population of more than 10 000 : . . . . . .

3.1.3. Currency:. . . . . Exchange rate (to FF): . . . . . .

3.1.4. Per capita GDP: . . . . . .

3.1.5. Average gross monthly salary: . . . . . .

3.1.6. Average number of people per household: . . . . . .

3.1.7. In principle do local authorities have the right to raise local taxes and surcharges? Yes ☐ No ☐

3.1.8. In principle do regional authorities have the right to raise local taxes and surcharges? Yes ☐ No ☐

4. TOPICS

This part asks about selected aspects of the environment and is mainly presented in a multiple choice manner. The aim is to collect comparable data from the different countries.

4.1. Energy

4.1.1. Average price for gas

business:.....private household . . . . . .

4.1.2. Average price for electricity

business:.....private household . . . . . .

4.1.3. Average monthly spending per household on energy: . . . . . .

4.1.4. Are there subsidies for energy conservation measures at local or regional level? Yes ☐ No ☐

Type (eg introduction of renewable energy sources)	Amount of subsidies:	per (unit)
. . . . .	. . . . .	. . . . .
. . . . .	. . . . .	. . . . .
. . . . .	. . . . .	. . . . .
. . . . .	. . . . .	. . . . .

4.1.5. Are there taxes/surcharges at local or regional level on energy consumption? Yes ☐ No ☐

4.2. Solid Waste

4.2.1. Average amount of waste produced per capita: . . . . . .

4.2.2. Is there a significant part of the waste deposited illegally? Yes ☐ No ☐

4.2.3. Are there local/regional waste collection charges for private households? Yes ☐ No ☐

average rate per household per month . . . . . .

Do rates depend on amount of waste?

☐ never ☐ seldom ☐ often ☐ always

If yes do

rates depend on container size?

☐ never ☐ seldom ☐ often ☐ always

rates depend on actual amount?

☐ never ☐ seldom ☐ often ☐ always

4.2.4. Are there local/regional waste collection charges for Businesses? Yes ☐ No ☐

Do rates depend on waste amount? Yes ☐ No ☐

4.2.5 Are there local/regional taxes/surcharges for non-reusable products (eg plastic containers)?

☐ never ☐ seldom ☐ often ☐ always

If Yes, on what: . . . . . .

4.2.6. Is there a local/regional charge for toxic waste disposal? Yes ☐ No ☐

Average charge for toxic waste disposal:. . . . . (price) per . . . . . (unit)

4.2.7. Are there local/regional taxes/surcharges for hazardous waste from businesses?

☐ never ☐ seldom ☐ often ☐ always

4.3. Air Quality

4.3.1. Are there local/regional taxes/surcharges on harmful emissions? Yes ☐ No ☐

If Yes, on which substance(s): Amount payable:

. . . .

. . . .

. . . .

. . . .

4.3.2. Are costs for monitoring and administration charged to businesses by local/regional authorities?

☐ never ☐ seldom ☐ often ☐ always

4.4. Water Resources

4.4.1. Is there a shortage of water in some regions (during certain seasons)?

Yes ☐ No ☐

4.4.2 Is there a local/regional charge for water consumption?

☐ never ☐ seldom ☐ often ☐ always

4.4.3. What is the relation of water costs for big and small consumers?

☐ big consumers pay less ☐ big consumers pay more

4.4.4. Percentage of water price in real costs (production costs) of water supply: . .

4.4.5. Are there local/regional subsidies for ecological farming to improve groundwater quality? Yes ☐ No ☐

If Yes, please try to quantify the amount:. . . . . (amount)per . . . . . (unit)

4.5. Waste Water

4.5.1. Average share of waste water treated in sewage plants:

business:.....private household: . . . . . .

4.5.2. Are there any local\regional level charges for sewerage?

☐ never ☐ seldom ☐ often ☐ always

4.5.3. What do sewage rates depend on?

☐ water quantity ☐ pollutants ☐ mix of both

4.5.4. Is nitrate load a parameter used when charging for waste water treatment?

☐ never ☐ seldom ☐ often ☐ always

4.5.5. Average sewer usage rates:. . . . . (price)per . . . . . (unit)

4.5.6. Is there an extra local/regional charge for toxic substances in waste water?

☐ never ☐ seldom ☐ often ☐ always

4.6. Land Use

4.6.1. Is there a local/regional tax for land use? Yes ☐ No ☐

4.6.2. If Yes, how is it assessed? ☐ by the value of the property
☐ by the surface ☐ depends on local authority

4.6.3. Average level of taxation: . . . . . (price) per . . . . . (unit)

4.6.4. Are there local/regional surcharges/taxes for insufficient soil protection (eg flooding, erosion)?

☐ never ☐ seldom ☐ often ☐ always

4.6.5. Who pays for the cleaning of polluted soil?

☐ the public ☐ the polluter ☐ paid by special fund

4.7. Traffic

4.7.1. Are there local fees for parking cars in urban areas on public ground?

☐ never ☐ seldom ☐ often ☐ always

4.7.2. Are there subsidies paid by local/regional authorities towards public transport?
Yes ☐ No ☐

Amount of subsidies for public transport:. . . . . per . . . . . .

4.7.3. Are there local/regional tolls for road use?

☐ never ☐ seldom ☐ often ☐ always

4.7.4. Are local infrastructure costs for new residential and/or business areas charged to users?

☐ never ☐ seldom ☐ often ☐ always

4.7.5. Average private contribution to infrastructure investment: . . . . . %

5. INSTRUMENTS

This part asks for details of the practical situation in your country, to complement the information proivided in the previous part. The aim is to collect examples of good environmental practice in different countries. Please feel free to use additional sheets if necessary.

5.1. Price incentives

Are there any local/regional incentives in pricing for services like energy, water and solid waste collection that favour sound environmental choices and cover the full cost of the service provided, other than mentioned above?

5.2. Charges and fees

Are there any local/regional charges or fees to generate funds for local environmental programmes and discourage environmentally undesirable choices other than mentioned above?

5.3. Special taxes and surcharges

Are there any special local/regional taxes and surcharges on environmentally harmful practices, services and developments other than mentioned above?

5.4. Incentives, bonuses, subsidies, tax reliefs and tax differentiation

Are there any incentives, bonuses, subsidies, tax reliefs or tax differentiation which reward environmentally friendly behaviour at local/regional level other than mentioned above?

5.5. Counter-productive direct or indirect subsidies

Are there examples, where environmentally harmful practices are not charged for properly at local/regional level, or are financed from public funds other than mentioned above?