STRATEGIC EVALUATION ON ENVIRONMENT AND RISK PREVENTION UNDER STRUCTURAL AND COHESION FUNDS FOR THE PERIOD 2007-2013


National Evaluation Report for Poland

Executive Summary

Directorate General Regional Policy

A report submitted by

\[ \text{GHK} \]

in association with

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EXECUTIVE SUMMARY – ENVIRONMENTAL INVESTMENT PRIORITIES IN POLAND

1.1 PART 1: CURRENT SITUATION

1.1.1 State of the environment

Water supply
Surface water resources are of primary importance for supplying Polish economy and households with water. The main challenge regarding water resources is achieving an appropriate level of surface water quality. While the question of industrial sewage is relatively controlled, municipal wastewater and agriculture non-pointed sources still cause water quality problems. This results in 18.6% of the population having drinking water not meeting quality standards (6.2% in towns and 14.7% in rural areas). Furthermore, 32% public wells and 45% individual wells provide poor quality water, mostly to rural residents who use their shallow wells.

Poland has the second smallest water resources per capita in Europe and at the same time a quite low reservoir capacity.

Waste water treatment
Still c.a. 190 million m³ per year are emitted without treatment, of which more than 75% from municipal sewage systems.

Sewer systems are largely missing in rural areas, only 17.3% of rural population is connected to systems. Some households in rural areas have individual treatment systems (no detailed data available). State of affairs in urban areas is much better but still far from satisfactory (16% of population is not connected to sewerage networks).

Municipal solid waste
The waste management system in Poland is not coherent and there are many issues of potential conflict. For instance municipalities have problems establishing recycling and reuse systems, as owners are allowed to choose a waste disposal company.

There is also a problem with the landfills. Apart from the existence of many illegal dump sites, the number of landfills in Poland is several times higher than officially estimated. Many small landfills crowd the picture what makes both control and attaining efficiency difficult.

Renewable energy
There are indications that the 7.5% indicative target of RES in the primary energy balance in 2010 will not be easily achieved.

The current annual state support is far from satisfactory. In the years 2000-2004 it amounted to only 57 MEUR, which is at least 4 times less than expected in the official documents.

The biggest environmental concerns are associated with the use of wind energy and co-firing. The localisation of windmills is very often in conflict with the nature protected sites. The environmental problems related to co-firing are associated mainly with the limited biomass resources and thus environmental concerns of transportation of
biomass on big distances, water and fertiliser management as well as monocultures on big areas.

Natural risk management

Flood problems have the highest priority in Poland, especially after the big flood from 1997. It is estimated that

- additional storage reservoirs will have to be built (extra capacity of around 2,0 billion m³ in the upper basins of the Odra and Wisla);
- around 1.000 km of embankments will have to be reconstructed,
- 4.000 km of rivers and mountain creeks have to be regulated and dry polders will have to be established for around 0,4 billion m³ water.

The necessary flood safety level should be reached by the year 2010. In order to eliminate flood risks effectively, a land management plan in the river valleys should be initiated.

With an area of 7,4 million ha at risk the danger of forest fires is extremely high – this is about 83% of the total forest land in Poland. The whole fire protection system costs a lot each year – in 2004 State Forests spent about 15 mln Euro, covered up to now by State budget.

Responsibilities for monitoring droughts lie within regional water authorities managing water resources in hydrographical basins. The most problematic recent year was year 2000, especially in Central and North Poland with large damage to the agricultural sector.

1.1.2 State of implementation of the acquis

Poland was able to implement most of the EU environmental acquis before the accession in May, 2004. Derogations accepted during accession negotiations covered the ten most difficult and costly EU regulations, including municipal wastewater treatment, packaging waste recycling, standards for dump sites and waste transport, fuels (storage, distribution and sulphur concentration) and large combustion plants. Requirements considering derogations are being fulfilled accordingly to Treaty agreements (it must be noted: thanks to highly considerable financial support from EU). Generally – after substantial implementation process – environmental policy, legal system, institutions and policy instruments are EU compatible and Poland represents a good EU average in terms of recent environmental regulation adoption/implementation.

More information can be found in Chapter 2.

1.1.3 State and history of environmental expenditure

The following table gives an evolution of total expenditures and financial investment in environmental protection for the period 2000-2004.

<table>
<thead>
<tr>
<th>Table 1-1: Environmental investments and expenditures recorded (Million Euro, 2000 – 2004)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Total expenditures for environment and water management*</td>
</tr>
<tr>
<td>2000</td>
</tr>
<tr>
<td>7 998,1</td>
</tr>
<tr>
<td>Investment in environmental protection and water management</td>
</tr>
<tr>
<td>1 449,1</td>
</tr>
</tbody>
</table>
1.1.4 *State, history and lessons of funding*

Poland has a specific institutional system of public financial support for environmental projects. Generally, revenues from environmental taxes and charges are collected by a system of environmental funds. Revenues are earmarked and can be spent for environmental projects only. The system has four levels and includes the following institutions:

- National Fund for Environmental Protection and Water Management (central institution),
- 16 voivodeship funds for environmental protection and water management (provincial institutions),
- two funds of lower administrative level: county and community funds.

Environmental funds are the richest source of public resources for environment. It should be clearly noted however, that loans remain the main instrument of support rather than subsidies.

The following table gives an overview of the different sources of financing for environmental protection in Poland, for the period 2000-2004.

### Table 1-2: Structure of financial sources for environmental protection investments in Poland

<table>
<thead>
<tr>
<th>Source of financing</th>
<th>2000</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investors own resources</td>
<td>53.4</td>
<td>46.7</td>
<td>44.2</td>
<td>48.1</td>
</tr>
<tr>
<td>where local communities</td>
<td>19.6</td>
<td>17.8</td>
<td>17.9</td>
<td></td>
</tr>
<tr>
<td>Budget – central</td>
<td>2.2</td>
<td>1.8</td>
<td>1.5</td>
<td>1.0</td>
</tr>
<tr>
<td>Budget – regional</td>
<td>1.6</td>
<td>1.7</td>
<td>0.8</td>
<td>0.5</td>
</tr>
<tr>
<td>Budget – county (powiat)</td>
<td>0.2</td>
<td>0.4</td>
<td>0.2</td>
<td>0.2</td>
</tr>
<tr>
<td>Budget – local (community)</td>
<td>1.4</td>
<td>0.9</td>
<td>0.7</td>
<td>1.1</td>
</tr>
<tr>
<td>Foreign aid*</td>
<td>3.9</td>
<td>4.2</td>
<td>8.8</td>
<td>12.2</td>
</tr>
<tr>
<td>Public environmental funds (soft loans and subsidies)</td>
<td>20.0</td>
<td>26.1</td>
<td>25.3</td>
<td>24.1</td>
</tr>
<tr>
<td>Credits and loans (bank credits and other commercial)</td>
<td>11.7</td>
<td>12.3</td>
<td>13.9</td>
<td>8.3</td>
</tr>
<tr>
<td>Others</td>
<td>5.6</td>
<td>6.0</td>
<td>4.7</td>
<td>4.5</td>
</tr>
</tbody>
</table>

NB: Specific water management projects are excluded, i.e. reservoirs and flood protection

* With predominant share of EU support. It should be noted however, that table presents real flows (expenditures recorded) and does not show EU support already allocated but expected to be spent in next years

Source: *Central Statistical Office, Warszawa 2005*
1.2 PART 2: NEEDS FOR 2007-2013

1.2.1 Investment Needs

Water supply

The largest investment need is in the field of supplying qualitative drinking water. Some installations require modernisation, but the main reason for the water quality problems is unsatisfactory quality of water resources used (especially surface water).

Regarding the improvement of water resources one of the most significant programmes is “National Programme of Municipal Wastewater Treatment”.

Practically there is no comprehensive reference to state of water supply infrastructure in national dimension. Policy documents do not define clear and accurate investment needs concerning water supply systems (there are no comprehensive data in national dimension).

Waste water treatment

The “National Programme of Municipal Wastewater Treatment” is the specific programme, where the needs related to wastewater treatment plants in all agglomerations over 2 000 PE until 2015 are listed with a total cost exceeding 10 bln euro for 2003-2015. EU financial support is a key condition to succeed.

The most important problem for Poland is the fact that there are still 259 missing sewage treatment plants still to be built; 909 existing plants need modernisation and/or development (to comply with the standards of the UWWTD for sensitive areas).

Municipal solid waste

Main environmental concerns are the number of illegal waste dumps, too high number of installations (landfills) and over-diversification of waste collecting systems - all leading to ineffectiveness of MSW management, and lack of mechanisms controlling the amount, composition and streams of waste.

Renewable energy

The potential of electricity production from RES is estimated for 20,4 TWh in 2025 and split up as follows:

- hydro energy 8,0 TWh/a
- wind energy 7,8 TWh/a
- biomass 4,0 TWh/a (2,5 TWh/a from energy crops, 2,1 TWh/a from forests).

It means that in order to achieve 9,0% of share RES – E/electricity consumption in 2010, about 75% of the total TWh potential (20,4) of electricity production from RES in 2025 would be worn out in 2010 already. It points out that the target for electricity production from RES in 2010 is perhaps too ambitious and is a challenge for policies and mechanisms.
Natural risk management

Flooding is recognised in Poland as the most important natural disaster in the country – the biggest problems are coming from floods in south Poland.

About 83% of all forest resources (7.4 million ha) of Poland are potentially threatened by fires (the average figure for the whole of Europe is 65%). Forest fire risk is growing in last years. Other forest catastrophes which are possible in Poland are hurricanes, sporadic events that sometimes are causing big damages in Polish forests.

Poland is at risk of periodic water deficits. But the most important problem in Poland now is deficit of good quality water – not the water in general.

In south Poland (especially in Karpatian Mountains – on mountain slopes and on riverbanks) landslide damages appears very often and they can be expected in future too.

1.2.2 Summary of investment needs

The table below summarises the needs highlighted by the country report. The table gives the total financial estimate of the need per field and, whenever possible, a financial estimate of the overall cost of each type of investment.
Table 1-3: Financial estimate needs requiring further planning and/or investment in 2007 – 2013

<table>
<thead>
<tr>
<th>WATER</th>
<th>WASTE WATER</th>
<th>WASTE</th>
<th>RES</th>
<th>NATURAL HAZARDS</th>
<th>OTHER AREAS</th>
</tr>
</thead>
</table>

*Replacement investment of worn out infrastructure XXX Meuro ??? Additional capacity (reservoirs) and regional/local network extensions XXX Meuro ??**

**Wind 9.648; Solid biomass 1.464; Hydro > 5 MW 846; Hydro < 5MW 488; solar thermal 537; PV 216; geothermal 290**

Flooding: total of 1.134 Meuro (iii)

a) Flood reservoirs: Malczyce 82,91; Swinna Poreba 284,21;
b) Odra 2006 program: Drypolder Raciborz + Wroclaw Junction System 326,44;
c) Vistula (Wloclawek) Dam 440,44

**Key data gaps:** Physical investment figures, in all fields, are incomplete and cannot be fully used to check the required financial investment need; Not enough background information on the existing length of sewer network that needs rehabilitation could be obtained. Hence it was not possible to estimate the investment need to rehabilitate the existing network, although there certainly will be a very substantial investment need. It is assumed that this need will be covered basically from fee incomes in harmony with the principle of total cost recovery.

(ii) FEWE-study, estimations for the period until 2020.
(iii) For some of the larger projects (Swinna Poreba reservoir, Vistula Dam) there is strong opposition of the NGO's, who want a more environmental friendly solution applied on a systematic scale.
(v) Figure derived from the National Program of Municipal Waste Water. Probably in this already substantial amount, the need for sewer rehabilitation investment and individual treatment in remote areas is not yet included.
(vi) National Waste Management Plan. Given the enormous need fro rehabilitation of landfills, this figure is certainly not an overestimation, on the contrary.
(vii) This 500 Meuro is an estimate (based on the funding asked in the Draft Operational Programme), as reliable forecasting data was not available.
Table 1-4: Key indicators needs requiring further planning and/or investment in 2007 – 2013

<table>
<thead>
<tr>
<th>WATER</th>
<th>WASTE WATER</th>
<th>WASTE</th>
<th>RES</th>
<th>NATURAL HAZARDS</th>
<th>OTHER AREAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>About 18% of the inhabitants without adequate drinking water quality (due to bad quality of surface water – sewage and agricultural pollution))</td>
<td>By 2015 259 new STP’s to be built (only 18% connection in rural areas, 59% in general)</td>
<td>Current MSW collection rate 94% in urban areas, 74% in rural areas</td>
<td>Target 7.5% RES by 2010 as primary energy balance (4.7% in 2004)</td>
<td>6 billion m³ reservoir capacity needed, but reservoirs are contested by NGO’s</td>
<td></td>
</tr>
<tr>
<td>Slight water demand rise</td>
<td>By 2015 upgrading of 909 existing STP’s (currently 588 non-compliant STP’s)</td>
<td>2.4% current rate of recycling MSW</td>
<td>Target 9% RES by 2010 as consumption (2% in 2004)</td>
<td>83% of forest resources at risk of fire</td>
<td></td>
</tr>
<tr>
<td>Current connection rate only 88% in rural areas, 98.5% in towns</td>
<td>By 2015 20.000 km of new sewer network to be installed (only 17% connection in rural areas, 84% in urban areas)</td>
<td></td>
<td>Poland periodically at risk of water deficit, main issue however good water quality</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poland 100% sensitive area due to impact on Baltic Sea</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current water loss? No information on existing network to be renovated</td>
<td>No information on existing network to be renovated</td>
<td>No information on need for individual treatment</td>
<td>No information on physical investment needs</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1.2.3 Issues reducing the amount of needed investments

Alternative funding sources

Existing or planned ways of supporting investment to meet needs through for example market support measures:

Field 4 (renewable energy): The energy law puts an obligation to purchase renewable energy on all enterprises that produce or trade in electricity. This obligation can be fulfilled only by purchases directly from producers of renewable electricity. The required levels increase gradually - from 2.65% in year 2003, till 7.5% in 2010. Similar obligation has been put on the enterprises that produce or trade in heating energy with minor differences in defining the reference level.

Implementation is supported by the existence of financial penalties for not complying with required levels. It is within the competence of URE (Urząd Regulacji Energetyki - Energy Regulation Office). The full control of the implementation is available for the year 2004 - 33 out of 291 enterprises have been fined for not reaching the required level. Control for the 2005 is still ongoing, as the number of enterprises under the Energy Law provisions grew to ca. 900 and the system of certification of renewable energy has been introduced (in 2005).

There are a few legal and financial mechanisms (grants, soft loans) to promote and achieve RES goals. There is a need to review and estimate how existing mechanisms create a synergy of RES promotion or overleaping of mechanisms. Liberalisation of the electricity market does not support the development of RES electricity. Electricity prices on wholesale market are equal to 117.5 zł/MWh (2005) and are so far less then RES electricity price = 239.0 zł/MWh in 2004. There are no banks ready (keen) to participate in the RES related projects. Such projects are capital-intensive and usually too risky to the banks in terms of the project economics. There is lack of other mechanisms to minimize this risk and thus support the necessary banking.

The biggest hopes for RES utilisation have always been associated with biomass. However, currently there are shortages of biomass on the market and the competition for resources is fierce. The winners are bigger companies, which use biomass for co-firing leaving no space for the market expansion of small dispersed heat generation. The solution to this problem could be the development of energy crops by means of active public support, however, currently the level of support is insufficient.

The extent to which the type of investment needed has previously been funded by the MS; and/or is already part of nationally funded plans; and/or is considered to be a MS responsibility:

Field 1 (water supply): SF support is needed to improve drinking water quality, as stated in national plans.

Field 2 (waste water treatment): the acquis forces MS to ask in the first place funding for new STP's and collectors as well as upgrading of existent STP's for larger agglomerations. This is still a very huge task in Poland; needing European funding.

Field 3 (municipal solid waste): The focus in the previous EU funding period was on solid waste management projects, including separation, composting, recycling and disposal. This focus will probably be prolonged during the next period.
Field 4 (renewable energy): see explanation above.

Field 5 (natural risk management): The whole fire protection system cost a lot each year – in 2004 State Forests expended about 15 mln Euro; all this expenditures are covered up to now by State budget. For flooding and drought, both SF and MS support will be considered.

Use of flanking measures

The current application of user charges and the associated revenue at current rates in the given fields over the period 2007-2013:

Field 1: Analyses developed according to WFD first stage requirements show adequate cost recovery level as far as operation costs in municipal water supply companies are concerned.

Field 2: Concerning existing sewerage systems and wastewater treatment installations, 95-100% operating costs are recovered (research for Middle Wisla River Basin made by Regional Water Management Board).

Field 3: The system of municipal waste collection fees paid by individuals varies across communities and towns. Solutions applied are service fees paid to waste collection companies and local ear-marked taxes. Waste collection companies and local authorities are free to decide on the fee calculation. Therefore several approaches exist: Costs of waste collection contribute at 1-1.5% of households income (around 50% of the costs of water supply and sewage collection), what is not recognised as significant issue in terms of affordability.

The scope to raise additional revenue through higher rates of existing charges or from new charges, taking into account affordability:

Field 1: Currently there is no affordability issue. It should be noted however, that water prices will increase due to modernisation investments.

Field 2: Increase in tariffs is expected only where new investments and/or modernisation are to be implemented. Possible increase of tariffs does not seem to be significant in terms of affordability.

Field 3: There is no reliable forecast concerning any changes in economic instruments and tariffs.

Fields 1-2-3: It seems that the planned charges will not exceed 5 %. Additional revenue for investment could be generated but seems limited; as any rise of the user charges will also have to compensate for the higher operation costs of the water supply, water and waste treatment companies.

PPP’s and other measures with effect on need for investment:

The regulation of the private-public partnership has been done in July 2005 in a new Act on PPP. It creates the framework for existence of official PPP ventures - mainly infrastructure investments. PPP is mainly designed for the support of local authorities in their fulfilling of obligations in spheres such as environmental protection, culture, education, etc.
So far the system has been designed mainly for big infrastructure projects, yet it is open to other types as well.

The main market area is the water and wastewater management, where the obligations are already set, while the local authorities may lack the finances or credit abilities.

It is too early to tell whether PPP will increase the capacity to deliver the programme and hence increase the capacity to ‘absorb’ SF / CF. The legislation may need corrections so the whole system may not be fully operational soon.

Field 2: Municipal wastewater treatment is a responsibility of local authorities. Local government is obliged to provide treatment services for the community. Services might be contracted to private companies, however almost all operators are fully owned by local authorities (most frequently as public enterprises). Regulations allow local authorities to develop public-private partnerships, however this form is not popular in municipal wastewater collection and treatment services (there are very few individual cases, where private operators provide treatment).

Field 3: Most waste collecting companies are either municipal or mixed, but recently there is a development of private companies dealing with waste. Public-private partnership seems to be a choice of the future for this sector, but the legislation on PPP in Poland is very fresh so most enterprises so far were not technically PPP.

Institutional and absorptive capacity

Fields 1-2-5: The 7 regional water management boards (RZGWs) are expected to be responsible for water resources policy development and implementation, with coordination by national water management board (which is planned but not established yet). RZGWs still operate without adequate competencies. Institutional weaknesses include limited decision competency and insufficient influence on environmental fees policy regarding water. Competencies concerning water resources are divided between municipalities (healthy drinking water production and supply.), RZGWs and general administration, what makes policy development and implementation incoherent. The latest are responsible for water resources policy development and implementation.

Field 2: Objectives in wastewater treatment sector are relatively successfully being achieved. According to priorities outline (significantly influenced by EU requirements) investments in bigger agglomerations must be realized firstly, than smaller towns. Current progress is satisfactory, however weaker capacities of smaller agglomerations should be carefully considered.

Field 3: The waste management system in Poland is not coherent and there are many issues of potential conflict. The Ministry of Environment is responsible for creation of Regional Waste Management Plans and Strategies, but the Regional Self-Governments should write those strategic documents. The municipalities are responsible for dealing with waste but they cannot force individual property owners into one system, as owners are allowed to freely choose a waste disposal company. As a result several parallel systems exist within one municipality. As consequence municipalities have problems establishing recycling and reuse systems. The biggest
challenge will be establishing control on the waste street without compromising the free market potential.

Field 4: The main institutional issue is enforcement of the requirements of the energy law on the share of renewables and classification of renewables. A strong obstacle is the lack of stable financial and legal regulations – the Energy Law is permanently subject to amendments and new executive ordinances are often issued, that impact operating and economy of the enterprises. The expected law on supporting RES is still not issued, neither pre-decided. Therefore, efficient mechanisms that might support the RES sector have not been included among the legal provisions in force (except the regulations on green certificates). There are a few sectoral policies that influence RES development in Poland like: economy energy, environment, forest, agriculture policies. There is a need to integrate these policies to coordinate action plans and avoid a distortion of the raw materials market. For example promotion of green electricity demands a significant amount of forest wood and causes increase of wood prices. It can destroy a cost-effectiveness of pulp and paper industries and furniture industries at the limited supply of forest wood. Development of RES, especially biomass production and new technology and devices can bring impact for regional developments. Transformations of energy market towards RES should be enforced on local and regional level. There is a need to develop new methodology and implementation of local and regional energy supply plans and environment protection programmes required by Polish law. National RES Development Strategy should be equipped with market transformation programmes and implementation mechanisms to meet national targets and increase the competitiveness of RES options.

Field 5 (flooding): General coordination of all water management issues is in hands of the Minister of Environment who is responsible for water management sector. Two institutions are assisting the Ministry – The Water Management Office in Warsaw and The Institute of Meteorology and Water Management. The Water Management Office very closely cooperate with Water Management Department in Ministry and coordinate the studies on the state of anti-flood protection which are prepared in RZGW offices, and prepare materials needed for preparing plans of flood protection in Poland. Experts from The Institute for Meteorology and Water Management, who also play the role of the public hydrological service, work on the methodological basics of water management in Poland coherent with Framework Water Directive, including flood risk assessment. The regional water management offices are cooperating with other countries on transboundary waters management (flood problem is one of main important issues) on the base of bilateral agreements of Poland with neighbours countries and also cooperate with other countries within the program INBO (International Network of Basin Organizations) and EURO-RIOB (Network of European Water Basin Organizations). An important issue is the contestation by the green NGO’s of several of the larger investment projects against floods (dams, reservoirs), as these NGO’s want a more environmental friendly solution, instead of large infrastructural solutions.

Field 5 (drought): The institutional issues relate mostly to lack of planning and management in the area of drought protection (coordination of planning between the Minister of Agriculture and Rural Development and the Minister of the Environment). Regional authorities for agricultural drainage and water facilities which are bodies of regional self-government, are dealing with small retention of water. The farmers whose farms are damaged by drought are getting support from the State. When the problematic area is very large, the regional authorities are coordinating the support.
Field 5 (Others): Other types of natural catastrophes in Poland (i.e. landslide damage and other slope processes), are monitored on a national level but there is a lack of management on local level and proper coordination.

1.2.4  **Net remaining potentially absorbable investment needs**

This table gives the financing requirement after absorption review, starting from the total investment need and taken into account the investment that can be covered by market schemes and/or user charges as well as the absorptive capacity per field.

**Table 0-5: Estimate of the financial requirement for all fields, 2007-2013**

<table>
<thead>
<tr>
<th>Stage in the Field Assessment</th>
<th>Field 1 Water supply</th>
<th>Field 2 Waste Water</th>
<th>Field 3 Waste</th>
<th>Field 4 RES</th>
<th>Field 5 Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>A: Indicative Total Investment Needs (Meuro)</td>
<td>1.100</td>
<td>7.240</td>
<td>2.200</td>
<td>6.134</td>
<td>2.200</td>
</tr>
<tr>
<td>B: Investments likely to be covered by market schemes (eg purchasing of renewables)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1.000 (i)</td>
<td>0</td>
</tr>
<tr>
<td>C: Amount recovered from existing user charges not included in investment need</td>
<td>0 (iii)</td>
<td>0 (iii)</td>
<td>0 (iii)</td>
<td>0 (i)</td>
<td>0</td>
</tr>
<tr>
<td>D: Further amount that could be recovered from higher rates for existing or new charges to fund investment</td>
<td>300 (iv)</td>
<td>800 (iv)</td>
<td>300 (iv)</td>
<td>0 (i)</td>
<td>0</td>
</tr>
<tr>
<td>F: Absorptive Capacity (% of Financing Requirement (E))</td>
<td>70 %</td>
<td>80 %</td>
<td>70 %</td>
<td>15 % (ii)</td>
<td>70 %</td>
</tr>
</tbody>
</table>

(i) This 1.000 Meuro is a very rough estimate; fact is that the room for investments based on market schemes is very low. Electricity prices on wholesale market are equal to 117.5 zl/MWh (2005) and is so far less than RES electricity price like 239,0 zl/MWh in 2004. The main instrument aimed at supporting development of the green sector, is the obligation to purchase green energy.
(ii) At the moment, there are no banks keen to participate in the RES related projects (capital-intensive and too risky, lack of mechanisms to reduce this risk and support the necessary banking). A strong obstacle is lack of stable financial and legal regulations – the Energy Law is permanently subject to amendments and new executive ordinances are often issued, that impact operating and economy of the enterprises. The expected law on supporting RES is still not issued, neither pre-decided. Therefore, efficient mechanisms that might support the RES sector have not been included among the legal provisions in force (except the regulations on green certificates).

(iii) Analysis showed that existing charges about cover the operational costs, not leaving any room for investments, not even replacement investment.

(iv) These figures are only rough estimates, just as an indication that, at the moment, there are no signs of an affordability issue for the current environmental charges (water & waste water, waste). This would open the possibility of an increase in charges in order to provide funding for investments. However, at the moment there is no reliable forecast concerning changes in economic instruments and tariffs.
1.3 PART 3: PRIORITIES

1.3.1 Financial requirement

This table gives a) the absolute and relative structural assistance in the previous period (see chapter 2); b) the financial requirement (absolute and relative) for all 5 fields, as determined above; c) the preliminary figures on required funding from the Draft Operational Programme Infrastructure and Environment.

Table 1-6: Overview of funding in past period and total financial need estimated and required funding in next planning period

<table>
<thead>
<tr>
<th>Field 1</th>
<th>Field 2</th>
<th>Field 3</th>
<th>Field 4</th>
<th>Field 5</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>DWS</td>
<td>WW</td>
<td>MSW</td>
<td>RES</td>
<td>RISK</td>
<td></td>
</tr>
<tr>
<td>Past period funding (2000-2006) in Meuro</td>
<td>302</td>
<td>2,715</td>
<td>484</td>
<td>20</td>
<td>203</td>
</tr>
<tr>
<td>Past period funding (2000-2006) in %</td>
<td>8%</td>
<td>73%</td>
<td>13%</td>
<td>1%</td>
<td>5%</td>
</tr>
<tr>
<td>Total financial need (2007-2013) in Meuro</td>
<td>560</td>
<td>5,152</td>
<td>1,330</td>
<td>770</td>
<td>1,540</td>
</tr>
<tr>
<td>Total financial need (2007-2013) in %</td>
<td>6%</td>
<td>55%</td>
<td>14%</td>
<td>8%</td>
<td>16%</td>
</tr>
<tr>
<td>Total demand draft Programme (2007-2013) in Meuro</td>
<td>250</td>
<td>2,500</td>
<td>850</td>
<td>337</td>
<td>934</td>
</tr>
<tr>
<td>Total financial need (2007-2013) in %</td>
<td>6%</td>
<td>51%</td>
<td>17%</td>
<td>7%</td>
<td>19%</td>
</tr>
</tbody>
</table>

Remark: the figures on past period funding are estimates and not official figures, as 100 % reliable figures were not available. Furthermore, the investments in water supply and waste water are mostly mixed projects, and the total funding was divided according to a 10 % / 90 % ratio.

This table already indicates:

- The total need is substantially larger than the previous investment;
- The past period funding and total funding demanded in the next period will be of the same order of magnitude;
- Although the “traditional acquis compliance” fields (waste water and waste) still predominate, a substantial financial need is identified for the fields water supply and risk.
- The relative allocation across fields as identified in the total need is quite comparable with the funding demand in the next programming period.

1.3.2 Indicative suggestion of the allocation of resources

It is likely that the total financial need (as given higher up) will be substantially higher than the available structural funds, necessitating a priority assessment in allocation across the fields.

We could consider three scenarios:

- Scenario 1: The available amount is divided relative to the needs;
- Scenario 2: More weight is given to compliance with the Acquis;
- Scenario 3: More weight is given to Regional Development.

Although much more (intermediate) scenario’s are possible, these three scenario’s, further concretised, would give already an idea about the consequences of priority setting on allocation of funds across the fields.
Combining the three scenarios above, the following range of allocations can be expected:

**Table 1-7: Expected range of allocations, 2007-2013**

<table>
<thead>
<tr>
<th>Field 1</th>
<th>Field 2</th>
<th>Field 3</th>
<th>Field 4</th>
<th>Field 5</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>DWS</td>
<td>WW</td>
<td>MSW</td>
<td>RES</td>
<td>RISK</td>
<td></td>
</tr>
<tr>
<td>minimum allocation (%)</td>
<td>6%</td>
<td>51%</td>
<td>14%</td>
<td>5%</td>
<td>11%</td>
</tr>
<tr>
<td>maximum allocation (%)</td>
<td>7%</td>
<td>62%</td>
<td>15%</td>
<td>8%</td>
<td>19%</td>
</tr>
<tr>
<td>allocation range (%)</td>
<td>6-7</td>
<td>51-62</td>
<td>14-15</td>
<td>5-8</td>
<td>11-19</td>
</tr>
</tbody>
</table>

The following conclusions are proposed:

- the allocation range across fields does coincide quite well with the (preliminary) proposal of required funding in the Draft Operational Programme of Infrastructure and Environment;
- in Poland – in comparison with other countries – much more emphasis (> half the budget) is put (funding required) on field 2 – waste water; leaving less funding space for the other two “traditional” fields (waste and certainly for drinking water supply); in the previous programming period, this importance of waste water treatment investments was even more pronounced;
- the % allocation towards field 1 (water supply – 7%) and field 3 (waste – 15 %) should at least remain on the same level as in the previous period; the % decrease of funding in field 2 (waste  water - 55 %) should provide the necessary funding space for investments in the “new” fields;
- in these three fields (fields 1-3), projects are very much “acquis driven” and the type of projects to be funded will be mostly a continuation of the previous funding period; within the type of projects, the order is typically a function of the size of the projects (e.g. number of IE per agglomeration for a WTP); it is to be expected that in the coming period, the scale of the projects will decrease (smaller agglomerations needing adequate waste and water water treatment), hence establishing a greater need for capacity building.
- for these “new” fields (fields 4-5), the investments in RES should cover maximum 5 % of the total funding, taken into account market support schemes;
- for risk (field 5), an allocation % < 10 % is proposed; as the required funding for large anti-flood measures should be investigated first more thoroughly regarding possible win-wins with other policies (environmental policy, agricultural policy, etc.), regional development and local acceptance; the required funding for anti-drought issues will probably be already in a phase of higher acceptance and evidence for win-wins;

**1.3.3 What are the priorities?**

**Field 1: water supply**

Focus should lie upon improvement of drinking water quality. While some installations require modernisation, the main reason for such state of affairs is unsatisfactory quality of water resources used (especially surface water). Only 5% of rivers monitored (in terms of length) meet quality standards for resources as source
of drinking water. Regarding improvement of water resources one of the most significant programmes is “National Programme of Municipal Wastewater Treatment”.

Funding should not go to extension of capacity, as existing capacity is enough to meet demand. Reconstruction demand of the network or production facilities should be funded by existing and/or rise in charges, although is not clear whether the charges provide enough financial means.

Field 2: waste water treatment

The type of projects to be funded will be mostly a continuation of the previous funding period: new STP’s including sludge treatment, new sewer network especially in rural areas.

Within the type of projects, the order is typically a function of the size of the projects (e.g. number of IE per agglomeration for a WTP); it is to be expected that in the coming period, the scale of the projects will decrease (smaller agglomerations needing adequate water water treatment), hence establishing a greater need for capacity building.

Some funding (taking into account the low absorbability of local initiatives) should be reserved for pilot projects regarding water treatment of smaller agglomerations (< 2,000 PE and/or individual treatment). Especially because smaller agglomerations suffer both from institutional capacity (project pipeline development) as well as from lack of financial support.

Replacement of worn out infrastructure should basically be covered by existing or additional user charges, although is not clear whether the charges provide enough financial means.

Field 3: municipal solid waste

There is a clear parallel with field 2. The type of projects to be funded will also be mostly a continuation of the previous funding period. Emphasis will lie on waste management systems, including composting, recycling, sorting, disposal. Special focus should be placed on advanced solutions for waste treatment with priority on recycling; besides the recultivation of dump sites.

As the scale of the projects will decrease (smaller agglomerations) there will be a greater need for technical capacity building. Furthermore, also institutional capacity building is to be promoted by funding, as the waste management system in Poland is not coherent and there are many issues of potential conflict (between the Ministry of Environment and the Regional Self-Governments; between the municipalities, waste disposal company and owners, control on the waste street without compromising the free market potential, etc.).

The recultivation of smaller, old landfills is a very important issue, as there is a potential danger for lack of institutional capacity and absorbability at these smaller municipalities, as well a lack of adequate funding. This situation endangers a sustainable protection of the ground water resources (link with field 1).
Field 4: renewable energy

RES priorities are first of all a function of physical possibilities for renewable energy. This would emphasize the need for relatively more funding of wind energy projects and biomass. However, wind energy projects are often opposed to, even by green NGO’s. And at the moment there is a shortage of biomass, seen as the solution with the most potential, on the market.

However, the final need for funding will strongly depend on the national strategy and master planning, which is absolutely lacking clarity at the moment. High feed-in tariffs would mean that not much financial help is needed for these RES-technologies.

This illustrates the need for institutional capacity building, management planning and collaboration.

Field 5: natural risk management

Flood protection measures and anti-drought measures are both to be considered as funding priorities with great win-win potential regarding other (environmental) policies, regional development and sustainable development. Very often however flood protection and anti-drought the measures are in contradiction with nature conservation and put to much attention on big investments solutions rather than searching for the appropriate, economic efficient and environmentally friendly solution.

Forest fire protection is seen as less important and should be covered, as in the past, by national funding.

1.3.4 Why are they priorities?

Compliance with the acquis

The financial need regarding field 1 (drinking water supply) is in essence acquis driven as investments are primarily for improving drinking water quality.

In the fields of waste water treatment (field 2) and municipal solid waste (field 3), projects are very much “acquis driven” and the acquis even dominates the timing (larger projects first).

Consistency between environmental and other policies and priorities

Field 4 (renewable energy):

It is obvious that these investments contribute to the Sustainable Development Policy. Also regional development is seen to be promoted by investment e.g. in biomass.

Field 5 (natural risk management):

The proposed investments regarding anti-flood measures will contribute to the new Flood Directive which is in the pipeline.

Furthermore, it is clear that anti-flood and anti-drought measures contribute to a Sustainable Development policy. However, the final allocation percentage for anti-flood measures should however strongly depend on the local support or opposition
against certain (more technical) projects from green NGO’s, farmers, local economical organisations, etc.

Projects concerning the drought issue are a typical example of a win-win situation for both the environmental and agricultural European policy;

**Regional development benefits**

The National Development Plan mentions environment protection only briefly focusing mainly upon the state of environment and outlining necessary investments. It states that good environment is a factor in improving the competitiveness of "the Polish space as a place for living and investing". The NDP aims at creation of the competitive economy in spite of Accession Treaty requirements as to the state of environment. Investments in environmental infrastructure are to be used to create conditions to increase investments and spatial order. However, Integrated Operational Programme Regional Development 2004-2006 states that investments in environmental infrastructure will improve living conditions in the regions and increase their attractiveness. Although it is noticed it still is quite marginal in the whole concept.

The use of structural funds for environmental protection is seen as a factor contributing to rise of employment and GDP growth.

**Field 2 (waste water treatment):** Some funding should be reserved for pilot projects regarding water treatment of smaller agglomerations (< 2.000 PE and/or individual treatment), as these projects could have a local development benefit (rural development, development of tourism, effect on local health).

**Field 5 (natural risk management):** Flood protection (such as natural inundation areas or winterbeds) and anti-drought measures do provide a great potential for win-win situations and regional development in remote areas (less economical damage, recreation potential, natural values, agriculture, etc.).

**National stated priorities that do not seem so important to the evaluators given developments**

**Field 5 (natural risk management):** Forest fire protection is seen as less important and should be covered, as in the past, by national funding.

**Priorities that were not seen as such by the national authorities but should be**

All fields: in all fields there is clear lack of capacity building. In some cases, there will be more need for technical capacity building (e.g. local municipalities – waste water management), but in other case the need will have a more institutional character (e.g. RES-issues, waste management). More information is given above.

**Field 2:** some funding should be reserved for pilot projects regarding water treatment of smaller agglomerations (< 2.000 PE and/or individual treatment), as these projects could have a local development benefit (rural development, development of tourism, effect on local health).

**Field 3:** the recultivation of smaller, old landfills is a very important issue, as there is a potential danger for lack of institutional capacity and absorbability at these smaller municipalities, as well a lack of adequate funding. This situation endangers a sustainable protection of the ground water resources (link with field 1).
Fields 1-2-3: it remains unclear whether a rise in existing user charges (relating to water supply, waste water treatment and municipal solid waste) causes an affordability issue. This rise in charges could give financial room for rehabilitation investments in existing networks (drinking water, waste water, etc.). If it becomes an affordability issue, SF/CF funding for these type of investment should be reconsidered.

**Important flanking measures to encourage efficiency and effectiveness**

Fields 1-2-3: regulations allow local authorities to develop public-private partnerships, however this form is not popular in municipal wastewater collection and treatment services (there are very few individual cases, where private operators provide treatment). Public-private partnership seems to be a choice of the future for waste management, but the legislation on PPP in Poland is very fresh. Hence the Polish government should explore the possibilities of PPP and consider this issue as a possible reduction mechanism for the financial need on environmental investment.
1.4 PART 4: KEY ISSUES AND QUESTIONS FOR THE NEGOTIATIONS

Fields 1-2-3: Due to the downscaling of the projects in the next planning period, problems concerning technical capacity and absorbability at municipalities and other local beneficiaries should be anticipated by the central government by asking funding for capacity building, project pipeline support and know-how exchange.

Fields 1-2-3: Information should be provided on physical investment needs, in order to have a more solid basis for financial investment need.

Fields 1-2-3: It remains unclear whether a rise in existing user charges (relating to water supply, waste water treatment and municipal solid waste) causes an affordability issue. This rise in charges could give financial room for rehabilitation investments in existing networks (drinking water, waste water, etc.). If it becomes an affordability issue, SF/CF funding for these type of investment should be reconsidered.

Fields 1-2-3: The Polish government should explore the possibilities of PPP and consider this issue as a possible reduction mechanism for the financial need on environmental investment.

Field 3: How will the regional and local government deal with the recultivation of smaller, old landfills?

Field 4: There are however still a lot of question marks regarding the total financial need and the possible funding mechanisms (feed-in tariffs); which should be cleared out first, before allocating funds to a certain type of RES.

Field 5: Flood protection measures (such as natural inundation areas or winterbeds) do provide a great potential for win-win situations and regional development (less economical damage, recreation potential, natural values, agriculture, etc.); however this approach asks for a participatory and multi-disciplinary planning phase on catchment scale and a choice for environment-friendly measures. Before providing funding to anti-flood measures, it should be well investigated whether the technical project plans have taken into account these aspects in order to avoid problems in further stages due to inadequate spatial development and protest from local, green and/or agricultural organisations.

Field 5: Why would the national funding not be sufficient, as in the past, to provide adequate preventive and reactive measures regarding forest fires?