ENVIRONMENTAL FINANCE

Mechanisms for Managing Public Environmental Expenditure in Selected OECD Countries

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This report is also available in Russian under the title:

Механизмы управления государственными природоохранными расходами в отдельных странах ОЭСР

FOREWORD

This report results from work carried out in the context of the Task Force for the Implementation of the Environmental Action Programme for Central and Eastern Europe (EAP Task Force), for which the OECD Environment Directorate serves as a Secretariat. The work of the EAP Task Force is focused on supporting environmental policy and institutional reforms in the countries of Eastern Europe, Caucasus and Central Asia (EECCA). The report is part of a series of projects on environmental finance in EECCA, which aims at providing guidance to governments in the region on making the best use of available resources and attracting additional finance for environmental policies and projects.

The report presents different institutional options for managing public environmental expenditure programmes with a focus on the water sector in four OECD countries: Austria, Belgium (the Region of Flanders), France and Germany. The analysis uses the Good Practices for Public Environmental Expenditure Management (PEEM), a performance review framework developed by the OECD.

The main objectives of this report are two-fold: to use the Good Practices for PEEM to review the performance of selected OECD country public environmental expenditure programmes; and to draw lessons, particularly for economies in transition.

The analysis for this report mostly relies on desk research, including reviewing the existing literature, official government information and data which are public domain. Relevant government officials and institutions from the four countries have been interviewed (for more information, see Annex E: List of Experts Contacted).

The cut-off date for most of the data made available in this report is end of 2004. Where available, more recent (2005) data have been included. All figures in the report have been converted into Euro according to the official exchange rates of the European Central Bank.

The first draft of this report was prepared by Ecologic, Institute for International and European Environmental Policy, Germany by consultants Nicole Kranz, Martin Obermaier and Andreas Kraemer, under the supervision of Nelly Petkova, Project Manager at the Environment and Globalisation (EG) Division at the OECD's Environment Directorate. The preparation of this report was financially supported by the UK Department for Environment, Food and Rural Affairs.

The report has benefited from the thorough review of Xavier Leflaive, Head of the Environmental Finance Programme at EG and Brendan Gillespie, Head of EG Division. Individual chapters of the report were reviewed by Yann Laurans, of the Agence de l'eau Seine-Normandie (France), Raf Bellers (Aquafin) and Leo Van Gijsel from the MiNa Fund of the Flemish Environmental Agency, both from Belgium. The Austrian case study was reviewed by Michael Aumer and Gottfried Lamers from the Federal Ministry of Agriculture, Forestry, Environment and Water Management of Austria. The report was prepared with statistical support provided by Carla Bertuzzi and technical assistance by Claire Cornfoot. All these contributions are gratefully acknowledged.

The views expressed in this report are those of the authors and do not necessarily reflect those of the OECD or its member countries.

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ABBREVIATIONS AND ACRONYMS

ANIMAL	Administration of Environment, Nature, Land, and Water Management (Flanders, Belgium)
bln	Billion
BOD	Biological Oxygen Demand
COD	Chemical Oxygen Demand
EAP	Environmental Action Programme
EAP Task Force	Task Force for the Implementation of the Environmental Action Programme for Central and Eastern Europe
EC	European Commission
EIB	European Investment Bank
ERDF	European Regional Development Fund
EU	European Union
EU UWWTD	EU Urban Waste Water Treatment Directive
EU WFD	EU Water Framework Directive
EUR	Euro
FRG	(former) Federal Republic of Germany
GDR	(former) German Democratic Republic
KfW	Bank Kreditanstalt fur Wiederaufbau (German Bank for Reconstruction)
KPC	Kommunalkredit Public Consulting
mg/l	Milligramme per litre
mln	Million
NMCD	Non-member Countries Division
OECD	Organisation for Economic Cooperation and Development
p.e.	Population Equivalent
PEEM	Public Environmental Expenditure Management
PPP	Polluter Pays Principle
PPP	Public Private Partnership
SDAGE	Schémas directeurs d'aménagement et de gestion des eaux de France (French River Basin Directives)
UN	United Nations
VAT	Value Added Tax
VMH	Vlaamse Milieuholding (Flemish Environmental Investment Agency)
VMM	Vlaamse Millieumaatschappij (Flemish Environment Agency)
VWZ	Vlaamse Waterzuiveringsmaatschappij (Flemish Water Treatment Company)
VZK	Waterzuivering Maatschappij van het Kustbekken (Water Treatment Company of the Coastal Basin)
WHO	World Health Organisation

EXECUTIVE SUMMARY

Key aspects of the case studies

This report analyses selected public expenditure programmes supporting environmental investments in water supply and wastewater treatment infrastructure in four OECD countries: Austria, Belgium (the Region of Flanders), France and Germany. These programmes have been selected as they involve different approaches to managing public expenditure for water investments. The study focuses on mechanisms for managing government assistance at both national (Austria) and sub-national (Belgium, France, Germany) levels. In selecting the case studies, special attention has been given to the relevance of the expenditure programmes in their national environment and economic policy regimes as well as the potential for replication of good practices in transition economies.

Each case study addresses the following issues: historic development of the public financing system of water investments in the country; description of the legal and institutional arrangements for managing the programme; revenue sources and expenditure areas; programming framework, including allocation of roles and responsibilities, priorities, eligibility criteria, financial products offered, auditing and control, measures to ensure transparency, accountability and efficiency; and issues and measures to ensure compatibility with the EU State Aid rules. The performance of each programme has been subjected to an ex-post analysis, in terms of environmental effectiveness, good budgetary practice and management efficiency, using the *Good Practices for Public Environmental Expenditure Management* (PEEM)[1], as an assessment framework.

The Good Practices for PEEM, developed by the OECD, aim to guide governments in designing, implementing and reviewing public environmental expenditure programmes. In addition, they provide institutions managing public funds with a framework for assessing the performance of such programmes in accordance with internationally-recognised standards. OECD member states have adopted the Good Practices for PEEM as Council Recommendation[2] to guide their work in the area of public environmental expenditure management.

The main objectives of this report are two-fold:

- To test the relevance of the Good Practices for PEEM in reviewing the performance of selected OECD public environmental expenditure programmes; and

- To explore a variety of institutional arrangements for the management of water sector public expenditure programmes and to draw lessons for economies in transition for the design of such programmes.

The **Austrian case study** shows the role a commercial bank plays in managing the federal public environmental expenditure scheme in the country. In 1993, the Austrian government assigned the management of the subsidy programme for water supply and wastewater treatment infrastructure to the Kommunalkredit Austria GmbH, a bank specialised in public finance. Before 1993, the government, through an Environmental Fund, was providing direct loans to beneficiaries. The reasons for outsourcing the management of the Fund to a commercial bank and switching from the use of loans to grants as well as the system for controlling the performance of the Kommunalkredit are discussed in detail in this case study.

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1 See "Good Practices for Public Environmental Expenditure Management", (C(2006)84).

2 The OECD Council comprises Ambassadors of the 30 member countries to the Organisation. It is the main decision-making body of the OECD. Council Recommendations are not legally-binding on member states but their acceptance by the OECD countries suggests a willingness to implement them.

The **Belgian case** focuses on the institutional arrangement chosen by the Region of Flanders to manage a public investment programme for wastewater treatment at a regional level. The institutional solution involves a public-private partnership. Aquafin, the implementing agency, is responsible for implementing an investment programme and building and operating wastewater infrastructure in the region. Once the management agreement between the Agency and the Flemish Government expires (2020), all assets will be transferred to the Flemish Government at zero cost. Until recently, Aquafin was facing problems in achieving the water quality targets specified in the contract with the Government. A new incentive structure and more focused monitoring have been implemented to enhance and ensure Aquafin's performance in this regard.

The **French case** study presents a comprehensive river basin approach. Six Water Agencies (*Agences de l'eau*) represent the major river basins in the country. Each Agency is responsible for water management issues in a specific river basin, receives revenue from water pollution and water abstraction charges, and makes decisions on allocating this revenue to investments in water infrastructure in the respective area. Municipalities are the major beneficiaries of this system, but support is provided to industries and farmers as well. The system is based on the principle of mutual solidarity at the basin level, which implies that everybody who contributes to financing the system can benefit from the support.

The **German case** study looks at a federal subsidy scheme to support investments in the water sector in the New Länder of Germany (former German Democratic Republic). The scheme, which involves loans to local jurisdictions managed by KfW, a publicly-owned bank, was launched immediately after the German Unification of 1990 and subsequently phased-out in 1993. The major objective of the programme (as part of a broader regional development programme) was to raise the water quality in the New Länder up to the standards of the Old Länder (former West Germany).

Key findings and conclusions

The performance of the four programmes was assessed, to the extent possible, in terms of environmental effectiveness, fiscal prudence and managerial efficiency. A comparative overview of the key aspects of the programmes with regard to the three major criteria is provided in Annex C to this report. The analysis shows that the selected programmes have largely achieved a good level of compliance with the Good Practices for PEEM. Some of the major findings of the analysis are provided below:

<u>Compliance with the Good Practices for PEEM in terms of environmental effectiveness</u>

- All four programmes reviewed have generally well-defined environmental objectives and timeframes for their achievement (often linked to the EU Water Directives requirements). These objectives are usually expressed in terms of connection rates to the water supply and sanitation networks or specific pollution removal standards. When not achieved, as was the case of the Flemish Aquafin, stricter performance criteria were imposed by the government and the contract renegotiated. Aquafin's remuneration is now linked to its performance with regard to achieving the water quality targets set by the Flemish Region. In Austria, in case of failure to achieve stated results, project owners are sanctioned.

- Usually, these public environmental expenditure programmes have also wider economic and social objectives. In Austria, for example, this was keeping water tariffs at socially acceptable levels, in Germany - the economic development of the New Länder. In the haste of the German Unification, some of the early German subsidy schemes, including the one reviewed in this publication, lacked well-prepared programming frameworks and well-estimated financial envelopes which resulted in serious financial problems and even over-subsidisation of the water sector.

- The subsidies provided through these programmes are additional to other environmental policy instruments. Economic instruments, such as water pollution and abstraction charges play a very important role in the case of France and Flanders in providing financing to the water sector. On the other hand, user charges in Germany have been brought to cost-recovery levels in line with the User-

Pays Principle. Due to the increase of user charges, water consumption in the New Lander now is one of the lowest in the world.

- Generally, all four programmes require detailed qualitative and quantitative information and data on the projects which apply for support through the programmes. From the available information it is not obvious if cost-effectiveness (the unit lifetime cost of achieving environmental effects) plays a prominent role in the selection of individual projects. However, public support is provided to cover project investment costs only and it usually finances less than 100% of total project costs.

Compliance with the Good Practices for PEEM in terms of good budgetary practice

- Earmarking of revenue for water sector investments has been a usual practice in all four countries. For example, Austria attempts to minimise the negative effects of earmarking through the Law on Fiscal Equalisation which requires the revision of the need for public support for the sector every 4 four years.

- All four programmes are regularly reviewed by internal and external auditors. Ex-post reporting is required from programme managers and information publicly disclosed. Appropriate provisions for achieving programmes' performance and holding programme managers accountable for their decisions are usually included in the contracts between the government and the implementing agency.

- In most countries, the collection of revenue and public procurement is clearly separated from professional expenditure management. Flanders is a special case, where one agency, Aquafin, is responsible for managing the expenditure but also for procurement and making investments as well as operation and maintenance of all wastewater treatment plants at a regional level.

Compliance with the Good Practices for PEEM in terms of management efficiency

- In the four countries, responsibilities for the day-to-day management of the expenditure programmes are separated from programming and policy-making. In these cases, setting the rules of the expenditure programme is a responsibility of the government (except in France, where this role is played by the River Basin Committees). The programme expenditure management is carried out by a professional implementing agency placed outside of the government.

- All implementing agencies have clear legal status and are operationally autonomous. The relations between the implementing agencies and the government are based on contracts (as in Flanders and Austria) or a law (France). These contracts specify the criteria for assessing the performance of the agencies.

- Political interference with agencies' work is minimised through a balanced representation of major stakeholders from different government agencies who participate in the governing bodies of the agencies.

- The quality of the project cycle management practices and procedures employed by the reviewed programmes has been the most difficult to assess. General descriptions of these practices are available but they do not provide a sufficient basis for more in-depth evaluation of the specific rules and criteria governing the implementing agencies in the selection of individual projects receiving support from the programmes.

- The programmes' resources are disbursed through two main mechanisms grants and soft loans (Austria also uses interest rate subsidies). These financial products seem to match the capacity of the implementing agencies, particularly where banks are responsible for evaluating risks and conducting due diligence associated with loans (as in the case of Germany and Austria). In the case of France, it is difficult to assess the capacity of the French Water Agencies to manage the risk inherent in the loans they provide.

Major Lessons Learnt

The case studies clearly demonstrate that there is a strong reliance on subsidies for financing investments in the water sector particularly in times of high initial investments (e.g. to catch up with EU legislation) or other established national policy priorities. Therefore, the careful design of the subsidy schemes is of utmost importance for ensuring the efficient use of public resources. Given the experience of the selected OECD countries with managing public environmental expenditure, there are a number of lessons and good practices, emerging from this analysis that can provide useful examples for the economies in transition. Some of these major lessons are summarised below.

1. The system of public support for water investments in the four countries has undergone serious reforms over the years. Initially, the management of public subsidy schemes was under the supervision of the respective state authorities. Over time, the pressure on public agencies has been partially relieved by a stronger involvement of (or outsourcing to) non governmental (sometimes private) agencies in the institutional arrangements for managing subsidies.

2. Outsourcing government services to a professional expenditure management body is done for a fee paid by the government. Outsourcing could be a choice only if the government has very strong control over the implementing agency's operations and develops clear rules, procedures and criteria for the regular evaluation of the agency's performance. As the examples show, outsourcing could be a good option providing there are certain safeguards in place in order to guarantee the sound governance of the subsidy schemes. Some of these safeguards are:

   - The selection of the management entity should be carried out in a transparent way and on a competitive and merit basis;

   - Individual responsibilities of both the government and the agency should be clearly assigned and agreement contracts carefully prepared. Performance standards should be clearly identified and both decision-makers and programme managers should be held accountable and liable for their actions;

   - The respective financing and partnership arrangements for public environmental expenditure management should be subject to continuous, independent audits and controls. In particular, this should include the close monitoring of management practices.

   The case of Flanders highlights the necessity for monitoring and controlling the effectiveness of the investments in order to ensure the achievement of agreed environmental outcomes. Such control measures, in combination with clearly defined quality targets to be reached and a well-designed reward system, could create appropriate incentives for increasing the effectiveness of programme implementation.

3. Unlike most Environmental Funds in Eastern Europe, Caucuses and Central Asia (EECCA), which are comprehensive environmental expenditure programmes (providing support to a range of environmental media), all reviewed schemes focus on one specific sector only – water. There are no comprehensive subsidy schemes in the OECD countries. This one-sector orientation facilitates more efficient management of the programmes: environmental objectives are easier to define and outcomes to monitor, financial and human resources are better targeted, and the programmes are easier to adjust.

4. The reviewed subsidy programmes have clearly set timeframes – when objectives are achieved, or when other policy instruments become more relevant due to changed economic and market conditions, these programmes are adjusted or even closed, as shown in the case of Germany. In Austria, for example, according to the law in force, the programme is reviewed every four years to check the relevance of, and the need for, the subsidies for the sector.

5. In all four countries, the responsibilities for programme-setting and day-to-day expenditure management are strictly separated, with the government charged with policy-making. The implementing agencies enjoy an appropriate degree of operational and professional independence with staff exclusively assigned to work on the practical implementation of the expenditure programme. Government control over agencies' performance and compliance with the management agreements is ensured through mandatory internal and external audits as well as regular reports published by the agencies on an annual basis.

6. Unlike in most EECCA Environmental Funds, all major stakeholders are represented at the supervisory bodies overseeing the implementation of the programmes. France's River Basin Committees are a very good example in this regard where the interests of all relevant stakeholders are well accounted for.

7. It should be noted that in most cases, the reviewed subsidy schemes are financed by water pollution charges; hence, they operate within the framework of water economics, as transfers between stakeholders. The case of Austria, however, highlights the fact that if there is political consensus and when environmental programmes are well-designed, earmarking of significant revenue from regular federal budget sources (non-environmental charges and taxes) is also possible.

8. Unlike most of the EECCA, where Environmental Funds often operate in a one-year budgetary perspective, the four countries provide subsidies for the water sector on the basis of targeted multi-year investment programmes. This allows for the smooth implementation of long-term investment projects.

9. In most of the cases (except in Germany), the project cycle is guided by intelligible and written procedures which are publicly available and easily accessible by potential beneficiaries. Co-financing is a formal requirement (that is subsidies are used to leverage additional resources from other sources) and only project investment costs are covered. Operation and maintenance costs are not eligible for public support.

Beyond these public financing schemes however, user charges are the only sustainable long-term financing source for environmental investments. User charges in France and Germany have been raised to cost-recovery levels and now generate revenue sufficient to cover, as a minimum, operating and maintenance costs of water utilities, but also (to the extent possible) investment expenditure in new water supply and sanitation infrastructure. Thus, in the OECD countries, environmental expenditure programmes seek to encourage the gradual transition from public subsidy schemes to financing through user charges.

This study is the first attempt to look at selected OECD members' practices of managing public environmental expenditure in a structured, comparative way. OECD governments may wish to use the Good Practices for PEEM framework to further conduct in-depth and comprehensive performance reviews of their expenditure programmes, should they find this framework useful. This might help enhance the efficiency and effectiveness of such programmes, as well as help derive further lessons that could be applied in non-Member countries and in designing financial mechanisms as part of international environmental agreements. This common platform could make comparison across expenditure programmes clearer, more comprehensible and consistent.

1 INTRODUCTION

Background

This report presents different institutional options for managing public environmental expenditure programmes with a focus on the water sector in four OECD countries: Austria, Belgium (the Region of Flanders), France and Germany. The analysis uses the Good Practices for Public Environmental Expenditure Management (PEEM)[3], a performance review framework developed by the OECD.

The Good Practices for PEEM aim to guide governments in designing, implementing and reviewing public environmental expenditure programmes. In addition, they provide institutions that manage public funds with a framework for assessing the performance of such programmes in accordance with internationally-recognised standards.

The Good Practices for PEEM grew out of OECD work in transition economies. In these economies, the public sector accounts for the lion's share of financing environmental expenditure, particularly heavy environmental infrastructure investments. Promoting the effective and efficient performance of public expenditure programmes is of considerable importance for achieving countries' environmental objectives in this sector. The Good Practices were developed to assist countries in this effort. In addition, the Good Practices have undergone a thorough review by relevant committees and working parties of the OECD[4] and have also been endorsed at a number of international fora[5]. The OECD member states have adopted the Good Practices for PEEM as Council Recommendation to guide their work in the area of public environmental expenditure management.

The Good Practices are operationalised in several check-lists which can be used when designing, reviewing or reforming public environmental expenditure programmes. The checklists cover the principles of environmental effectiveness, budgetary good practice and management efficiency. The complete PEEM checklists can be found in Annex B of this report.

Rationale

The policy framework for environmental financing is mainly based on two principles:

1. The first one was developed by the OECD in the 1970s: the Polluter-Pays-Principle (PPP)[6] implies that polluters should bear the full cost of compliance with the goals established by the relevant administration without subsidies; and

2. The User-Pays-Principle (also referred to as the resource pricing approach) is similar to the Cost Recovery Principle, at the core of the European Union (EU) regulatory framework. It states that

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3 See "Good Practices for Public Environmental Expenditure Management", (C(2006)84).

4 These Committees include the Environment Policy Committee's Working Party on National Environmental Policies (November 2004) and the Working Party of Senior Budget Officials of the Pubic Governance Committee (2005).

5 Some of these fora include: the 2002 OECD Global Forum for Sustainable Development; the 2003 "Environment for Europe" Ministerial Conference, Kiev, Ukraine.

6 The PPP was formulated in the 1972 OECD Council Recommendation "Guiding Principles Concerning International Economic Aspects of Environmental Policies", C(72)128.

(all) costs related to the use of a natural resource or the treatment of pollution should be covered by revenue generated by users.

Both the PPP and the User-Pays-Principle aim at reducing or avoiding the use of public environmental expenditure.

The PPP provides for certain exceptions to its "no subsidy" philosophy. Specifically, a subsidy may be justified if it is well targeted (*i.e.* the environmental objectives to be achieved by the subsidy are clearly specified), limited in size and duration and does not introduce significant distortions in competition and trade. Subsidies are also legitimate where considerable external benefits or provision of public goods are involved. Public expenditure is often used to provide environmental public goods, or public goods elements of quasi-private goods, such as the minimum amount of drinking water required for health and well-being, or for basic levels of sanitation required to prevent adverse health impacts.

Current debates on PEEM often revolve around three issues. The first one is related to earmarking of revenue from specific taxes or groups of taxes/charges to support specific government services. Strictly speaking, revenue raising should be separated from expenditure management, but in practice they are often linked. "Locking in" of revenue to finance environmental projects, although often practised and advocated by environmental authorities, may seriously limit flexibility and thus the efficient allocation of resources to socially-optimal uses. It may also contribute to the marginalisation of the environment agenda in the mainstream budgetary process. As a general rule, earmarking of revenue should be avoided as it infringes on efficiency. However, under certain conditions, earmarking is perceived as a price worth paying for having predictable financing for priority environmental measures that would have otherwise failed to be implemented. In such cases, earmarking should be limited to specified periods of time, and provisions be made to prevent "institutional lock-in."

The second issue is related to compliance with the EU State Aid rules. The European Community Treaty[7] explicitly disqualifies any state support or favoured treatment of any firm or product, as this is deemed incompatible with the objectives of the common market. However, the Treaty allows for exceptions to state aid where the proposed aid schemes may have a beneficial impact on the Union as a whole[8]. In assessing environmental aid in particular, the European Commission uses the Community Guidelines on State Aid for Environmental Protection[9]. In general, public expenditure in the provision of open access infrastructure and public goods are not considered state aid, in the meaning of the EU regulations.

Full cost recovery in the provision of household, industrial and agricultural water services is another issue high on the political agenda of the OECD countries. The increased cost of these services and the reduced availability of public funds have led to the need to increase water prices paid by users, that is to move towards the fuller implementation of the user-pays-principle. There is growing acceptance among OECD member states of the need for full cost pricing in the provision of water services. Even where full cost recovery is not practised, transparency in the granting of any subsidies should be a "second best" policy objective.

All these three issues are part of the discussion in the individual case studies presented in this publication.

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7 The Treaty establishing the European Community. The basic substantive rules on the control of State Aid in the EU are set out in Articles 87, 88, 89.

8 Compliance with EU State Aid rules is currently a hotly debated issue. The responsible Directorate-General Competition of the European Commission is preparing new guidelines.

9 Community Guidelines on State Aid for Environmental Protection (2001/C37/03), *OJEC*, C37/3, 3 February 2001.

2 AUSTRIA

The Austrian case study describes the role that the Kommunalkredit Public Consulting GmbH (KPC), a 100 per cent subsidiary of a bank specialised in public finance, plays in managing the federal public expenditure scheme for environmentally-related water supply and wastewater treatment infrastructure.

2.1 Historic overview of public expenditure in the water supply and sanitation sector

Although Austria has always been rich in water resources, the provision of a high standard residential water management has posed difficulties for a long time. A 1968 survey showed that only 39 per cent of the Austrian population were connected to the wastewater treatment system with only three per cent of the total wastewater undergoing biological treatment. Only about eight per cent of industrial wastewater went into the sewerage system, the remaining industrial wastewater directly discharged into, and causing a high level of pollution of, the Austrian river stream network (Sagmeister 2003: 124).

To improve the connection rate in water supply and wastewater treatment, public funds were increasingly allocated to the sector. Funding was especially important in the wastewater sector. From 1959 to 2002, a total of 35 000 mln Euro was allocated to the water sector, with only about 7 300 mln Euro allocated for water supply compared to 27 700 mln Euro for wastewater treatment measures (Sagmeister 2003: 125). According to the 2002 report on water protection (*Gewässerschutzbericht*), 86 per cent of the population were directly connected to the sewerage networks and wastewater treatment system and 92 per cent were connected to water supply.

The operational performance of wastewater treatment plants is closely monitored and of consistently high standard. In 2001, the country's treatment plants with capacity greater than 50 population equivalent (p.e.)[10] removed 95 per cent of the Biological Oxygen Demand (BOD) load, 91 per cent of the Chemical Oxygen Demand (COD) load, 83 per cent of phosphorus and 68 per cent of nitrogen. About 90 per cent of the total treatment capacity includes advanced treatment. This result had been largely accomplished by the time Austria joined the European Union in 1995 and was driven by domestic regulations applied uniformly to the entire country.

From an economic point of view and given the geology, hydrology, and settlement structure of Austria, especially in the mountainous regions, this connection rate is perceived as the maximum feasible rate. Indeed, a further expansion of the public sewerage system is no longer realistic due to the highly dispersed population in Austria's rural areas. The remaining household effluent will therefore mainly have to be treated through decentralised wastewater treatment measures. No comparable data are available for industrial wastewater. However, treatment measures in this area have also significantly increased (Lebensministerium 2002a: 7, 31-33).

The provision of public support to the water supply and sanitation sector is now based on two pillars. The first pillar is direct revenue of municipalities (which, in most cases, own the infrastructure) from user charges for the services provided by the facilities. The second pillar is public funding from the federal government and the nine regional governments (Sagmeister 2003: 123, 128).

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[10] Population equivalent (p.e.): one population equivalent is the organic-biologically degradable pollution load with a biochemical oxygen demand, in five days, of 60 g of oxygen per day.

The focus of this case study is on the analysis of the second pillar, and more specifically on federal funding.

2.2 Description of the current public environmental expenditure programme

This section presents the main features of the expenditure programme. These focus on objectives and priorities of the programme, detailed institutional set-up, and major eligibility criteria for selecting projects for financing. This section starts with a short description of the historical development of the public support programme for the water supply and sanitation section in Austria.

2.2.1 History and development of the programme

Officially, public funding for water supply and sanitation measures began in 1959 when the Water Act (*Wasserrechtsgesetz*) came into force. A Water Management Fund (*Wasserwirtschaftsfonds*) was established to manage the programmes for this sector. Until 1970, funding was primarily allocated to support water supply measures and the expansion of urban sewerage systems. During the 1970s, however, the development of tourism in rural areas came on the agenda. As a result, decontamination measures targeted at lakes started to receive increased funding (Posch 1999: 3-4).

In 1984, a separate Environmental Fund (*Umweltfonds*) was established. This Fund focused on providing subsidies to private companies for implementing air protection, renewable energies, and hazardous waste management measures in order to reduce NO_x, SO_2 and CO_2 emissions. To increase synergies, the two funds – originally under the management of different ministries – were merged in 1987 into a single fund, the Environmental and Water Management Fund (*Umwelt- und Wasserwirtschaftsfonds*), which came under the responsibility of the Austrian Federal Ministry of Environment (today the Austrian Federal Ministry of Agriculture, Forestry, Environment, and Water Management.

During this period, the Austrian government focused its attention on supporting the infrastructure measures through the provision of soft loans. The usual terms of these loans were: low interest rates (compared to the financial market interest rates); long grace periods; and long maturity periods. The conditions attached to the subsidies varied according to the infrastructure measure supported:

- Subsidised loans for local water supply networks measures were designed to cover 55 per cent of the eligible investment costs, at a fixed interest rate of three per cent and a 30-year maturity period;

- For wastewater treatment plants in larger regions, loans were designed to cover 80 per cent of the eligible investment costs, at a fixed interest rate of one per cent and a 50-year maturity period.

Apart from soft loans for small and for industrial projects, the Fund also disbursed part of its resources in the form of grants but no precise numbers are available for this funding scheme.

Considering all necessary discounting, it was estimated that the intensity of public funding averaged about 35 per cent for all projects. This financial support was deemed necessary by the government because, until the 1970s, long-term financing was hardly available even for municipalities, as they were not considered low-risk debtors (Sagmeister 2003: 125)[11].

The 1993 Environmental Assistance Act (*Umweltförderungsgesetz*) brought about a new restructuring of the federal environmental subsidy scheme. As a result, the management of public

[11] The share of the project costs not covered by public funding was mostly financed through project owners' own resources and user charges.

environmental expenditure was delegated to the Kommunalkredit Austria AG (KA), a bank specialised in public finance (not covered by a public guarantee). The transfer included the take-over of the management of the Environmental and Water Management Fund[12].

In 1996, the Austrian Federal Ministry of Environment initiated the sale of the loans to private banks in order to replace the long-term revenues with cash. The international tender was carried out by PricewaterhouseCoopers on behalf of the Austrian Federal Ministry of Environment[13]. The Ministry itself did not carry out the tender, thus political influence was reduced[14]. Since 1996, loans of about 4.87 bln Euro have been sold.

With the implementation of the Environmental Assistance Act, public funding was also no longer provided through soft loans but through grants extended to project owners who would take commercial loans on the financial market (Lebensministerium 2003b: 5, cf. 2.2.4). The Environmental Assistance Act addresses issues related mainly to public support for municipalities. However, provinces, co-operation between municipalities and private investors (*i.e.* public-private partnerships), and private investors alone may also apply for public funding. Subsidisation of this sector rests on the principle that charges for water supply and wastewater services have to remain socially acceptable. As capital costs of investments (household connection or per capita) are usually higher in rural than in urban areas, public environmental expenditures in rural areas are promoted to a higher degree (Sagmeister 2003: 123, 125-126).

Serious flaws in the Fund management system triggered the restructuring of the federal environmental subsidy scheme for this sector. A 1992 financial audit revealed severe defects in the accounting system of the Fund, which led to a loss of about 23 mln Euro (Rechnungshof 1995: 158). In addition, a management failure had led to an intermediate lack of liquidity of the Fund. In an attempt to bring in better expertise and to achieve significant efficiency gains in the public funding, the Austrian government decided to outsource the management of the Fund to a private bank.

Thereby, the Kommunalkredit Austria AG was selected to take over the management of the Environmental and Water Management Fund. The most important argument in favour of this bank was its long-term experience and expertise in financing municipal investments in the country. In addition, the ownership structure of Kommunalkredit played an important role in the selection process. In 1992, the bank belonged mostly to the major Austrian commercial bank groups. The selection of the Kommunalkredit was perceived as both a politically sound and neutral decision with regard to competition issues[15].

Since the 1993 reforms, the assets of the Environmental and Water Management Fund have been legally employed to finance the new funding system and cannot be used otherwise[16]. The highly qualified technical staff of the Fund were hired by the Kommunalkredit in order to ensure the continuity of the appraisal process. The decisions on strategic and special cases remained in the hands of the Minister of Environment.

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12 This Fund still continues to exist under the direct supervision of the Ministry but its sole function is to manage outstanding loans (see next paragraph on the sale of the loans).

13 Personal communication with Bernhard Sagmeister, 18 October 2004.

14 Personal communication with Michael Aumer, 21 October 2004: The sale of the different tranches of the Environmental and Water Management Fund was published in the most important national and international journals. Every potential buyer had the possibility to examine the necessary files (of the Environmental and Water Management Fund) in order to ensure that all interested parties could have the same level of information. Every tranche is sold to the bidder that offers the highest price. Political influence in the tender could thus be excluded.

15 Personal communication with Bernhard Sagmeister, 18 October 2004, and Michael Aumer, 21 October 2004.

16 Personal communication with Michael Aumer, 21 October 2004.

With this restructuring, the expenditure focus of the scheme changed as well. Until 1992, most of the resources of the Fund were allocated to urban water supply and wastewater infrastructure investments. After 1993, most investments were needed in the rural areas of Austria (Sagmeister 2003: 125).

The most recent changes came with the 2001 Guidelines for Environmental Support Schemes (*Förderungsrichtlinien*). These Guidelines define new assistance rates and provide additional clarification with regard to the implementation of the Environmental Assistance Act. As a result, the public funding volume for water supply and wastewater treatment measures decreased by about 23 per cent, from 283 mln Euro between 1993 and 2000 to 218 mln Euro between 2002 to 2004. However, in general, funding for rural areas decreased less than for urban areas (Lebensministerium 2003a: 5; Schönbäck *et al*. 2003: 89-90). The main reason for this decrease in funding is the fact that the expansion of the sewerage system is now perceived as having reached its maximum level (cf. 2.1), *i.e*. public funding needs will eventually decrease further in the coming years.

The current public water expenditure system and the effects of this reform will be analysed more thoroughly in the following sections.

2.2.2 Objectives and priorities of the programme

As laid down in the 1993 Environmental Assistance Act, the use of public expenditure in water supply and wastewater treatment facilities is aimed at ensuring environmental protection of receiving water bodies, as well as public health, access to basic sanitation services for all, particularly at affordable prices. Within this legal context, expansion of wastewater treatment facilities in rural areas is a priority for the Water Fund, managed by the Kommunalkredit[17].

Since joining the European Union in 1995, Austria has been bound by the various EU water directives. Federal support is also provided to help implement the directives. The federal government, which has the main responsibility for water management, has stated that it wants to achieve Class II (good quality), or better, in all running waters, but without setting a target date. For groundwater, the objective is to maintain quality suitable for drinking water.

More specifically, some water targets include contribution to the achievement of a connection rate of the population to the water supply network of 98 per cent and 92 per cent to the wastewater treatment sector.

2.2.3 Description of the institutional set-up

The Minister of Environment has a decisive role in the public financing system. The Minister issues funding guidelines, determines the strategic funding policy, decides on each individual project, appoints the Kommunalkredit administration unit as well as the members of the Commission for Issues Related to Residential Water Management, and coordinates financial resources. The Minister is legally and politically responsible for the performance of the funding system.

This Commission for Issues Related to Residential Water Management is responsible for providing decision support to the Minister of Environment on water supply and wastewater treatment projects submitted for public funding. The Commission consists of 13 members. Eleven members are appointed by the Minister of Environment and selected among members of the political parties represented in the Parliament. The two other members are appointed by the Association of

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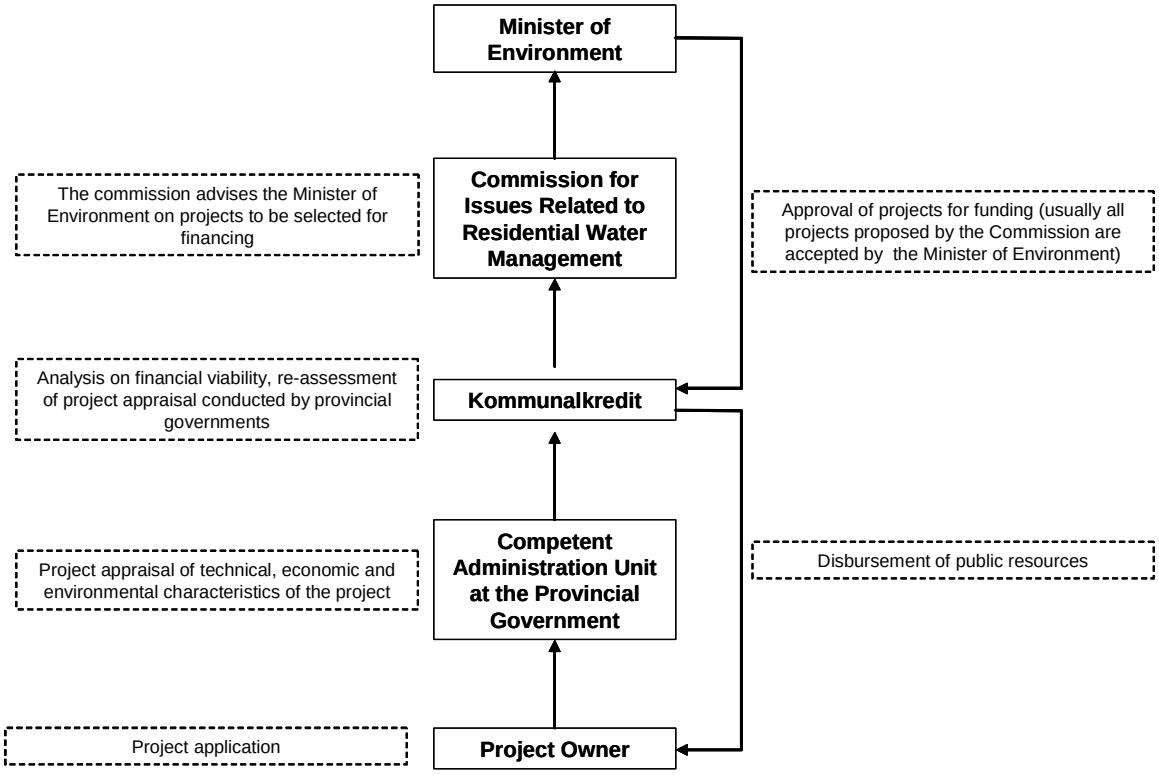
[17] Further public funding is available for industrial sewage disposal measures, cleaning up of contaminated sites, environmental support abroad and other support measures in Austria but these are not covered in this study.

Communities (Gemeindebund) and the Association of Cities (Städtebund), *i.e*. local authorities (municipalities).

The management of federal public expenditure in water supply and wastewater treatment is now co-ordinated by the Kommunalkredit. The task of the Kommunalkredit is to evaluate individual projects and to implement the decisions of the Minister of Environment. Thus, the KPC acts in the name of, and on behalf of the Minister of Environment.

The KPC was founded by the Kommunalkredit Austria AG (KA). The KA main shareholders are the Investkredit Bank AG (50.78 per cent), the Dexia Crédit Local (49.00 per cent), and the Österreichische Gemeindebund (Austrian Association of Municipalities [0.22 per cent]). The KPC was founded as a joint-stock company, a 100 per cent subsidiary company of the KA with the aim of separating the management of the KA public funding activities from its daily commercial banking activities (Kommunalkredit 2004b). As such, the KPC is practically independent and its co-operation with the federal ministry is considered as a public-private partnership.

Figure 1. Institutional set-up of public environmental expenditure for water management in Austria



The Environmental Assistance Act (§ 46 II and § 11 II-VIII) defines the contractual co-operation between the KPC with the Ministry of Environment. The Act states that the KPC, along with the competent administration units of the provincial governments (*i.e*. the water management units), is responsible for the project evaluation of submitted applications. The KPC also signs the subsidy contracts with applicants on behalf of the Ministry of Environment. Furthermore, the bank manages all projects, a task involving the control and payment of invoices to project owners, as well as the management of "recovery orders" (*Zahlungsrückforderung*)[18]. Although the KPC is responsible for the

[18] "Recovery orders" refers to cases where a project owner has knowingly made wrong (illicit) statements in the application form with the aim of receiving public support, and where such cases need revision.

overall management and control of the federal water expenditure programme, the final selection of projects for financing remains with the Minister of Environment (Lebensministerium 2003a: 5).

The KPC is obliged to prepare regular financial and activity reports to the Minister of Environment (Aumer, Lamers 2001: 8). The Environmental Assistance Act allows the KPC to receive a reasonable remuneration for its services from the government. All rights and responsibilities of both the Ministry and the KPC, including the remuneration issues, are laid down in an administration contract.

Financing of the water supply and wastewater treatment infrastructure in Austria is not limited to federal subsidy schemes only. Different provincial governments have their own subsidy schemes as well. In addition, significant co-financing from own capital or from revenue from user charges is required from project owners when applying for public support (Sagmeister 2003: 127-130).

2.2.4 Eligibility criteria and expenditure

This section briefly discusses three major issues: eligibility criteria, expenditure focus, and application and appraisal process.

Eligibility criteria

The eligibility criteria for public expenditure in the water supply and wastewater sector are specified in the Environmental Assistance Act. These include, *inter alia*, eligible beneficiaries, eligible types of projects, assistance rates, disbursement mechanisms.

Eligible beneficiaries include various legal entities, such as: municipalities, water co-operatives (groups of individual households) and associations (groups of individual settlements or municipalities), companies, and public-private partnerships (Lebensministerium 2003a: 7).

The types of projects that can receive subsidies are defined in the Environmental Assistance Act (§ 16). These include: wastewater treatment plants, sewerage systems, sludge treatment, and water supply networks of various sizes (Aumer, Lamers 2001: 11). Industrial sewage disposal measures and research projects are also eligible for financing, but their share is negligible compared to the total public environmental spending (Lebensministerium 2003b: 10). Only investment costs are financed. The eligible investment costs for the water supply and wastewater management sector are explicitly defined in the 2001 Environmental Support Schemes. Generally, most costs for the construction of water supply and wastewater facilities are eligible for funding. However, land purchase, maintenance and operating costs, as well as the construction of administrative buildings do not get support. Projects designed for areas with underdeveloped water infrastructure are particularly welcome.

Projects eligible for funding should correspond to the objectives of the programme. In general, they should aim at: protecting surface and groundwater from pollution, delivering water to consumers, and ensuring reduced water consumption. Future demands for services in the water supply and wastewater sector also have to be taken into account by project owners.

Generally, projects are subsidised according to their environmental priority. However, every competent provincial authority can adjust the environmentally-related infrastructure investments to the regional priorities. For example, in a rural area with a low connection rate to water services, the provincial authority might decide to primarily assist projects that expand the water pipeline networks. Authorities in more urban areas might put more emphasis on the upgrading of their wastewater facilities and therefore fund a new wastewater treatment plant. Thus, the eligibility criteria may vary strongly between different regions.

There are two main financial instruments of public expenditure under the Austrian scheme[19]: interest rate subsidies and grants. Interest rate subsidies are provided to project owners in order to help decrease the interest rate on commercial loans. During the project construction period, the intensity of the public funding increases gradually, e.g. in the 10th year of project funding subsidies are higher than, for example, in the 5th year. The first tranche of interest subsidy is usually disbursed when the public funding contract is signed by all partners. This first transfer amounts to a minimum of 25 per cent of the total project investment costs. To simplify the administration of the expenditure management carried out by the KPC, the subsidies are transferred twice a year to the project owner.

Grants are usually linked to small-scale projects or already existing funding provided through the European Regional Development Fund (ERDF)[20]. Resources under the ERDF, available for environmental funding, amount to about 40.9 mln Euro for the period 2000-2006. Thus, this source constitutes a small part of the overall expenditure in the environmental water supply and wastewater infrastructure (Kommunalkredit 2003: 6).

Soft loans, as described in Section 2.2.1, are no longer used as they were perceived as disadvantageous by the Austrian Federal Ministry of Environment, as the owner, at that time, of the Environmental and Water Management Fund. The long-term allocation of soft loans induces an "interest risk" as interest rates can show significant variations even in the short run. In the case of rising (financial market) interest rates, refinancing becomes more expensive for the funding agency. This development adversely affects the returns and may lead to significant financial losses. After abandoning the use of soft loans, all financing risks now remain with the project owner (Sagmeister 2003: 126). This also enhances the pressure on the project owner to look for the best market financing conditions with regard to planned investments.

Expenditure focus

Currently, the emphasis is on sanitation in rural areas. Most projects are submitted by rural provinces with a low population density, such as Carinthia (Kärnten), Lower Austria (Niederösterreich), and Styria (Steiermark). In these areas, projects are often more costly on a per capita basis than in urban centres (e.g. due, *inter alia*, to the longer pipelines needed to reach rural settlements, often spread over mountainous regions).

In 2002, a total of 2 532 applications were submitted for funding. During the decision-making process, all projects were accepted by the Minister of Environment and received public funding (Lebensministerium 2003b: 2). This represents a significant increase compared to 2001, when 1 933 projects were submitted and selected for financing (Lebensministerium 2002b: 12). Part of this increase can be linked to the 2002 flood disaster in Austria, when the federal government allocated additional subsidies for disaster relief (Lebensministerium 2003a: 13). For comparison, in 2005 the number of projects approved for financing decreased to 1 750.

The approval rate for projects in the water supply and sanitation sector has always been high. Since 1993, it has risen significantly. According to the Ministry of Environment and the KPC, this can be partially attributed to the extensive communication policy and the development of guidelines for project owners applying for public funding (Lebensministerium 2003b: 6). In addition, the applicable assistance rates can be calculated in advance by project owners with the help of computer programmes made available on the KPC website. Therefore, the outcome of the application process can be estimated relatively easily. The project owner can decide in advance whether it is worth applying or not. What is more, projects are prioritised at a regional level before being submitted to the KPC for evaluation. In this way, submission of costly project applications is avoided.

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19 For more information, see Table 2.3 below.

20 For more details on the ERDF see http://europa.eu.int/scadplus/leg/en/lvb/l60015.htm

The distribution of the project types in 2002 is presented in Table 2.1 below. Table 2.1 shows that the majority of projects funded are investments in the wastewater sector. About 88 per cent of overall funding goes to wastewater treatment measures, whereas only about 10 per cent is allocated to water supply measures. In total, both funding areas make up for nearly 98 per cent of all public funding in the water supply and wastewater management sector. The remaining two per cent goes to funding of industrial wastewater treatment and research measures. These trends continued in 2005 as well, with 89 per cent of federal government subsidies spent on wastewater management projects (169 mln Euro) and the rest on water supply measures (20 mln Euro).

In addition, Table 2.1 shows that 2 532 projects were selected for financing from the federal subsidy scheme in 2002. The average leverage effect of the public subsidies over all projects in 2002, *i.e*. the ratio of the subsidies allocated to the (environmentally-related) investments generated, is 25.94 per cent for all wastewater treatment, and 21.93 per cent for all water supply measures. For the period 1993-2002, these values were 35.73 per cent and 19.55 per cent, respectively. This implies that assistance through public expenditure has decreased significantly in the wastewater sector, whereas it remained relatively constant in the case of water supply[21]. Data for 2005 show that on average for both sectors, the leverage ratio was 25.33 per cent.

Table 2.1. Project funding by the Minister of Environment in the water supply and sanitation sector (2002)

Types of projects	Number of projects		Total environmentally related investments generated (including other financial sources) (Euro)		Public subsidy scheme (in actual cash value) (Euro)	
	Total	Shares %	Total	Shares %	Total	Shares %
Wastewater treatment	1 842	72.09	948 055 725	82.66	245 868 771	87.87
Water supply	690	27.01	128 175 603	11.18	28 105 252	10.04
Sub-total	2 532	99.10	1 076 231 328	93.84	273 974 023	97.92
Total projects funded (including industrial wastewater treatment & research)	2 555	100.00	1 146 882 184	100.00	279 801 394	100.00

Source: Sagmeister (2003: 126).

The individual assistance rates are project-related (they can be calculated on the basis of a transparent set of technical criteria) and vary between eight and 70 per cent. In general, projects with high costs (measured as Euro per capita) get higher rates of assistance.

As mentioned earlier (2.2.1), the overall public expenditure for environmental infrastructure investments was reduced significantly at the beginning of 2001. This was, for the most part, achieved through offering lower assistance rates. For the municipal water supply, the assistance rate is now at 15 per cent instead of 20 per cent of the eligible investment cost. The same development has taken place in the wastewater sector. The minimum assistance rate has been reduced to eight per cent (from 20 per cent), and the maximum assistance rate to 50 per cent (from 60 per cent). As grants for initial construction of water supply and wastewater treatment plants contain a lump-sum share (20 per cent of the eligible investment cost), the total maximum assistance rate in the wastewater sector may rise to 70 per cent.

Table 2.2 below provides an overview of the current assistance rates and the different financial products given the types of measures in the water supply and wastewater sector.

[21] As already stated in 2.1, the decrease in the development of wastewater treatment facilities can be explained by the fact that a further expansion of public sewer systems is not regarded as economically feasible.

As discussed earlier, public funding is currently mostly used to promote water measures in rural areas. In the case of wastewater treatment, the funding rates are graded so that projects in highly populated (*i.e*. urban) areas receive less public funding than in rural areas. These discriminative practices, however, are not applied in the case of water supply. Here projects in both rural and urban areas receive 15 per cent of the eligible investment costs in the case of the construction of a new facility (Sagmeister 2003: 126).

Altogether, because of budget constraints, the federal government has reduced its share of water sector investments. At the same time, subsidies were restructured (e.g. lower assistance rates and more stringent eligibility criteria) to give utilities incentives to bring down the overall costs of infrastructure projects (and prevent "overdesign" of facilities). Moreover, federal subsidies were made on the condition that utilities adopt proper cost-accounting practices. These provide information to authorities on which to base eventual cost-recovery tariffs for water supply and wastewater services.

Table 2.2. Public funding according to the Environmental Assistance Act

Type of Measure	Public Assistance Rates	Financing Instruments
Municipal wastewater treatment	- Between 8 % and 50 % of the eligible investment costs - Lump-sum of up to 20 % of the eligible investment costs in the case of new constructions	- Interest subsidies - In the case of EU structural funds co-financing, investment grants may also be given
Decentralised wastewater treatment	- > 50 inhabitants: Up to 30 % of the eligible investment costs - < 50 inhabitants: Flat rates	- Mainly interest subsidies - In the case of very big projects investment grants may also be given
Municipal water supply	- 15 % of the eligible investment costs in the case of new construction	- Interest subsidies - In the case of small projects and EU structural funds co-financing investment grants may also be given
Decentralised water supply	- Lump-sum	- Mainly interest subsidies - In the case of very big projects investment grants may also be given

Source: Sagmeister (2003: 126).

Application and appraisal process

The Environmental Assistance Act and the Guidelines for Environmental Support Schemes require the submission of formal application forms when requesting public support. The application forms should provide information and data on the environmental and economic impacts of the project. The application forms are submitted to the responsible administration unit (*i.e*. the water management units) of the respective provincial government. Using detailed technical, economic, and environmental criteria, the water management units conduct detailed project appraisals. After projects are appraised and ranked in an order of priority, they are passed on to the KPC which examines the project's financial viability and checks the feasibility study, which contains alternative solutions. The KPC also verifies the project appraisal undertaken by the provincial governments. The results are then reported to an inter-ministerial consultation body, the Commission for Issues Related to Residential Water Management. After a case-by-case project selection made by the Minister of Environment, contracts are signed between the project applicant and the KPC on behalf of the Ministry of Environment.

In order to determine a project's eligibility, the 1997 Technical Guidelines for Water Management (*Technische Richtlinien für die Siedlungswasserwirtschaft*) require the use of project average costs to check and compare technical alternatives for the project, taking into account the compliance with specific environmental standards. Environmental effects are measured as variations of pollution loads. These variations are weighted according to internal criteria and displayed in a matrix illustrating the effects of the project on environmental media: ground water, surface water, and soil (Lebensministerium 1996: 5-7). Generally, subsidies will only be provided if they are necessary to

make projects viable. Multi-annual budgeting permits the KPC to commit support for a project's lifetime.

2.2.5 Sources of financing

The main sources of financing for the public environmental expenditure scheme for the water supply and wastewater management sector are the federal housing charge and a share of a number of different federal taxes. These taxes include: income tax, tax on salary and wages, capital gains tax, corporate income tax, and value-added tax (VAT).

Table 2.3 below provides an overview of the different sources and their respective shares (as of the end of 2004). These sources are specified in the 1993 Austrian Fiscal Equalisation Law (*Finanzausgleichsgesetz*).

The Fiscal Equalisation Law details the rules of tax sharing (the allocation of the revenue from different taxes for different public expenditure, including public environmental expenditure in the water supply and wastewater management sector), inter-governmental transfers and cost bearing between the Federation, the *Länder*, and the municipalities. The law is usually renewed every four years. However, sometimes the allocation of the revenue is only extended by a year[22]. The enforcement of the Fiscal Equalisation Law is supervised by the Federal Ministry of Finance.

Every three months, the KPC notifies the Ministry of Environment of the overall financial needs on the basis of the projects selected by the Minister of Environment for funding (cf. 2.2.4). Upon notification, the Ministry of Environment, in turn, notifies the Ministry of Finance, as the competent authority for the enforcement of the Fiscal Equalisation Law. It usually takes six weeks for the transfer of the funds to the KPC[23].

The Ministry of Finance transfers the required funds to a special account of the Ministry of Environment, which is held in trust by the KPC. The KPC is obliged by law to transfer the resources to project owners within a period of two days. All possible revenue from the interest on these funds arising during this period remains with the Ministry of Environment (as the owner of the account).

Further financing may be obtained through the assets of the Environmental and Water Management Fund, *i.e*. coming from revenues from both the repayment of loans as well as cash from the sale of loans (Lebensministerium 2003a: 5). This share, however, is very small: only about 9.3 mln Euro were generated in this way (and not limited to water supply and wastewater treatment measures only) (Lebensministerium 2003b: 38-39).

All revenue sources, including the sources from the Fiscal Equalisation Law on the one hand and the Environmental and Water Management Fund on the other, are managed by the KPC. It has been estimated that by 2012, a further 10 000 mln Euro will have to be invested in the water supply and wastewater treatment sector in order to attain compliance with the EU Water Framework Directive requirements (Sagmeister 2003: 125). However, based on calculations made by the Austrian Court of Auditors (*Österreichische Rechungshof*) in 2002, and covering the period 2000 to 2012, it was estimated that the public funding provided by the government would not be sufficient and may thus result in a public deficit of 1 100 mln Euro by 2012 (Rechnungshof 2002: 65). Hence, additional resources will need to be sought.

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22 Personal communication with Dorith Breindl, 20 October 2004.

23 Personal communication with Bernhard Sagmeister, 16 June 2004.

Table 2.3. Revenue sources for the water supply and sanitation sector (2001-2004)

Revenue Sources	Shares %
1) Revenue of the housing charge (Wohnbauförderungsgesetz)	
- Federal government	15.67
2) Share of the income tax (Einkommensteuer), tax on salary and wages (Lohnsteuer), capital gains tax (Kapitalertragsteuer), corporate income tax (Körperschaftsteuer)	
- Federal government	32.04
- Provinces	10.44
- Municipalities	8.87
3) Share of the value added tax (VAT) (Umsatzsteuer)	
- Federal government.	23.10
- Provinces	5.95
- Municipalities	3.92
Total	**100.00**

Source: Bundesministerium für Finanzen (2001: 6), own adaptation.

2.2.6 Auditing and control

There are a number of control instruments used to ensure transparency, accountability, and efficiency of this public funding scheme. Independent auditors, contracted by the Ministry of Environment, evaluate the KPC on a yearly basis. In addition, the Ministry itself and the Austrian Court of Auditors carry out their own evaluations on a regular basis. The law requires the Ministry of Environment to carry out, every three years, an external evaluation of randomly selected projects, though it is not limited to projects in the water supply and wastewater sector only. The results of these external evaluations are submitted to the parliament for discussion. The KPC, along with the Ministry of Environment, also compiles yearly reports on all public environmental expenditure (*Umweltförderungsberichte*).

In addition, project applicants have the possibility to ask questions and/or send complaints on any issue related to this public scheme (including the management by the KPC) directly to the Ministry of Environment.

2.2.7 Issues and measures to ensure compatibility with EU State Aid rules

Following the recent regulations on EU State Aid, the member states are obliged to adjust their national legislation on public environmental expenditure in order to promote competition and economic growth (Lebensministerium 2002: 9-10).

Against this background, the Austrian government carried out various reforms in the public finance system. These were limited mostly to legislative changes with regard to support provided to industrial waste management projects, cleaning up of contaminated sites, and funding of the energy sector. The water supply and sanitation sector (Lebensministerium 2002: 23-24, 27-30, 40) was not affected by these changes. Basically, such legal adjustments for this sector were not required. Public support for this sector is not perceived as state aid in the meaning of Article 87 of the EC Treaty[24].

Following discussions with Brussels, however, the compliance of projects with EU State Aid rules is now analysed on a case-by-case basis, where the *de minimis* regulation[25] as well as the

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[24] This Article States: "Save as otherwise provided in this Treaty, any aid granted by a Member State or through State resources in any form whatsoever which distorts or threatens to distort competition by favouring certain undertakings or the production of certain goods shall, in so far as it affects trade between Member States, be incompatible with the common market."

[25] Literally meaning "the law does not care about very small matters" (referring to small [up to a certain level] amounts of public support provided to a given project). When talking about funding, according

Altmark-Trans decision[26] are taken into account. It is therefore perceived that the public expenditure scheme for water supply and wastewater treatment measures complies with EU State Aid Rules.

2.3 Ex post programme analysis according to the PEEM Framework

This section aims to assess the performance of the federal expenditure programme of the Minister of Environment in the water supply and sanitation sector, as managed by the KPC in Austria, in accordance with the Good Practices for Public Environmental Expenditure Management developed by the OECD. To the extent possible, the programme is evaluated in terms of three major criteria: environmental effectiveness, budgetary good practices, and management efficiency. Each of these criteria is described through five main principles and further operationalised through specific sub-criteria. More details on the evaluation checklists used for this assessment can be found in Annex B of this report.

2.3.1 Environmental effectiveness

2.3.1.1 Additionality and consistency with other environmental policy instruments

Subsidies for water supply and wastewater management are used to keep user charges socially acceptable. Therefore, projects with high costs (on a Euro per capita basis) – as in rural areas – receive more funding since the supply of services there is considered too low. The operating principle of the subsidy scheme is that support is necessary: a) to stimulate certain environmental investments, where the applicant cannot afford the entire cost and needs assistance to close the financial gap between the basic financing (e.g. secured through commercial loans, co-financing) and that needed to realise the environmental investment, or b) where the environmental investment is not economically viable because less environmentally-sound solutions are cheaper. In the latter case, the support is used to tip up the balance in favour of the environmental investment.

Subsidies provided to cover construction costs are phased out after the project is completed. Project owners receive no funding for the running costs of the water supply or sanitation infrastructure. The value-added of different projects is examined regularly by external auditors contracted by the Ministry of Environment.

Along with user charges for water supply and wastewater treatment services and other subsidy schemes, the environmentally-related subsidies are seen as a consistent instrument to expand the connection to water supply and wastewater treatment facilities, especially in rural Austria, as well as achieve environmental standards and targets.

2.3.1.2 Well-defined programming framework

The overall public funding is agreed upon by the federal government, the provinces, and municipalities through the Fiscal Equalisation Law, adopted every four years. All underlying laws and regulations are publicly available and define the eligibility criteria, the financial assistance rates, and other funding factors.

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to the *de minimis* regulation, this means that the funding will only have a negligible impact on trade and competition. Therefore, notification for such a project receiving a subsidy is not required and the subsidy may be disbursed.

[26] The Altmark-Trans judgement of the European Court of Justice of July 2003 provides some guidance to the interpretation of when state aid is legal. The judgement outlines that a project can be subsidised from public funds, if it provides a service of general economic interest and the "level of compensation [...] is adequate".

By providing higher financial assistance rates for underdeveloped rural areas, the public expenditure scheme also supports wider governmental goals, especially economic development and poverty reduction.

2.3.1.3 Clear identification of environmental outcomes

Environmental outcomes of a project are an important eligibility criterion. Alternative technological solutions are evaluated in appraising and selecting projects for financing in order to ensure the achievement of stated environmental effects. Using best-available technology is a major requirement. Environmental performance criteria consider the effects of the subsidies on different environmental media: groundwater, surface water, and soil quality.

Applications are analysed with regard to environmental effectiveness by the competent administration units of the provincial governments. Following implementation, the environmental effectiveness of the projects is audited on a regular basis – including after project completion – by external auditors and the Federal Auditors Court.

If the contractor fails to carry out the investment as stated in the project application, he may be obliged to return the funding already allocated, either partially or completely. Furthermore, the contractor can be prosecuted if he consciously pollutes groundwater in implementing his project.

2.3.1.4 Maximising environmental effects from available funds

The projects are funded according to their environmental effectiveness. According to information provided by the KPC, cost-effectiveness also plays a key role. No information, however, is available on the use and calculations of indicators in project appraisal.

Generally, applicants have to fill out standard application forms. Quantitative information is required, including information on alternatives taking into account investment, and operating and maintenance costs (O&M). These are then compared to the environmental benefits or costs to be achieved through each alternative. A sensitivity analysis justifying the results may be also necessary, as well as the evaluation of other economic variables. Data verification is carried out by the KPC and kept for auditing purposes.

2.3.1.5 Leveraging additional private and foreign finance for the environment

Public funds cover less than 100 per cent of project costs. Leverage of foreign finance is not required but financing for the entire project has to be secured before disbursement. As support is provided mostly through interest rate subsidies, no private banks are disadvantaged.

2.3.2 Budgetary good practices

2.3.2.1 Fiscal integrity of revenue

The revenue sources of the public expenditure programme are clearly defined in the Fiscal Equalisation Law, including the revenue shares by source. The revenues are derived from several federal compulsory charges and taxes (housing charge, income tax, tax on salary and wages, capital yields tax, corporate income tax, VAT). All revenue are recorded at the treasury before they are allocated to the environmental expenditure programme.

2.3.2.2 Avoiding constraints to efficiency

The revenue of the public expenditure programme are earmarked for a period of at least four years, the period over which the current Fiscal Equalisation Law is in force. Therefore, the revenues for the programme do not come from a single earmarked charge (such as an effluent charge), but mostly from shares of different compulsory federal taxes. So far, earmarking seems to have been

crucial in mobilising resources for the sector. However, the challenges of efficiency facing the water management sector may require revisiting the issue of earmarking.

2.3.2.3 High standards of fiscal discipline and transparency

The overall budget of the expenditure programme is agreed on by the federal government, the provinces, and municipalities. Fiscal discipline meets the high standards of good practices.

To prevent the misuse of resources, the competences of the Court of Auditors are also expanded to the KPC. The KPC is audited regularly by external auditors. In addition, ex post analysis is carried out by the Ministry of Environment in co-operation with the KPC on an annual basis. Results of this analysis are published in annual reports on environmental funding (*Umweltförderungen des Bundes*). Information on actual emission reductions achieved is also reported.

2.3.2.4 Accountability

Apart from the reports on environmental funding (*Umweltförderungen des Bundes*), the Ministry of Environment publishes a report every three years, which also addresses accountability and transparency issues. Obviously, in the case of corruption, penalties apply. Elected representatives in the Commission for Issues Related to Residential Water Management, as well as employees at the water management units of the respective provincial government are held responsible for any abuse of their position.

2.3.2.5 Collection of revenues and public procurement

The main task of the KPC, as an implementing agency, is the management of the project cycle, including the disbursement of subsidies to infrastructure project owners. The collection of revenue from compulsory federal taxes and charges that feed the programme is carried out by the respective tax authorities at different levels in the country.

2.3.3 Management efficiency

2.3.3.1 Sound governance

The public expenditure programme and its elements are clearly defined in the 1993 Environmental Assistance Act and the 2001 Guidelines for Environmental Support Schemes, issued by the Minister of Environment. However, there is room for *ad hoc* discretion with regard to the selection of individual projects for financing. Terms and conditions for financing are generally available to the public on the KPC website.

The efficiency of the Austrian funding system is based on a clear demarcation of responsibilities. The Minister of Environment sets down the general rules of funding, including criteria from consultation with the Commission for Issues Related to Residential Water Management.

The KPC is strictly bound by contract and by law to evaluate projects on the basis of the criteria issued by the Ministry. The results of project appraisal are passed onto the above Commission, which considers all projects before presenting them to the Minister. The Minister makes a decision on each case appraised by the KPC, taking into consideration the recommendations of the Commission. The KPC executes the Minister's decisions and either signs a contract with the project owner in the name of and on behalf of the Minister, or notifies the project owner of the Minister's refusal to finance the project. The selection made by the Minister of Environment is therefore based on the decisions of the administrative units at the provincial governments and the KPC, as well as on the recommendations of the Commission for Issues Related to Residential Water Management. Thus, political interference in specific projects cannot be avoided.

Several governing bodies control and audit the KPC as an implementing agency, such as the Court of Auditors, external auditors contracted by the Minister of Environment, and internal auditors of the Ministry of Environment.

2.3.3.2 Professional executive management

The responsibility for the day-to-day management of the public environmental expenditure programme lies with the KPC and is separated from government bodies' responsibilities. According to the Environmental Assistance Act, the Minister of Environment is theoretically authorised to select any implementing agency, but preference is given to the KPC due to its long experience.

The KPC is responsible for an objective project appraisal based on criteria approved by the Minister of Environment. The institutional independence of the KPC ensures its objectivity and neutrality. According to the respective legal requirements, the KPC, for the most part, carries out a financial viability analysis of project proposals (environmental/technical evaluation is done by the competent administration units at the provincial governments first). The final project selection is done by the Minister of Environment, whereas bank staff are responsible for disbursement and financial management of the resources under the scheme.

2.3.3.3 Sound project cycle management

Only partial information is available on project cycle management by the KPC. The project identification considers future trends concerning the demand for public support where higher levels of assistance are envisaged for water supply and wastewater treatment projects in rural areas. Eligibility criteria and terms and conditions of financing are clearly identified. Given that most of the project proposals submitted to the KPC are finally approved for financing, it is not so obvious if the cost-effectiveness criterion plays an important role in the selection process.

Application forms are available in an electronic version on the KPC website and are relatively simple to complete.

At the same time, multi-annual budgeting allows the KPC to commit support for a project's lifetime, which is of great importance when implementing investment projects.

2.3.3.4 Fair and unbiased relations with external stakeholders

Little information is available on relations with external stakeholders. Generally, project applicants have equal access to information about the possible expenditure programmes as they are published on the KPC website. In addition, project owners have access to KPC managers to obtain additional information as well as have the possibility to file complaints with the Ministry of Environment, in case of mismanagement practices by the KPC.

2.3.3.5 Effective management of financial products and related risks

The expenditure management carried out by the KPC is regulated through a number of legal acts, such as the Environmental Assistance Act, the Guidelines for Environmental Support Schemes, and the technical guidelines for water management.

Most of the subsidies are allocated as interest rate subsidies. Grants are only provided in individual cases and therefore are not the first choice. Given their expertise, the KPC staff are in a good position to appropriately manage the risks related to the financial products offered through the programme.

Box 1. Main elements of the selected programme - Austria

Name of the programme

Public environmental expenditure of the Minister of Environment in the water supply and wastewater treatment sector as managed by the Kommunalkredit Public Consulting GmbH

Objectives of the programme

- Ensure environmental protection, public health, and access to basic sanitation services
- Promote connection to environmental water supply and wastewater treatment infrastructure in rural areas
- Hold charges for water and wastewater services at socially acceptable levels

Eligibility criteria

- Project needs to be in line the with overall objectives of the Environmental Assistance Act (*Umweltförderungsgesetz*)
  - Environmental effectiveness and cost effectiveness of measures
  - Eligible project types include wastewater treatment plants, sewerage systems, sludge treatment, and water supply networks of various sizes

Types of project owners

- Municipalities
- Provinces
- Public-private partnerships
- Private investors

Rates of assistance

- Up to 70 % of the construction cost of a new wastewater treatment plant
- 15 % for new municipal water supply; lump sum subsidy for decentralised water supply measures

Financial products offered

- Interest rate subsidies
- Grants

Maximum/minimum size of projects supported

- No limitations

Main revenue source of programme

- Tax revenues as defined in the Austrian Fiscal Equalisation Law (*Finanzausgleichsgesetz* – FAG)
  - Revenue of the housing charge
  - Share of the income tax, tax on salary and wages, capital yields tax, corporate income tax
  - Share of the value added tax (VAT)

3 BELGIUM (FLANDERS)

The Belgian case study focuses on the investment structure of wastewater treatment in the Region of Flanders in Belgium. The institutional solution involves a partnership between public and private actors. A differentiation is made between wastewater treatment at the supra-municipal (regional) level and the responsibilities for public sewerage[27] systems at a municipal level.

3.1 Historic overview of public expenditure in the water supply and sanitation sector

Water policy in Belgium, in general, and in the Region of Flanders, in particular, has faced significant challenges, including public health problems, for a long time. These have been partially related to the fact that the connection of the population to the water supply system and wastewater treatment facilities in the country has been low. Investments in the sector have been growing over the years with subsidies playing a crucial role in the financing scheme.

The first legislation introducing subsidies in the water sector dates back to 1907 (Aubin, Varone 2003). At that time, municipalities were, for the most part, held responsible for taking the necessary measures to maintain water quality standards. In cases where municipalities were unable to fulfil this role, a National Water Distribution Company, established in 1913, was charged with the responsibility to finance the necessary investments. The capital of this company was public and the return on investment was limited to four per cent per year.

The first specific law on water protection in Belgium came into force in 1950. Municipalities had full responsibility for sewage and wastewater treatment (planning, construction, and operation). To help solve some of the problems more efficiently in the 1960s, some municipalities started grouping in inter-municipal bodies. At that time, about 80 per cent of the expenditure in the sector was financed by the national government. Due to poor financial capacity and the lack of know-how, as well as interest (as most of the benefits accrued downstream for Flanders), the Flemish region was facing serious problems in delivering these services to the population.

In 1971, a new law on the protection of inland water was adopted in Belgium. This time, municipalities were made responsible only for the sewage system (planning, construction, operation). In addition, three public companies were created and tasked with the responsibilities for wastewater treatment.

With the completion of the federalisation in 1974, each region, namely Flanders, Walloon, and Brussels-Capital, reconsidered the then existing framework for water policy, including the respective funding structure. Based on the 1971 Law, Flanders created two territorial water treatment companies, the Water Treatment Company of the Coastal Basin (*Waterzuivering Maatschappij van het Kustbekken* [VZK] [1975]) and the Flemish Water Treatment Company (Vlaamse *Water-zuiveringsmaatschappij* [VWZ] [1981]), which took over wastewater treatment facilities from municipalities. In 1980, structural reforms were introduced yet again leading to a further regionalisation of water management authorities. The Flemish Water Company (*Vlaamse Maatschappij voor Wateroorziening* [VMW]) was made responsible for water distribution and the

[27] The term sewerage refers to the system of installed wastewater collection facilities.

Flemish Water Treatment Company responsible for wastewater treatment (*Vlaamse Maatschappij voor Waterzuivering* [VMZ]). At that time, the region also levied charges on industrial facilities and households and used the revenue to finance wastewater treatment. These were collected as a flat rate payment from all households and businesses.

In the 1970s and the 1980s, municipalities continued to receive significant public support. However, due to community problems and state reforms that blocked many political decisions, little new infrastructure was built and problems in the sector continued: connection rates to the respective systems remained comparatively low, rivers and streams were still highly polluted, and the problem of frequent flooding persisted. The connection rate to wastewater treatment remained at 23 per cent in 1980, which is fairly low by European standards, especially in view of the lowland character of the country (Eurostat 2004). At the beginning of 1990, only 30 per cent of collected wastewater was treated in Flanders. For comparison, these levels for France and Germany were 68 per cent and 91 per cent, respectively.

3.2 Description of the current public environmental expenditure programme

This section presents the main features of the expenditure programme. These include: objectives and priorities of the programme, description of the institutional set-up, and major eligibility criteria for selecting individual projects for financing. This section starts with a short explanation of the historical development of public support programmes for the water supply and sanitation sector in Flanders.

3.2.1 Development of the programme

In 1990, Flanders again reformed the administrative arrangement concerning the implementation of its wastewater treatment policy and took a first step towards privatisation. All responsibility for the wastewater treatment sector was handed over to the region. The respective legal basis was provided by the Regional Act of 12 December 1990 from the administrative reform stipulating the creation of two new entities: the Flemish Environmental Agency (*Vlaamse Millieumaatschappij* [VMM]) and Aquafin. The 1991 European Union Urban Waste Water Directive, which forced the member states to collect and treat domestic wastewater by 2005, added additional pressure and gave an additional incentive to these reforms.

VMM, a 100 per cent publicly-owned company, has the task of monitoring and reporting on the quality of regional water and planning of wastewater treatment plants (WWTPs) as well as main and priority sewers (the so-called “supra-municipal sewers”). The implementation of these plans, the actual construction, as well as their subsequent management, is performed by Aquafin NV. Aquafin is a public-private partnership (PPP), held, at 20 per cent, by the international water company Severn Trent (UK), which also provided technological advice at the start-up; by institutional investors, at 29 per cent, (the majority being savings banks and large companies); and, at 51 per cent, by the Flemish Environmental Investment Agency (*Vlaamse Milieuholding* [VMH]), representing the Flemish government.

On 11 January 1991, Aquafin signed a long-term management agreement with the Flemish government defining Aquafin’s responsibilities. These comprised the development of an effective **wastewater treatment infrastructure** in Flanders in a timeframe that was as short as possible, through providing technical planning (accelerated design and construction), securing financing, implementing the investment projects, as well as the rapid build-up of know-how in wastewater management. Additionally, Aquafin was also made responsible for managing the newly-built as well as already existing installations, including sewerage systems and pumping stations (Aquafin 2001). Aquafin’s mandate applied to the construction and operation of regional **wastewater treatment** facilities, including priority sewers at a supra-municipal level. Municipal bodies were also allowed to build and operate municipal wastewater treatment plants for less than 2000 p.e.

With respect to **wastewater collection**, municipalities were and still are held responsible for the provision of adequate systems at the municipal level, while Aquafin was given the responsibility for

supra-municipal sewerage. Since 1996, municipalities have also been able to apply for subsidies from the regional government, represented by the Administration for Environment, Nature, and Water Management (AMINAL), specifically targeted at municipal wastewater collection. The subsidy support can cover up to 50, 75, or 100 per cent of the sewer construction costs (depending on the degree of separation between waste and rainwater) or of the development and renovation of non-priority municipal sewers. Priority sewerage systems realised by Aquafin are subsidised at 100 per cent as part of the overall treatment strategy.

Since 1999[28], Aquafin has also provided support to municipalities in realising their sewerage systems according to an agreed "code of good practice". This code stipulates the separation of wastewater and rainwater by installing rainwater tanks in municipal buildings and by enforcing the separation of rainwater and wastewater in newly-built private homes.

In 2002, municipalities were given[29] another opportunity to apply for subsidies from the regional government. The subsidy is targeted at the construction of municipal wastewater treatment plants under 2000 p.e. and covers up to 50 or 100 per cent of the construction cost; again depending on the degree of separation of rain and wastewater.

The initial management agreement between Aquafin and the Flemish government, defining the respective roles and responsibilities of all institutions involved, was stopped in 2000. The Flemish Ministry for the Environment was not satisfied with the overall results achieved with respect to wastewater treatment and therefore did not renew the management contract. At the same time, the Flemish region confirmed its willingness to renew the contract. This led to a political deadlock. After years of negotiations and uncertainty about the company's future, in 2005 the management contract with the Flemish region was amended and is again a rolling agreement for 20 years. The allocation agreement between the Flemish Region, Aquafin, and the financiers of Aquafin has also been adjusted.

Since 2005, the remuneration of Aquafin has been dependent on the treatment results achieved, an adjustment which the company requested itself. An incentive system has been introduced in order to improve the effectiveness of wastewater treatment. Aquafin will receive a grant from the Flemish Region, if the quality of the treated water exceeds the Flemish water quality standards or, conversely, be penalised, if these standards are not achieved. In addition, Aquafin was given a role in the treatment of industrial wastewater as well. Aquafin is also responsible for preparing zoning plans that indicate where wastewater can be collectively treated and where individual treatment is recommended which shows the separation between municipal and supra-municipal authorities.

3.2.2 Objectives and priorities of the programme

The overarching goal of the Flemish regional government in the area of wastewater treatment and thus the respective public expenditure strategy is to improve and ensure the quality of surface water with a particular emphasis on reducing eutrophication in order to comply with the respective EU water directives (Drinking Water Directive, Water Framework Directive, Urban Waste Water Treatment Directive). Full compliance with the EU Waste Water Treatment Directive is considered crucial in order to reduce fines and penalties that result from delays in implementation of the Directive. Due to the current structure of the funding scheme, the emphasis is placed on the advancement of supra-municipal treatment facilities.

The specific targets for achieving these objectives include *inter alia*:

- Reaching a high connection rate of households to collective treatment (> 90 per cent);

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[28] According to an Executive Decree of 29 March 1999 on subsidising non-priority municipal sewers.

[29] According to an Executive Decree of 1 February 2002 on subsidising sanitation works by municipalities.

- Improving the capacity of current treatment facilities, which also requires reducing the dilution of wastewater reaching the supra-municipal treatment plants through appropriate sewerage systems. Thus, the programme also aims at encouraging the separation of rain and drainage water from sewage at the municipal and supra-municipal level;

- Achieving specific effluent standards as imposed by the Flemish legislation;

- Achieving specific pollution removal standards. Five major pollutants are closely monitored. These include: biological oxygen demand (BOD), chemical oxygen demand (COD), suspended solids, nitrogen, and phosphorus. For example, for nitrogen and phosphorus, the Flemish removal standard is 75 per cent.

3.2.3 Description of the institutional set-up

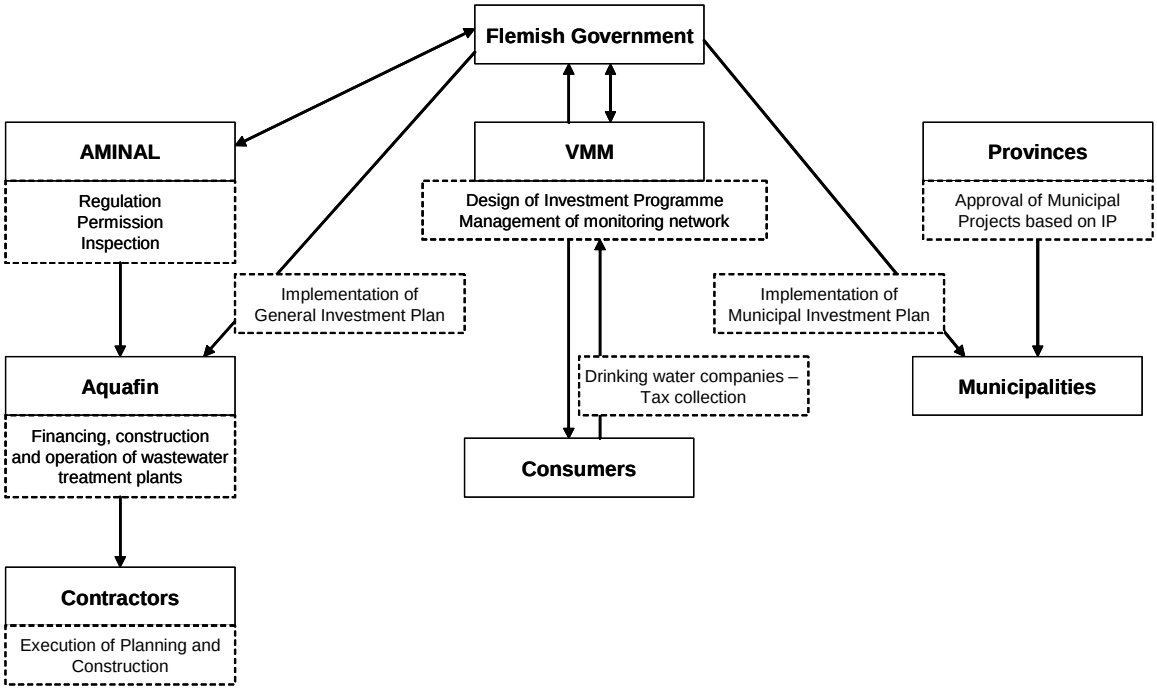
There are three major institutions in the multi-layered Flemish environmental administration that are of special relevance to managing public environmental expenditure in the area of wastewater treatment. These include: the Administration for Environment, Nature, Land, and Water Management (AMINAL), the Flemish Environmental Agency (VMM), and Aquafin.

AMINAL prepares environmental policy programmes and is responsible for environmental inspection. It also manages the so-called MiNa fund, the financing instrument of the Flemish environmental policy (Milieu [environment]; Natuur [nature]; cf. 3.2.5), which disburses subsidies through Aquafin for supra-municipal investments.

The Flemish Environmental Agency (VMM) is responsible for preparing the investment programme (IP) for the supra-municipal level (regional wastewater treatment plants) as well as for the municipal level (municipal investment programmes [GIP]) for a period of four to five years. The investment portfolio needs to be officially adopted by the Flemish government. VMM also oversees the monitoring and control of surface and groundwater quality and handles the collection of water pollution charges.

Aquafin is responsible for the actual design and financing of individual investment projects. The precise definition of Aquafin's responsibilities is specified in its management agreement with the Flemish government.

Figure 2. Institutional set-up of public environmental expenditure for water management in Flanders



Based on the investment programme prepared by VMM, which does not contain far-reaching technical considerations, but rather broad strategic goals, Aquafin prepares detailed technical plans for supra-municipal treatment plants and sewers, which provide the basis for further planning. These technical plans need to be approved by the Flemish Minister for the Environment through trilateral meetings of AMINAL, VMM and Aquafin representatives, with VMM holding a supervisory role. Once the technical plans are approved, Aquafin organises public tenders and contracts specialised planning and engineering offices to design concrete projects. Subsequently, construction companies are hired to do the construction works. Upon completion of projects, Aquafin becomes the formal owner of, and responsible for, operating the supra-municipal infrastructure.

For the implementation of projects, Aquafin invoices the MiNa fund, managed by AMINAL. Aquafin pre-finances the construction works, which are paid back by the MiNa fund. Therefore, Aquafin is required to seek external funding. As a public-private company, Aquafin is in a better position to do financial engineering and has easier access to credit as well as technical know-how. While the private character of the company provides for more flexibility, the public contribution adds to its credit-worthiness; expertise and know-how are brought in by its strategic partner Severn Trent (Gasser, Walker 2003). As a result of this legal form, the Flemish Region is in a position to recover value-added tax (VAT)[30] from the cost of new construction as well as former installations. Furthermore, the legal form of Aquafin allows for the amortisation of new projects and also for obtaining loans from the European Investment Bank (cf. 3.2.5).

30 Recently, Aquafin was involved in a dispute with the federal tax authorities about the rate of VAT applicable to the company's activities. While Aquafin stated that it was entitled to a lower rate (six per cent), the VAT authorities claimed that the usual rate of 21 per cent applied. Aquafin disputed this decision. In June 2005, the court ruled against Aquafin and the Flemish region with respect to VAT outstanding from the past. After consultations between the Flemish and the Federal governments, a settlement was reached. Aquafin had to pay the VAT administration 226 mln Euro. Aquafin borrowed this amount over a period of 15 years from a consortium of four Belgian banks. An earlier agreement between the Flemish region and Aquafin (26 April 2002) recognises all the consequences of the VAT dispute as reasonable costs. Accordingly, the Flemish Region has agreed to reimburse the debt servicing costs to Aquafin over 15 years.

Aquafin is managed by a Board of Directors composed of at least three directors. They are appointed for a maximum period of six years by the general meeting of the Board[31]. The Board appoints a chairman from the Board members. The decisions of the Board are approved by a simple majority. In case of equal votes, the director presiding the meeting will have the decisive vote. Each stakeholder can be represented at the general meetings of the Board. Each share grants entitlement to one vote.

Municipalities play a crucial role in the construction and maintenance of municipal sewerage. The municipal subsidy programmes are prepared by VMM on the basis of preliminary project proposals submitted by municipalities. Proposals that meet the criteria stipulated by VMM (cf. 3.2.4), are included in the investment programme. The Flemish Minister for the Environment approves the subsidy programme, which is then re-submitted to municipalities for approval. Following a respective municipal council decision on the acceptance of the investment programme, municipalities then co-sign the project proposals, for which provisional designs are then developed.

These provisional designs are assessed by an official commission consisting of representatives of AMINAL, Aquafin, and VMM, as well as the Flemish provinces. The approval by this commission secures the MiNa funding for the proposed projects. Next, the municipality submits the proposal, which now contains further data on potential contractors and concrete cost estimates to the Provincial Governor. The Governor approves the proposal to be financed by the MiNa funds. The municipality then organises a tender and assigns the work to selected contractors. The Provincial Governor's office supervises the work and can assign funding according to the progress of project implementation. After the realisation of 20 per cent of the subsidised construction, municipalities receive 80 per cent of the committed subsidies. The remaining funds are disbursed upon completion of the project.

3.2.4 Eligibility criteria and expenditure data

With respect to **wastewater treatment at the supra-municipal level**, projects qualifying for inclusion in the investment programme need to meet a number of eligibility criteria. Priority is generally given to projects with high environmental effectiveness in terms of wastewater treatment. Furthermore, projects that take special precautions to avoid long transport periods in main sewers and to limit the use of overflows of wastewater plants are supported in particular. Aquafin works out the projects based on the general investment programme developed by the Flemish Environmental Agency (VMM) and approved by the Minister of Environment.

Strict eligibility criteria also exist for municipalities applying for subsidies for the construction of new **wastewater collection systems**. These include the compulsory update of the "total sewerage plans" according to current codes of good practice, which require the separation of rainwater and wastewater. Projects implemented by municipalities are based on the municipal investment programme also prepared by VMM and approved by the Minister of Environment.

The installations constructed and services performed by Aquafin until the end of 2002, as well as the planned projects for the following planning period, are shown in Table 3.1 below.

Since its establishment in 1991 and until 31 December 2005, Aquafin has completed 1 641 projects through a total investment of about two bln Euro. In 2005, another 244 projects were put out for tendering for the amount of 357 mln Euro. The percentage of households connected to wastewater treatment plants increased from only 30 per cent in 1991 to 53 per cent by the end of 2001, to 63 per cent in 2002 (Eurostat 2004, OECD 2006).

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[31] The exact number of Directors is decided by the general meeting of the Board of Directors.

Table 3.1. Current and planned project portfolio of Aquafin nv

Delivered (Completed)	Number	WWTPs[32]	Thousand Euro
New investment projects[33]	1 272	93	1 363 415
Renovations	58	48	116 282
Awarded or contracted			
New projects	268	30	400 787
Renovations	36	35	162 997
Planned			
New investment projects	570	68	738 149
Renovations	8	7	20 939
Total	**2 212**	**281**	**2 802 569**

Source: Aquafin (2003).

Since 1992, the Flemish Region, through the Ministry of Environment, and more specifically the MiNa fund, has been providing support to wastewater investment projects at both supra-municipal level (through Aquafin) and directly to municipalities for the construction of sewerage systems. Table 3.2 below provides an overview of the allocation of MiNa funds (cf. section 3.2.5) over the period 1992-2002.

Table 3.2. MiNa funds allocated to Aquafin and municipal sewerage (in million Euros)

Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Allocation to Aquafin	44.6	84.3	166.1	205.8	218.2	247.9	238.0	268.5	298.6	323.9	383.1
Subsidies for municipal sewerage	-	2.5	14.9	14.9	24.8	37.2	61.7	31.6	65.8	62.3	

Source: Van Zele, Leroy (2003).

Table 3.2 shows the difference between the level of subsidies channelled through Aquafin and the amount of subsidies allocated for municipal sewerage. The numbers also show the increasing trend of the allocation to Aquafin throughout the years. Most of Aquafin's resources are invested in the construction of main sewers and pumping stations, which constitutes the most cost-intensive part of the sanitation policy.

Aquafin pre-finances the development and the construction of the projects for a period of 15 years and in return receives payments from the government of 1/15 of the investment cost each year. According to the management agreement with the Flemish government, Aquafin keeps the full ownership of all installations constructed on public land until termination of the agreement envisaged for 2020. At that moment all installations will be transferred to the Flemish Region at no cost.

3.2.5 Sources of financing

Financial resources of the Flemish government for environmental policy in 2001 amounted to a total of 832 mln Euro. Fifty-seven per cent came from the general budget and 43 per cent from the MiNa fund.

This fund is regularly fed by revenue generated from environmental levies and administrative fines for environmental offences. These include levies on discharges of wastewater (calculated on the

32 Wastewater treatment plants.

33 Including wastewater treatment plants, supra-municipal sewage collection systems, pumping stations.

basis of the number of pollution units[34]). The pollution load or pollution unit is calculated on the basis of the volume of the discharged water and the concentration of pollutants. The applicable charge for a pollution unit is determined annually[35]. This charge is subject to a yearly parliamentary approval and applies to households as well as industries. These levies are collected by the 17 drinking water companies[36] and constitute the largest revenue source of the MiNa fund. For example, in 1999, of the 243 mln Euro collected from the taxation of discharges, 39 per cent were collected from industrial users and 61 per cent were collected from households and small/medium enterprises.

While, on average, levies on wastewater discharges contribute about 70 per cent of the MiNa fund, other sources include charges on waste disposal (24 per cent), groundwater abstraction (five per cent) and the application of manure (one per cent) (UN 2004).

Allocations for wastewater treatment projects account for the largest share of regional spending on the environment. As an example, in 2000, Aquafin received 298.6 mln Euro, representing a share of 42 per cent of total resources of the Region's environmental policy.

In terms of future investments, the current rolling programme for investments in sanitation infrastructure, adopted by the Flemish government in 2002, amounts to 466.6 mln Euro for the period 2004-2008 (Aquafin 2003). The term "rolling programme" applies to an annually advancing programme in which actual investment projects are outlined for at least the next year. For the following years, project proposals are developed, allowing for adjustments, if these should become necessary. The preparation of these rolling programmes is the responsibility of VMM.

In addition to the funding provided by the Flemish government, since 1993 Aquafin has received several long-term loans from the European Investment Bank (EIB). With the conclusion of the most recent loan of 75 mln Euro in 2003, Aquafin's total loan portfolio reached more than 700 mln Euro (EIB 2004). The financing structure developed in collaboration with the EIB foresees that the amount of outstanding long-term credits must not be larger than the reimbursement for completed projects by the Flemish Region.

In addition to these long-term credits by the EIB, Aquafin has access to other short and long-term financing from various finance institutions. Aquafin can also borrow from institutional investors who buy short-term promissory notes issued by the company.

In 1994, Aquafin signed an agreement with the Flemish Region, the EIB, and the Crédit Communal de Belgique[37], the agent handling all of Aquafin's long-term financing. The agreement applies to long-term credits with a duration of more than five years. It stipulates that if Aquafin fails to fulfil its obligations to its long-term financiers, the Flemish Region will no longer reimburse Aquafin for investments and interest on loans. In this case, the Flemish Region, as the guarantor of Aquafin's solvency, will directly reimburse Crédit Communal as per the above agreement.

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34 Until 1991, wastewater charges were collected at flat rates.

35 For 2005, the unit rate was set at 27.81 Euro per pollution unit. Relevant pollutants are BOD, COD, heavy metal content, nutrient content, and concentration of suspended solids.

36 Until 2005, these were collected centrally by the Flemish Environmental Agency.

37 Credit Communal de Belgique SA provides lending, depository, and other financial services to the private and industrial sectors as well as local and regional bodies. The company's main subsidiaries include Comptoir d'Escompte du Credit Communal, Cregem Participations, Cregem Holding, Cregem North America, Cregem Investments Ireland, and Cregem Finance. Interest and fees on loans and bank deposits accounted for 59 per cent of 1995 revenues; interest on securities, 35 per cent; other interest and dividend income, one per cent; commissions and fees, four per cent; and other non-interest income, one per cent.

3.2.6 Auditing and control

The Administration for Environment, Nature, Land, and Water Management (AMINAL) controls the financial execution and accounting of Aquafin. Aquafin is required to disclose its finances through annual reports. These annual reports are prepared by independent external auditing companies and abide by the auditing standards of the Institut des Reviseurs d'Entreprises. The administrative and accounting organisation, as well as the procedures of internal control of Aquafin are examined in accordance with these standards. The annual reports are made available to the shareholders of each legal entity and the public at large via on-line publications. The most recent external audit of Aquafin was carried out by Ernst & Young in 2005.

In terms of effectiveness of the sanitation policy, AMINAL is also responsible for the overall environmental inspection, while the Flemish Environmental Agency (VMM) elaborates respective programmes for water quality control for surface waters and groundwater. This policy provides the framework for assessing the effectiveness of the wastewater treatment measures undertaken by Aquafin. Recent analysis shows that in 2005, about 94 per cent of the treatment plants complied with the imposed effluent standards. In terms of average removal percentages for BOD, COD, and suspended solids in recent years, these have reached their optimal levels in treated water. The removal percentage for phosphorus was reached and exceeded, while for nitrogen the percentage still remains under the required level of 75 per cent, but was about 73 per cent in 2005.

3.2.7 Issues and measures to ensure compatibility with EU State Aid rules

The legal set-up of Aquafin, as well as the conditions under which the agreement with the Flemish government was reached in 1990, was subject to considerable criticism by the EU Commission in 2003. The Flemish government was accused of infringing the EU competition rules when it awarded the contract to Aquafin excluding companies from other European Union countries from the tender[38].

The Flemish government justifies the assignment procedure, however, by arguing that Aquafin was assigned its tasks on the basis of an act under administrative law – more specifically, under the Administrative Policy Decree of 12 December 1990. A final decision on this matter is still pending.

3.3 Ex post programme analysis according to the PEEM framework

This section aims to assess the performance of the expenditure programme for the advancement of wastewater treatment at the supra-municipal level in Flanders according to the Good Practices for Public Environmental Expenditure Management, developed by the OECD. To the extent possible, the programme is evaluated in terms of three major criteria: environmental effectiveness, budgetary good practices, and management efficiency. Each of these criteria is described through five main principles and further operationalised through specific sub-criteria. More details on the evaluation checklists used for this assessment can be found in Annex B of this report.

3.3.1 Environmental effectiveness

3.3.1.1 Additionality and consistency with other environmental policy instruments

Public environmental expenditure allocated to improving wastewater treatment infrastructure in Flanders function as a useful supplement to other administrative instruments in the domain of water management, such as environmental permits and tax incentives. In this respect, they reinforce other policy instruments and are consistent with the overall policy goals of improving the quality of surface water through increasing the number of households connected to wastewater treatment facilities.

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38 Focus on Flanders 14, press review, 9 April 2003.

Public funds allocated to Aquafin are exclusively used to finance investment-intensive wastewater collection and treatment infrastructure, which otherwise would not have been undertaken. Consequently, funds are not used to finance running cost of environmental administration, but rather to support the investment in fixed assets.

The environmental value-added is regularly reviewed by the Administration for Environment, Nature, Land, and Water Management (AMINAL) and the Flemish Environmental Agency (VMM). These controls have led to the revision of the original management agreement from 1991 as it was felt to be insufficient to realise the water quality targets set by the new EU directives, such as the Water Framework Directive.

3.3.1.2 Well-defined programming framework

The investment programmes prepared by VMM provide the framework for the elaboration of concrete investment programmes and subsequent allocation of funds. The investment programme for wastewater treatment plants at a supra-municipal level is approved by the Flemish Minister of Environment. This also applies to the municipal investment programme, which comprises the respective regulations concerning responsibilities of municipalities. The public expenditure programmes are part of a comprehensive environmental programme as documented by the Belgian country report on the occasion of the 2002 Johannesburg Summit.

3.3.1.3 Clear identification of environmental outcomes

VMM monitors the physico-chemical and biological quality of surface water and groundwater[39]. It has also established an extensive emission measurement system and clear indictors of environmental outcomes. These constant monitoring efforts provide a sound basis for an assessment of Aquafin's performance and also the effectiveness of VMM's own investment programmes. With the revision of the current management agreement between Aquafin and the Flemish government, new requirements were introduced into the contract, stipulating that Aquafin would have to pay penalties if quality standards defined by the Flemish water law are not achieved. The performance assessment is based on a comparison of the pollutant load of the input to a treatment plant versus the concentration of pollutants in the effluents.

3.3.1.4 Maximising environmental effects from available funds

In considering investment proposals brought forward by Aquafin, preference is given to those with the highest effectiveness with respect to wastewater treatment. Information on the expected effects on water quality needs to be provided before the proposals enter the VMM evaluation process. The effectiveness of the treatment plants with respect to water quality is regularly reported. However, it is not clear if cost-effectiveness of projects is used as an explicit criterion in appraising projects and for inclusion in the investment programmes by VMM.

3.3.1.5 Leveraging additional private and foreign finance for the environment

In addition to the funding made available through the MiNa fund, Aquafin has managed to obtain additional finance from the European Investment Bank (EIB). Aquafin has been encouraged, as well as expected, to raise additional funding to reduce the use of public funds provided through MiNa.

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[39] Pollutants considered are COD, BOD, heavy metals, and suspended particles, as well as nitrate and phosphate concentrations.

3.3.2 Good budgetary practice

3.3.2.1 Fiscal integrity of revenue

The pollution charges, which constitute the main sources of revenue of the MiNa fund, are levied and collected by the drinking water companies. Due to constraints in preparing this report, it has not been possible to obtain clear information where the revenue from these charges is recorded in treasury accounts before it is disbursed, as this often diminishes the usual fiscal scrutiny of these revenue sources.

3.3.2.2 Avoiding constraints to efficiency

Revenues from fees for water discharges and water consumption, but also other environmental taxes, are combined in the MiNa fund, which are then allocated to various environmental purposes. As the MiNa fund is predominately used to provide financing for the water supply and wastewater sector, while at the same time the largest share of its revenue is generated from effluent and abstraction charges, this process exhibits clear features of earmarking.

In the case of Flanders, earmarking has led to stable funding of environmental purposes over a long period of time, particularly in the area of wastewater treatment. These efforts have been crucial in speeding up the development of a reliable sanitation infrastructure in the region.

3.3.2.3 High standards of fiscal discipline and transparency

In terms of transparency, Aquafin is subject to external, independent financial audits conducted in accordance with the country's accounting standards. Aquafin enjoys guarantees from the Flemish government, which allows it to obtain a better credit rating and raise additional resources on the financial markets.

3.3.2.4 Accountability

The procedure for selecting investment projects for support includes multiple checks and balances. The approval of the Minister of Environment is always necessary. As a public-private company, Aquafin is obliged to regularly report on its activities to its shareholders. Apart from financial audits, Aquafin also undergoes performance reviews, the two most recent ones conducted in 2001 and 2003, respectively (Aquafin 2004).

3.3.2.5 Collection of revenues and public procurement

Under the Flemish system, the collection of revenue from pollution charges is conducted by the 17 drinking water companies as part of the regular water bill. The management of the expenditure programme is divided between VMM (programming) and Aquafin (implementation of the investment programme). Aquafin is also responsible for public procurement, *i.e*. contracting the construction of wastewater treatment plants for the government. Approval of projects selected for financing is jointly given by representatives of VMM and AMINAL (where Aquafin has to defend the projects proposed). Thus, responsibilities for revenue collection and public procurement on the one hand, and expenditure management on the other, are clearly separated.

3.3.3 Management efficiency

3.3.3.1 Sound governance

The responsibilities of the parties involved are clearly stipulated in the management agreement between Aquafin and the Flemish government. Equally, the subsidisation of municipal wastewater infrastructure is based on an executive decree.[40]

As stipulated in the management agreement, there is a clear separation between the day-to-day management and implementation of the expenditure programme (executed by Aquafin), and general programming (performed by the governing bodies).

3.3.3.2 Professional executive management

Water quality standards established by the government are also stipulated in the management agreement and further used in evaluating the performance of Aquafin. The executive staff of Aquafin are subject to approval by the company's shareholders on an annual basis. Aquafin employs specialised staff to perform all necessary tasks in the implementation of the respective investment projects. Where necessary, outside expertise, e.g. provided by the wastewater experts of the shareholding company Severn Trent, is brought in.

Aquafin as the "implementing entity" is a professional executive management body with sufficient operational autonomy. Aquafin is required to present evidence of all its activities through annual reports.

3.3.3.3 Sound project cycle management

Aquafin identifies investment projects based on the investment programme put forward by VMM. The recently introduced requirement to prepare a master plan for the sector further increases transparency in the project selection process and also helps streamline investments. Final selection and approval of projects is carried out by the Minister of Environment. Allocation of subsidies to municipal wastewater treatment infrastructure is subject to several approval stages, involving the Flemish Environment Minister, VMM, Aquafin, and AMINAL, as well as the respective Province Governor.

3.3.3.4 Fair and unbiased relations with external stakeholders

While the Flemish Environmental Agency (VMM) is responsible for preparing the investment programmes, the actual planning is finalised through a consultative process with all agencies concerned. The investment programmes are reviewed and updated regularly. However, this discussion and review process includes the involved institutions only, namely the Administration for Environment, Nature, Land, and Water Management (AMINAL), VMM, and Aquafin. Where necessary, the provinces and municipalities are also included.

The procurement process for outsourcing the expenditure management for the wastewater sector and selecting Aquafin has raised the concern of the EU Commission. No final decision has been reached yet.

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[40] Executive Decree of 1 February 2002 on the subsidisation of sanitation works by municipalities.

Box 2. Main elements of the selected programme – Belgium (Flanders)

Name of the programme

Advancement of wastewater treatment at the regional level through a public-private partnership approach

Objectives of the programme

- Improve and ensure the quality of surface water
- Reach 100 % connection rate of households to collective treatment facilities
- Improve treatment capacity of current facilities
- Comply with the EU Waste Water Treatment Directive

Eligibility criteria

- High effectiveness with respect to wastewater treatment performance
- Avoidance of long transport periods in main sewers

Types of project owners

- Aquafin, public-private company, responsible for the construction of wastewater treatment facilities based on the investment programmes prepared by the Flemish Environmental Agency (VMM)

Rates of assistance

- The projects undertaken by Aquafin are only partially covered through support from the MiNa fund. Aquafin is obliged to leverage additional funding from national and international lending institutions

Maximum/minimum size of projects supported

- Regional wastewater treatment facilities, serving several municipalities

Main revenue source of programme

- MiNa Fund (the Flemish Fund for Nature and the Environment), which is regularly capitalised by revenues from taxes levied on sewage discharge, abstraction of surface water, and groundwater use

4 FRANCE

The French water services system is, to a great extent, financially self-supporting through two main charges. The French Water Agencies (Agences de l'eau) collect revenue generated from a water abstraction charge (*redevance prélèvement*) and a water pollution charge (*redevance pollution*) and then re-allocate the revenue to finance investments in water infrastructure. The French case study will analyse this self-supporting environmental expenditure programme looking at the experience of the Water Agencies in the country.

4.1 Historic overview of public expenditure in the water supply and sanitation sector

The structure of water management in France is a result of a long evolutionary process over the past 100 years. The French municipalities have historically been in charge of the provision of many public services, including water supply and wastewater treatment. Municipalities have adopted several different approaches in order to ensure the provision of these services. This has led to a very complex system where the following approaches co-exist:

- Direct labour (*régie directe*);
- Inter-municipal collaborations (*syndicats intercommunauts*);
- Municipal enterprises (*entreprises municipales*);
- Delegation to private companies: *affermage* (private company in charge of service management, operation, and maintenance) or pure concession (private company in charge of finance and management of infrastructure).

The Water Agencies were created in the post-war period when increased environmental problems resulting from expanded water abstraction and pollution discharges caused by industrial growth made it apparent that a re-structuring of the water supply and wastewater sector would be necessary. The Water Law of 1964 decentralised France's water management system and established six Water Agencies representing the major river basins in France. The Agencies were made responsible for the consultation, promotion, and financing of water supply management. Specifically, they made decisions on allocating funds to local authorities, industries, and farmers who undertook investments to protect water resources. With the 1964 Water Law, France became the first OECD country to adopt devolved, integrated basin-based water management. This approach inspired the preparation of the EU Water Framework Directive.

The Water Agencies are not part of the water service operators. When they were established in 1964 they seem to have served as “mutual banks” for the sector rather than instruments of policy implementation. They do not own or operate installations, nor are they project owners during construction. Their role and institutional set-up will be described in more detail in section 4.2.3.

Initially, the central state still played a crucial role and systematically subsidised municipalities undertaking water supply or wastewater investments, providing both grants and loans at flat rates. For example, in the 1960s, a wastewater treatment plant would be paid 50 per cent by the Ministry of the Interior (a grant), 10 per cent by the respective Water Agency through a grant, and 20 per cent through a low interest loan from the same Agency (Barraqué 1998: 99). Under this system, local authorities paid only a small share of the infrastructure investments.

In the early 1970s, the Water Agencies began to play a more prominent role in the French water policy, while the central state subsidies for investments in water supply and wastewater treatment infrastructure decreased (Barraqué 1998: 99). Subsequently, local authorities had to rely more and more on self-financing through user charges, with an increase in the subsidies provided by the Water Agencies.

Since 1992 and the framing of the national water policy, Water Agencies have diversified their role, which now includes coordinating the networks that monitor the state of water resources and helping the River Basin Committees prepare the management plans introduced in 1996. The agencies still play a financial role and do not commission environmentally-related projects.

4.2 Description of the current public environmental expenditure programme

This section presents the main features of the general expenditure programme of the Water Agencies in France. These main features focus on: objectives and priorities of the programme, description of the institutional set-up, and major eligibility criteria for selecting projects for financing. This section starts with a short explanation of the historical development of the public support programme for the water supply and sanitation sector in the country.

4.2.1 Development of the programme

The integrated water management at major basin level, which is partnership-based and multi-annual, has proved highly effective, especially in dealing with industrial and municipal pollution problems, by applying the polluter-pays principle and the user-pays principle. The 1992 Water Law (Loi sur l'eau[41]) further strengthened the Water Agencies and confirmed that water was a national property (in the sense of a common good) with economic value. The law established Water Development and Management Master Plans (*Schémas directeurs d'aménagement et de gestion des eaux* – SDAGE), which are planning tools that define the French water strategy for the next fifteen years at a basin level and at a local level (SAGE). Each SDAGE has to define: i) basic guidelines for the balanced management of the resource; ii) water quality and quantity objectives; iii) the means of covering water use costs, distinguishing between industry, agriculture, and households; iv) arrangements to protect and improve the state of water and aquatic environments; and v) the sub-basins for which SAGE need to be prepared. As necessary, the SDAGE have to be adjusted so that they become consistent with the requirements of the French laws and the EU Water Directives (e.g. the EU Water Framework Directive).

The Water Agencies are responsible for collecting revenue from water abstraction charges and water pollution charges and allocating these resources to eligible entities. Today, the Water Agencies provide most of the subsidies for investments in the water sector, thus meeting the aims of the SDAGE and the SAGE. The multi-year investment programmes of the Water Agencies are the cornerstone of the French water policy. These investment programmes are developed by each Water Agency for a period of five years and specify the expenditure areas as well as the charge rates to be applied to the different user groups.

4.2.2 Objectives and priorities of the programme

As a general rule, the Water Agencies provide financial support to projects that contribute to the achievement of goals of common interest. The term **common interest** applies to conservation of water resources and pollution abatement (Agences de l'eau, 2004). More specifically, this includes the installation of modern technologies to improve the effectiveness of wastewater treatment plants, providing a net of wastewater collection systems, reducing the impacts from rainwater run-off as well

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41 *Loi no. 92-3 du 3 janvier 1992 sur l'eau* (1), www.legifrance.gouv.fr

as from diffuse pollution from agriculture, and establishing a complete cycle of wastewater treatment, including the treatment, elimination, and disposal of sludge (CIEPE 2003).

The investment figures for the eighth action programme (2003-2006) shows that wastewater collection and treatment and increasingly, reduction of agricultural pollution, continue to be priorities.

It should be noted that water officials in France do not consider the funding provided by the Water Agencies as subsidies, since the funds come from the water bills of all users. However, since the aid granted by the Water Agencies helps to service the debt and keep water prices from rising dramatically, the funding can indeed be considered as subsidy support with the aim of evening out peaks in costs and charges over time and over municipalities in a river basin (*peréquation*) (Barraqué 1998).

4.2.3 Description of the institutional set-up

Several players carry out water management in France. Municipalities are responsible for water distribution and wastewater treatment. The 1992 Water Law gave them the responsibility for water pollution abatement and control, as well as stream maintenance and restoration. Local authorities often subcontract water provision and wastewater treatment to public or private entities.

The Water Agencies are regional, public corporations that enjoy considerable autonomy and maintain sole responsibility for the collection and spending of their revenues, including the allocation of subsidies to individual entities. They do not receive any budget appropriations.

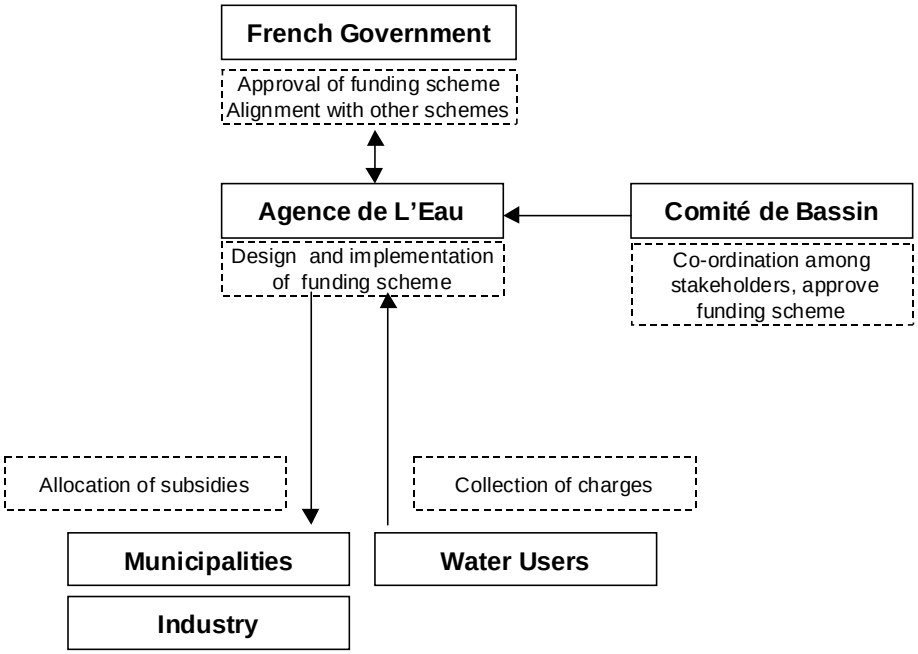
There are six regional Water Agencies in France, which cover 11 hydrographic basins of the country. These six agencies are: Adour-Garonne, Artois-Picardie, Loire-Bretagne, Rhin-Meuse, Rhône-Méditerrannée-Corse, and Seine-Normandie. The Water Agencies are under the supervision of both the Ministry of Environment and Sustainable Development, and the Ministry of Finance.

The River Basin Committee (*Comité de basin)* is a body that brings together the different actors in the area of water management in the respective river basin, including both public and private stakeholders. These institutions were established through the 1964 Water Law for each river basin. The Basin Committee consists of representatives of the central and local government and water user groups (industry, farmers, consumers, NGOs). The central state has one-fifth of the seats, local authorities have one-third, other users (fishermen, industry) have one-third, and the rest of the seats are allocated to smaller interest groups (Barraqué 1998: 97). These Committees are also called “Water Parliament” as they can comprise between 60 and 110 people.

The Basin Committee define and agree on the specific policy objectives of the basin, consistent with national water policy and EU directives. The Committee draws up the Master Plan and monitors its implementation.

Each Agency has its own Administrative Council (*Conseil d’administration*) which is the main managing body of the Agency. This Council prepares the investment programmes (*programmes d'intervention*) for the respective period (the most recent one being the eighth investment programme that covers the period between 2003 and 2006). The Council is also responsible for setting the rates of the water pollution and abstraction charges, as well as the main rules and procedures for allocating the Agency’s resources. The rate of the charge is determined according to the expenditure required by each Water Agency to achieve its priority objectives and targets for the respective period. The Administrative Council members are elected from among the Basin Committee members. The Administrative Council is led by a director appointed by the French Government. The Council is backed by several commissions, whose number as well as institutional set-up varies among the Water Agencies. The commissions provide technical support and are responsible for tasks such as project appraisal, including technical and financial evaluation, monitoring and reviewing the implementation of the investment programme, and supervising scientific research to support the decision-making processes at the Water Agency.

Figure 3. Institutional set-up of the public environmental expenditure for water management in France



The investment programmes are submitted to the Basin Committee for approval. The Basin Committee approves the investment programmes prepared by the Administrative Council and gives recommendations on the rates for the abstraction and pollution charges to be levied on water uses.

Each of the six Water Agencies reports to the Ministry of Finance and the Ministry of Environment and Sustainable Development. They work together to reconcile water management and economic progress to keep up with environmental demands. Several ministries have their own budgets for public funding in the water and wastewater sector; most of them, however, do not play a key role in the overall subsidy support.

The water police is another major player in the water policy in France. It controls all water uses and has an important inspection role. The water police was established in 1976. The control and enforcement functions are a responsibility of the state. However, institutionally, the water police is under the direct supervision of departmental prefects.

With responsibilities and decision-making distributed among the French government and the Water Agencies, this unique policy configuration allows multiple points of access to policy-makers with numerous opportunities to influence policy development and implementation (Szarka 2003: 93).

4.2.4 Eligibility criteria and expenditures

This section briefly looks at three major issues, including: the main eligibility criteria, the appraisal process, and the expenditure focus of the programme.

Eligibility criteria

According to the 1964 Water Law, the system of water charges and subsidies has become the essential framework for water pollution control in France. According to the law, subsidies can be allocated to private and public persons who engage in protecting water resources and water quality. These include municipalities, industries, and farmers. To be eligible for funding, the applicant has to show that the proposed investment project supports the overall objectives of the Water Agency's investment programme.

The Water Agencies provide subsidies in the form of low interest loans and grants. In the 1990s, the grants and loans extended by the Agencies covered approximately 35 per cent of the project's investment costs (Barraqué 1998: 164). Since then, this figure has increased as the French government has progressively withdrawn its involvement from environmental infrastructure financing. Today the grants of the Water Agencies can reach up to 40 per cent of the installation cost of a new treatment plant. In addition, up to 20 per cent may be provided as a loan to the project applicant.

The Water Agencies maintain different subsidy programmes for municipalities and for industry. For municipalities, specifically, these include grants as well as loans for investments in wastewater treatment infrastructure. Operators of wastewater treatment plants receive bonuses for avoided or reduced pollution through the respective treatment measures. The bonuses are based on the performance data reported by the treatment facilities. Additionally, for several years the Water Agencies have provided contributions to the management of treatment facilities, in particular to support smaller municipalities. Some Water Agencies have also started to award grants to exceptionally well-managed treatment plants.

A similar subsidy system comprising grants, loans, and bonuses, but explicitly geared to abating industrial pollution, is operated in parallel to the subsidy programme for municipalities. The third major area of investment is related to improving the management of water resources as well as drinking water supply. Project owners under this branch of the investment programme comprise mostly municipalities. The focus of this project group has been the replacement of lead plumbing to improve drinking water quality, irrigation management, restoration of river basins, measures to reduce erosion.

Appraisal process

Selection of projects for financing consists of two stages: eligibility screening and proper appraisal. Evaluation is based on the information provided by the applicant in the application form and the expected effects of the investment on environmental quality. Each Water Agency has established its own procedure for project evaluation based on its overall objectives. In addition, each Agency has developed instruction manuals for different types of beneficiaries (e.g. for municipalities or for industries).

Projects can be submitted throughout the whole year. A staff member of the Agency works together with the project owner, as well as with representatives of the water police, on improving the project design (including the achievement of quality standards) in order to meet the Agency's selection criteria. Once the project meets all criteria, it is submitted to the Agency's technical commission (*commission d'aides*), which reviews the technical and the financial viability of the project, and screens it against the requirements of the respective investment programme. This procedure explains why most of the projects that have reached this stage obtain support from the Agency. Thus, one of the main functions of the Agencies is to stimulate initiatives and generate projects. The Agency provides technical support and capacity-building in project preparation (including institutional, financial, and technical design of the proposed projects), helping beneficiaries comply with environmental legislation.

During implementation, and after the completion of the project, the Water Agency controls (through field measurements, including a measurement of the level of pollution discharges after treatment) the achievement of the objectives stated by the project. To this end, all Water Agencies have developed an extensive system for monitoring project results.

Expenditure focus

The Water Agencies provide support to water supply and wastewater treatment facilities: the total budget of all Water Agencies under the entire seventh investment programme covering the period from 1997 to 2002 amounted to 12 bln Euro. Table 4.1 below shows the total expenditure of the water

sector under the seventh and eighth investment programmes and the share of the Water Agencies in these investment efforts.

Table 4.1. Investment projects with Water Agencies funding under the 7th and 8th investment programmes[a] (in mln Euro)

Project Category	Seventh Action Programme (1997- 2002)	Eighth Action Programme (2003 - 2006)
Municipal wastewater treatment (treatment stations and sewerage)	1 926	1 473
Industrial pollution	418	312
Agricultural pollution	246	467
Drinking water supply	431	340
Improvement of water resources (both surface and groundwater)	165	91
Restoration of aquatic environments	147	128
Total	**3 333**	**2 811**
Of which Agencies transfers	**1817 (54%)**	**1 319 (47%)**

Source: Adopted from OECD (2005).
Notes: [a] Annual averages.

Under the eighth investment programme, overall support has decreased compared to the previous investment programme. In 2003-2006, the largest share of the pollution control budget is allocated to municipal wastewater treatment (more than 52 per cent of the resources), followed by support to reducing agricultural pollution (about 17 per cent). Given that agricultural activities are one of the major sources of water pollution in France, support for investments in this area has been increasing over the years. About 13 per cent of the total Agencies' budget is spent on investments in drinking water supply measures.

4.2.5 Sources of financing

The grants and loans from the Agencies are balanced with a water charges system that covers the whole country. The Water Agencies charge the only important charges that are not levied by the Ministry of Finance. Thus, the scheme does not require, in principle, transfers from the tax budget. Therefore, it does not constitute a fiscal subsidy.

The revenues of the Water Agencies for public funding are generated from two sources:

1. Redevance prélèvement – Water abstraction charge

This charge covers the abstraction as well as the consumption of surface and groundwater for a multitude of uses, including drinking water. It generally applies to all private and public entities from industry, agriculture, and municipalities and is calculated on the basis of the amount of water abstracted. Threshold abstraction values have been established, below which the charge is not applied.

2. Redevance pollution d'eau – Water pollution charge

There are two ways to impose the water pollution charge. The pollution charge for domestic uses is calculated on the basis of the amount of pollution produced by municipalities. This amount is multiplied by coefficients and rates, reflecting geographic characteristics influencing water quality and other factors. Both the water pollution and the water abstraction charges are included in the water bill paid by users. The applicable coefficients and rates are voted on by the Administrative Council of the Water Agency following the suggestion of the Basin Committee.

Conversely, the charges for industrial pollution are directly levied on polluters. The charges are based on the quantity of wastewater produced on a normal day of the month with the maximum pollution load. The pollution amount is then weighted by eight pollution parameters.

Table 4.2. Pollutants considered in the calculation of pollution charges

1	Suspended solids
2	Biological/chemical oxygen demand (BOD/COD)
3	Soluble salts
4	Endocrine disruptors
5	Nitrate and ammonium
6	Total phosphor
7	Metals and metalloids
8	Absorbable halogenic compounds (AOX)

Source: Agences de l'eau (2003).

The charge is levied on non-domestic water users, mostly industries, based on their discharge volumes as well as other factors accounting for the specific pollution situation. The industrial pollution charge is partly reduced through a bonus, which is awarded by the Water Agency for reduced or avoided pollution due to wastewater treatment measures. The rate of the bonus is defined in the investment programmes of the Water Agencies.

Table 4.3, below, provides an overview of the abstraction and pollution charge, which are both collected by the Water Agencies.

Table 4.3. Description of the abstraction and pollution charge

Charges	Who pays?	Total amount collected for the 7th programme (mln Euro)	Use of revenue
Abstraction charge (*redevance prélèvement d'eau*)	Water users (industries, municipalities, water operators and irrigators)	1 500	Subsidies to private and public actors for activities of restoration of water resources, control, and maintenance of water resources
Pollution charges (*redevance "pollution"*)	Municipalities of more than 400 inhabitants and industries (based on measures or estimated quantity of substances discharged)	7 000	Subsidies to public operators (*régies*), municipalities, and private operators for protection measures, sewerage network, sewage sludge management, collective and individual wastewater treatment facilities, drinking water infrastructure

Source: Bauby *et al*. (2004).

As Table 4.3 shows, a total of about nine bln Euro were generated through the charges levied by the Water Agencies over the implementation period of the seventh investment programme. The pollution charge generates significantly higher amounts than the abstraction charge.

In general, the charges imposed by the Water Agencies are collected by a water company (which can be public or private), which keeps the money for several months, thereby creating a positive cash flow, and then passes it on to the respective Agency for investments (Barraqué 1998: 134). Table 4.4 below shows the overall shares of both charges within the water bill.

Table 4.4. Average composition of the water price in France (1998)

Sources	Shares (%)
Collection and treatment costs of urban wastewater	34.00
Water distribution costs	44.00
Pollution charge (to Agences de l'eau)	13.00
Abstraction Charge (to Agences de l'eau)	2.00
Taxes and other charges:	
- National Water Supply Fund for Rural Areas	1.00
- Value added tax	5.50
- Tax on Water Tapping from Navigable Water Ways	0.50
Total	**100.00**

Source: Ministry of Infrastructure, Transport, and Housing (1998).

As Table 4.4 shows, the two charges together make up a 15 per cent share of the water bill, which then enters the budget of the Water Agencies.

Not all actors (e.g. agricultural users), however, pay the corresponding prices of their pollution, which implies that cost recovery is incomplete. Regarding the pollution charge, households pay 80 per cent of the fee, but only contribute from 20 to 35 per cent of the pollution; farmers who are at the origin of approximately three quarters of nitrate pollution and a third of organic matter pollution only contribute about one per cent of the revenues from this charge.

Although there was an initial opposition to the charges levied by the Water Agencies, they have now gained wide political and public support. Local representatives, in particular, have discovered that even though the abstraction and pollution charges were gathered directly from water users through the water bill, they (and not individual users) would easily be subsidised as soon as they proposed a good investment project (Barraqué 1998:7).

4.2.6 Auditing and control

With regard to the subsidy scheme of the Water Agencies, auditing and control measures exist at several levels.

At a basin level, the general long-term Water Development and Management Master Plan (SDAGE) outlines the planned objectives and indicators for assessment. It is designed for a 15-year period and will next be revised before 2008 in the context of the EU Water Framework Directive.

The SDAGE is then further specified in the investment programmes of the Water Agency, which outline the quantitative objectives and establish the level of water charges and subsidies. Monitoring and control of these programmes is carried out in three ways: annual reports issued by the Agency (showing investment levels in the respective year as compared with the investments envisaged in SDAGE), a quantitative annual report to the Parliament ("*Jaune*"), and a five-year programme evaluation presented to the Agency's Basin Committee.

At a national level, France is in the process of undergoing a reform of its public management system to increase efficiency and transparency of budget information. The new framework budgetary Law on State Management (*Loi Organique sur les lois de finances*), adopted in 2001, introduced a result-oriented form of public policy management. The Water Agencies are currently in the process of applying this new legislation, which will ultimately lead to the regular evaluation of the Water Agencies' subsidy programmes.

The Water Agencies are obliged to present extensive annual reports on their activities, as well as their spending, to the finance and the environment ministries. In addition, the revenue management scheme has been audited according to the ISO 9000 framework for quality assessment.

Equally, the Water Agencies extensively monitor and control the use of subsidies by the beneficiaries. Performance audits are conducted after the construction of a treatment plant. The allocation of bonuses is based on performance data provided by the operators of treatment facilities as well as external controls. Also, the water companies responsible for collecting the water charges from water users and transferring them to the Water Agencies, undergo strict audits.

4.2.7 Issues and measures to ensure compatibility with EU State Aid rules

In February 2003, the European Commission assessed the French environmental expenditure programme to be in keeping with the EU state aid rules for environmental protection[42]. The Commission determined that the subsidies provided by the Agencies were compatible with the criteria set out in the rules and could thus be authorised in accordance with Article 87(3)(c) of the EC Treaty (European Commission 2003).

Additionally, the Water Agencies, in revising and adjusting their investment programmes, pay special attention to the conformity of their subsidies with EU state aid rules (Agences de l'eau 2004).

4.3 Ex post programme analysis according to the PEEM framework

This section aims to assess the performance of the investment programmes of the French Water Agencies, in accordance with the Good Practices for Public Environmental Expenditure Management developed by the OECD. To the extent possible, the programme is evaluated in terms of three major criteria: environmental effectiveness, budgetary good practices, and management efficiency. Each of these criteria is described through five main principles and further operationalised through specific sub-criteria. More details on the evaluation checklists used for this assessment can be found in Annex B to this report.

4.3.1 Environmental effectiveness

4.3.1.1 Additionality and consistency with other environmental policy instruments

Public funding in the French water sector, as undertaken by the Water Agencies, is provided to support infrastructure investments in the area of water supply and wastewater management that serve the common interest. Being mostly financed through charges levied for water abstraction and wastewater discharge, the funding strategy is in line with other environmental policy principles, such as the "polluter pays" or respectively the "user pays" principle.

4.3.1.2 Well-defined programming framework

Public funds are spent in the framework of written, publicly available investment programmes, which are developed for a certain investment period by the Administrative Council of the Water Agencies and adopted by the Basin Committees. The final approval is made by the Minister of Environment and by the Minister of Finance.

The investment programmes contain specific, agreed objectives and investment targets for a defined period of time, and reflect the overall policy of each Water Agency with respect to their specific priority areas for action.

4.3.1.3 Clear identification of environmental outcomes

Potential environmental effects of the proposed project are reported in standard application forms prepared by the Water Agencies. Based on the information and data provided by the applicant, the

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[42] Official Journal C 37, 2.3.2001, p.3.

Water Agencies appraise the submitted project proposals. The environmental indicators are clearly defined and agreed upon (also including the water police in this process), and measurable indicators (in terms of verifiable data on environmental quality parameters) established for each project.

In general, preference is given to projects focusing on the improvement of drinking water provision and distribution, sewerage systems, and wastewater treatment plants, as well as the reduction of the emission of hazardous substances into water bodies. A special commission at the Water Agencies, dealing with appraisal of individual projects, submits the approved proposals to the administrative council for approval.

During and after project implementation, constant monitoring through field measurements of the respective environmental effects of the project is conducted. The data are compiled by the Water Agency and used for ex post verification and analysis. Each year, the Water Agencies prepare detailed reports on the projects undertaken and financed in the respective reporting period.

4.3.1.4 Maximising environmental effect from available funds

Applicants are requested to provide full lifetime cost of the proposed projects in a standardised format. The *commission d'aides* assesses the financial viability of the proposal and closely monitors the use of money by each beneficiary with regard to financial plans.

4.3.1.5 Leveraging additional private and foreign finance for the environment

Subsidies granted by the Water Agencies only cover a percentage (approximately 40 per cent) of the actual investment needed in water and wastewater infrastructure. Other funding is usually ensured by municipalities or water companies from their own funds, which are generated through user charges paid by water users for wastewater treatment and collection, in addition to the charges levied by the Water Agencies. Beneficiaries often take credit from banks to top up the resources needed.

Applicants requesting funding are required to submit a full financial plan for the proposed project and indicate primary funding sources, which are then supplemented by contributions from the Water Agencies.

4.3.2 Budgetary good practice

4.3.2.1 Fiscal integrity of revenue

The source of revenue for the Water Agencies' investment programmes is clearly defined in the respective legislation (*Loi sur l'eau*). Revenue generated from abstraction and water pollution charges is collected by water companies before being transferred to Water Agencies.

4.3.2.2 Avoiding constraints to efficiency

Subsidisation of infrastructure in the area of water supply and wastewater treatment is based on earmarked funds. Water Agencies levy charges on water users and re-allocate funds to selected projects, which can be proposed by the same group. The positive effects of this financing strategy, *i.e.* predictable financing for priority measures that otherwise would have failed, outweigh potential negative impacts of earmarking in this case. This can be attributed to the fact that the funding is explicitly dedicated to the water and wastewater sector, but also to the traditionally strong influence of the Water Agencies in national environmental policy.

4.3.2.3 High standards of fiscal discipline and transparency

The investment programmes developed by the Water Authorities provide a forecast of necessary funding for a period of up to five years. During implementation, they are subject to regular revision and adjustment processes in response to new developments and availability of new data. Regular

internal as well as external audits of the management procedures of the Water Agencies and their investment programmes are conducted by the French government.

Since the investment programmes of the Water Agencies are largely independent from the overall fiscal budget, potential negative effects on the fiscal budget are limited.

Ex post reporting is conducted on an annual basis. The information is made available to all interested parties and the public at large.

4.3.2.4 Accountability

The representatives of the Administrative Council of the Water Agencies are elected or appointed by the Basin Committee. The President of the Council is nominated by the Minister of the Environment. The Council is fully accountable to the Minister of Finance for all budget decisions. Their responsibilities are clearly defined in the statutes of each Water Agency.

Effective checks and balances are assured through the two-tiered structure of the Water Agencies, comprising the Administrative Council and the Basin Committee. The Basin Committee offers a platform for the participation of a wide group of stakeholders. Its key task is the assessment of the investment programmes issued by the Administrative Council, as well as providing guidance for setting the respective rates for the charges to be levied. Involving several governing bodies in the decision-making process ensures the transparency of the funding process.

4.3.2.5 Collection of revenues and public procurement

Due to their special role, the Water Agencies perform both the task of collecting revenues from charges levied on the one hand, and developing the investment programmes on the other hand. The scheme is a "zero-sum game" for all actors in a river basin, and in the long run for each and every municipality.

The Water Agencies are also responsible for project cycle management as they perform project appraisal and evaluation tasks. However, the actual procurement of equipment and construction of services remains with the beneficiary implementing the project.

4.3.3 Management efficiency

4.3.3.1 Sound governance

The role of the Water Agencies is clearly defined by the French Water Law of 1964. Equally, the internal procedures for project selection and approval are specified in each Water Agency's statute. The investment programme of each Water Agency establishes the framework for the management of expenditure. The programmes are based on agreed rules for financing and decision-making (including identification of eligible beneficiaries and project types, performance indicators, supervision, and control procedures), which are subject to regular review processes.

The governing bodies of the Water Agencies, in particular the Basin Committees, represent the key stakeholder groups. In addition to environmental authorities, other government bodies, non-government organisations, water users, and municipal administration are represented in these committees.

4.3.3.2 Professional executive management

Programming and priority-setting are clearly separated from day-to-day expenditure management. While the technical staff of the Water Agencies, due to their practical knowledge and expertise, can provide support to defining investment priorities, final decision-making on programming and identifying objectives rests with the Basin Committees. Expenditure management is the main responsibility of the executive staff of the Water Agencies.

Over the past decades, the Water Agencies have gained considerable operational autonomy, while still remaining accountable to the French finance and environment ministries. The reviews undertaken by the French government are supplemented by the application of international quality management systems, as most of the Water Agencies have obtained ISO 9001 certification as an objective performance benchmark.

The Water Agencies pay considerable attention to training their staff to enable them to better manage the tasks related to the investment programmes as well as other supporting activities, including environmental monitoring and communication with stakeholders.

4.3.3.3 Sound project cycle management

Project cycle management at the level of the Water Agency including project appraisal is governed by clear rules defined in the statutes of the respective Water Agency. Project proposals are submitted, by project owners, to the Water Agencies. Applications are submitted using a standard application form, publicly available on the Internet, and are supported by detailed documentation.

In most cases project appraisal is conducted by the *commission d'aides* of the Water Agencies, which assesses the financial viability of the proposal. Appraisal processes are adjusted to project size. With regard to smaller projects, it is often the director of the Water Agency that makes final decisions on financing. It is not clear, though, if cost-effectiveness is a major selection criterion.

4.3.3.4 Fair and unbiased relations with external stakeholders

Through the Basin Committees, the Water Agencies are in a position to maintain good relations with relevant stakeholder groups. Additionally, Water Agencies usually employ an extensive communication policy to duly inform potential project owners of the availability of any new support scheme.

In addition, the technical staff of the Agencies work closely with the project owners and provide any advice needed to improve the quality and design of the project proposals. This approach helps develop and strengthen the project preparation capacity of beneficiaries in the country.

4.3.3.5 Effective management of financial products and related risks

Throughout the three decades of their existence, Water Agencies have acquired extensive expertise in the area of expenditure management. Support by the Agencies is provided mostly in the form of grants. Grants are supplemented by low-interest (often zero-interest) loans. The terms of both instruments are clearly explained in the instruction manuals developed by the respective agency. However, given the scope of this report, it is difficult to assess the capacity of the French Water Agencies to manage the risk inherent in the loans they provide. On the other hand, financing to beneficiaries is disbursed in tranches, upon the completion of the respective stage in project implementation and the presentation of all required documentation.

Box 3. Main elements of the selected programme - France

Name of the programme

Investment programme of the French Water Agencies

Objectives of the programme

- Contribution to activities of common interest: with regard to conservation of water resources and pollution abatement:
  - Installation of modern treatment technologies
  - Providing a net of wastewater collection systems
  - Reducing the impacts from rainwater run-offs and diffusing pollution
  - Establishing a complete cycle of wastewater treatment, including the treatment, elimination, and disposal of sludge

Eligibility criteria

- Project needs to be in line with overall objectives of the Water Agencies' investment programmes
- Proven reduction of pollution loads

Types of project owners

- Municipalities
- Industries
- Based on the solidarity approach, everybody contributing to the Water Agency may apply for funding: "water pays for water"

Rates of assistance

- Up to 40 % of the installation cost of a new wastewater treatment plant
- Up to 20 % may be additionally provided as a loan

Financial products offered

- Grants
- Low interest loans

Maximum/minimum size of projects supported

- Varies depending on the type of the project owner

Main revenue source of programme

- Water pollution charges
- Water abstraction charges
- Collected from water users in the respective river basin

5 GERMANY (NEW *LÄNDER*)

The German Unification of 1990 revealed the inadequate water supply and wastewater treatment infrastructure that existed in the new *Länder*[43]. In an attempt to improve water environmental quality and foster regional development, a variety of public expenditure schemes were established. One of these was the local authorities loans programme (*Kommunalkreditprogramm*) managed by the government-owned German Bank for Reconstruction (Kreditanstalt für Wiederaufbau – KfW). This programme ran from 1990 to 1993. The programme will be analysed in detail in the following sections.

5.1 Historic overview of public expenditure in the water supply and sanitation sector

During its 40 years of existence, the approach of the German Democratic Republic (GDR) to the water sector and the management of water resources was different from the practices employed by the *Länder* of West Germany. During these 40 years, the water sector in the GDR was transformed from a largely decentralised municipal structure to a highly centralised and integrated system (Van der Wall, Kraemer 1993: 97)[44]. In this process, the East German Ministry for Environment and Water Management (established in 1972) was charged with the responsibility of selecting water supply and sanitation projects to receive public support.

The public expenditure policy in the GDR, with regard to environment, has been judged by analysts as short-term oriented, with decisions made on a case-by-case basis and environmental protection generally considered a cost and not a utility (IWH 1993: 8). However, it seems that investments in this sector were relatively high. In 1988, investments amounted to 513 mln Euro in drinking water supply measures, and 270 mln Euro in sewage disposal and treatment (Wasser und Boden 1990: 391-392)[45].

Despite these investment efforts, environmental water quality in the GDR was poor. A 1989 analysis shows that although approximately 93 per cent of the population (15.4 million) was supplied with drinking water; only about 73 per cent of the inhabitants were connected to the sewer system and 58 per cent to wastewater treatment facilities (EC Consulting Group 1990: 7-8). Over 95 per cent of 4 000 mln m³ of industrial sewage generated per year were either insufficiently treated or not treated at all before released into water bodies. Due to damaged water supply infrastructure, water losses in the supply network amounted to over 20 per cent (BMU 1990: 10-11). The overall water quality of streams and lakes was low (DIW; IWH 1995: 4). A water expert characterised the technical standards of the new *Länder* as lagging behind those in the old *Länder* by twenty to thirty years (Fitzer 1992: 4).

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43 The German federal states are referred to as "*Länder*". The new *Länder* include those federal states that constituted the former German Democratic Republic (East Germany). They represent about 30 per cent of Germany's territory, with nearly 20 per cent of the overall population. The old *Länder* are the federal states that constituted the Federal Republic of Germany (West Germany).

44 For an overview of the responsibilities in the East German water management sector cf. Komar *et al*. 1993 (35-39).

45 In the same year, overall investments in the Federal Republic of Germany (FRG) amounted to about 3 157 mln Euro. A direct comparison of these two figures, however, is not reasonable as they probably have a completely different data basis.

Against this background, following the 1989 fall of the Berlin Wall and the 1990 German Unification, the new government considered the maintenance and upgrading of existing plants and the construction of new plants in the new *Länder*, especially for wastewater treatment, one of its most important tasks (BMU 1990: 25-26). In this context, the allocation of public funds to environmental infrastructure was seen as a necessary means to achieve better environmental quality as most project owners (especially local authorities) lacked financial resources to carry out investments on their own.

A variety of public environmental expenditure programmes were launched. Environmental standards were significantly increased in the new *Länder*. As a result, the connection rate to the sewerage system rose to 77 per cent in 1995 and 79 per cent in 2000, whereas it increased to 63 per cent, and 69 per cent, respectively with regard to the connection to wastewater treatment plants. For comparison, in the old *Länder*, the average connection rate to the sewerage system is 95 per cent and to wastewater treatment plants, it is 94 per cent. In general, the quality of water and the quality of wastewater treatment remains significantly lower in the new *Länder* (Hentrich *et al*. 2000: 21-23).

Due to the limited scope of this report, a complete overview of these programmes in the water supply and wastewater management sector is difficult to provide. The focus will therefore be on the local authorities loans programme, one of the earliest and largest expenditure schemes to support environmentally-related infrastructure investments by public entities in the sector.

5.2 Description of the public environmental expenditure programme

This section focuses on the main elements of the programme, including, *inter alia*, a description of the eligibility criteria, sources of revenue, and expenditure levels.

5.2.1 Development of the programme

The West German legislation on environmental protection was enforced in the new *Länder* in 1990 on the basis of several treaties and regulations (Fitzer 1992: 5)[46]. This implied higher environmental standards in comparison to those in force in the former GDR. The Unification Treaty stipulated that environmental quality in the former GDR had to reach "at least" the standards of the old *Länder* (DIW, IWH 1995: 8). A transition period was agreed on, during which standards had to be adjusted by the year 2000. Furthermore, the implementation of the West German legislation provided a new framework for the public environmental expenditure policy: the highly centralised and integrated system in the water supply and wastewater treatment sector during the existence of the GDR had to be reversed, and local infrastructure, including water supply and wastewater treatment, had to be transferred to municipalities (KfW 2000: 40).

Estimates of the necessary investments in the water and sanitation infrastructure – considering the ambitious plans of the German federal government – varied significantly. Table 5.1 below shows estimates prepared by project owners, *i.e*. governing bodies and private investors involved in infrastructure projects, and the German Ifo Institute for Economic Research (ifo Institut für Wirtschaftsforschung), respectively.

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[46] The most important legislative acts include the Treaty between the Federal Republic of Germany and the German Democratic Republic establishing a Monetary, Economic, and Social Union *(Staatsvertrag über die Schaffung einer Währungs-, Wirtschafts- und Sozialunion*), the Environmental Framework Act (*Umweltrahmengesetz*), the Unification Treaty (*Einigungsvertrag*), and the Federal Water Act (*Wasserhaushaltsgesetz – WHG*) (all 1990).

Table 5.1. Estimated investment needs until 2000 in the new *Länder* (in million Euro)

Investment Needs Estimated by Project Owners		**Investment Needs Estimated by the Ifo Institute for Economic Research**		
Wastewater Treatment	*Water Supply*	*Wastewater Treatment*	*Sewerage System*	*Drinking Water*
15 850	7 669	21 474	31 700	14 316
Total: 23 519		**Total: 67 490**		

Source: EC Consulting Group (1990: 50), own adaptation and calculations.

The differences in the two sets of estimates probably result from making different assumptions, namely those concerning current environmental quality and economic growth. Right after the German Unification, knowledge of the water quality variable was very limited. Detailed reviews of the sector were missing, hence the assessment of water quality in the new *Länder* was not sufficiently precise. Projections of economic growth also varied significantly, which additionally affected the calculations of the necessary investment levels (DIW, IWH 1995: 11). It was evident, however, that substantial investments were needed in order to improve water quality.

The legislation in force required that infrastructure investments in water supply and wastewater management, maintenance, or new constructions, should be financed through user charges for the services provided by the sector. An average 75 per cent to 80 per cent equity ratio (or own capital) was estimated for project owners (Gerlach 1991: 9-10), making financing with outside capital indispensable. However, low economic growth in the 1990s further increased the need for public support.

Subsequently, a variety of expenditure programmes for the water sector were launched. The public expenditure schemes regarding environmentally-related infrastructure investments in the sector can be divided into short-term (one to two years) and medium-term expenditure schemes (three years and longer). The short-term programmes were launched right after the German Unification, with the aim of preventing immediate serious threats to human health and the environment. The more complex, medium-term expenditure schemes, were designed to introduce preventive environmental protection measures and measures to increase long-term environmental protection (DIW, IWH 1995: 13, 106).

The most important public environmental expenditure programmes were the medium-term subsidy schemes. These programmes provided general assistance for the adjustment of environmental standards, also taking into account the requirements to comply with EU regulations. Fostering economic development was also an important factor in these programmes (Hentrich *et al*. 2000: 4). The structure of the medium-term expenditure programmes was very complex and allowed subsidisation of the private sector, public institutions as well as public-private partnerships (DIW, IWH 1995: 47-48)[47]. Financial assistance was generally provided through soft loans which offered better credit conditions to project owners from the new *Länder* than the commercial banking sector.

The local authorities loans expenditure programme was part of an overall medium-term subsidy scheme, also including a water component. In terms of budget, this was the most important public environmental infrastructure programme for the water sector after the Unification. The scheme was established by the German federal government in 1990 to facilitate environmentally-related infrastructure investments by municipalities (or their subordinated administration units) exclusively in the new *Länder*. Three publicly-owned credit institutions, the KfW, the Deutsche Ausgleichsbank (DTA) and the Berliner Industriebank were charged with the implementation of the programme. The KfW was selected to manage the subsidies to water supply, wastewater treatment, and sewerage systems (DIW, IWH 1995: 53). Therefore, the other two banks are not covered in the following sections.

[47] For an overview cf. DIW, IWH 1995 (48-49).

5.2.2 Objectives and priorities of the programme

The public environmental expenditure in the water supply and sanitation sector had two major objectives, both environmental and economic. According to the legislation, the water quality standards in the new *Länder* had to reach those of West Germany by the year 2000. In order to achieve this objective and because of serious health and environmental concerns, significant resources were needed with public support playing an important role. In addition, water supply and wastewater treatment infrastructure was seen as an important factor of economic development in the respective regions (Genter 1992: 2). Construction of environmental infrastructure was considered essential for attracting further commercial and residential investments (V. Mensenkampff 1992: 1).

Thus, the first - environmental - objective of the programme was to contribute to the achievement of increased water quality standards in the new *Länder*: The second objective, was to help increase economic growth in the region. Public funding was provided in order to reduce the financial burden on the economy, including municipalities and users alike.

5.2.3 Description of the institutional set-up

Generally, water management institutions in Germany are guided by the principles of federalism and subsidiarity[48]. The responsibility for water resource protection and management in the country is assigned to the *Länder*, including the financing of the sector (BMU 1990: 40-41). The principle of federalism, including in water management, implies municipal autonomy with a high degree of municipal control over local affairs and freedom in selecting institutional and organisational arrangements to attain their targets, including public-private partnerships (Kraemer *et al*. 1998: 210-214). Financing the expansion of municipal water and wastewater management is normally a responsibility of the operator of the respective wastewater treatment plant. These plants were mostly under municipal control, though various other institutional arrangements also existed.

There are five major institutional arrangements for the construction and management of water supply, wastewater treatment plants, and sewerage systems in Germany. These include:

- Inter-municipal association (*Zweckverband*);
- Direct labour (*Kommunaler Eigenbetrieb*);
- Municipal enterprise (*Kommunale Eigengesellschaft*);
- Private association (*Private Gesellschaft*);
- Delegation to private companies[49].

The most important[50] institutional arrangements have been the inter-municipal associations and direct labour. The share of private associations is still very limited (Hentrich *et al*. 2000: 20).

The local authorities loans programme was managed by the KfW on behalf of the German government. The programme was implemented over a period of three years, from October 1990 to

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48 The subsidiary principle says that a decision should be made at a level as close to those who are affected by the decision as possible. Thus, the application of the subsidiary principle calls for a more decentralised water sector management rather than a centralised structure.

49 For a comprehensive overview of the Institutional set-ups in the German water sector cf. Kraemer *et al*. (1998).

50 Importance measured as the percentage of users connected to a water supply or wastewater treatment facility to the respective institutional set-up. Thus, most users are connected to facilities operated by direct labour and inter-municipal associations.

June 1993. A contract between the KfW and the federal government of Germany regulated the implementation of this programme. The federal government was the controlling body.

The KfW is a publicly-owned bank, established in 1948. Eighty per cent of its assets are owned by the federal government and 20 per cent by the 16 German *Länder* governments. The bank has a direct guarantee from the federal government concerning its financial obligations[51] and is not subject to taxation. Because of the public guarantee, the bank has a very high credit rating at various rating agencies (such as Moody's and Standard & Poor's) and is, consequently, able to borrow under very good conditions on the financial market.

The bank's day-to-day business is executed by the Board of Managing Directors. These directors are appointed for a five-year term by the Board of Supervisory Directors upon recommendation of a legal and administrative committee. The Board of Supervisory Directors is composed of representatives of several federal ministers (finance, economy, and labour), appointees of the Lower and Upper Houses of Parliament, labour unions, and others. This Board supervises the conduct of KfW's business, the administration of its assets, and approves larger loan commitments as well as the annual financial statements of the bank.

5.2.4 Eligibility criteria and expenditure

Eligibility criteria are usually specified in terms of specific and measurable time-bound objectives, as well as financing needs, eligible beneficiaries, eligible project types, assistance rates, financial products offered through the programme. Under the local authorities loans programme, only public project owners in the water and wastewater sector could apply for funding. These included local authorities such as municipalities, cities, and counties. Inter-municipal associations were also eligible for funding. Private companies could also apply for support on the condition that the company had a 100 per cent debt guarantee by a local authority on whose behalf the investor would undertake the infrastructure investments (DIW, IWH 1995: 53; Genter 1992: 4). Projects were required to demonstrate environmental and economic benefits. In addition, project owners had to show an adequate institutional set-up of water supply and wastewater management. Another requirement was co-financing by ensuring cost recovery and increased use of own resources (BMU 1990: 26).

The loans provided through this programme were generally designed as long term with long grace periods, low interest rates, and higher assistance rates (KfW 2000: 20, 44). The terms of the loans varied, that is, they were adjusted regularly with regard to international financial market fluctuations (on average every two to three months)[52]. For example, in 1992, loans from this programme were provided at the following terms:

- The maturity period of loans could reach up to 30 years, including a five-year grace period;
- The interest rate was fixed for the first 10 years at a subsidised level of 6.5 per cent (Genter 1992: 6);
- Generally, up to two-thirds (or 66.66 per cent) of the overall project investment costs were covered;
- Operating costs were not eligible for funding (Genter 1992: 4). Only investment costs were covered. Eligible investment costs for the construction of a wastewater treatment plant included: support for land acquisition, construction, machinery, installation, assembly, and project preparation.

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51 This basically implies that the KfW cannot go bankrupt, as the federal government has an obligation to meet claims to the KfW.

52 Personal communication with Steffen Seiffert, 20 October 2004.

The terms of KfW loans were more favourable than the terms of commercial loans at that time, as KfW loans were subsidised through government funds (cf. 5.2.5). It should be noted that the difference between (subsidised) interest rates of the KfW and (non-subsidised) interest rates of commercial banks is usually significantly lower than one per cent. As the KfW does not publish the target corridor (that is, the exact advantage compared to commercial loans) for the terms of its loans[53], and as the dominant commercial rate at that time is not readily available, it is impossible to exactly determine the financial benefit from taking a loan within the local authorities loans programme compared to a commercial loan.

After the 10-year timeframe, the interest rates had to be adjusted to financial market conditions. A combination with other public expenditure programmes, including grants, was possible. Loans were disbursed in instalments following the completion of the construction phases of the project (Genter 1992: 4).

In applying for support from the programme, project owners were required to submit their requests through standard application forms. All project proposals had to include qualitative as well as quantitative information on environmental effects to be attained. A financial plan describing all sources of finance for the project was required. However, no information is available on whether the indicators of environmental outcomes were used as an essential criterion in the project appraisal and selection employed by the KfW.

Table 5.2 provides an overview of the amount of subsidies allocated to project owners under the local authorities loans programme managed by the KfW.

Table 5.2. Volume of the local authorities loans programme (October 1990-June 1993)

Types of Projects Funded within the Local Authorities Loans Programme	Investment Subsidised through the Local Authorities Loans Programme		Loan Commitments by the KfW within the Local Authorities Loans Programme	
	Total (Million Euro)	Shares (%)	Total (Million Euro)	Shares (%)
Wastewater treatment including sewerage systems	3 843	25.31	2 436	27.46
Water supply	1 809	11.91	976	11.00
Sub-total:	5 652	37.23	3 412	38.47
Further projects funded (transport infrastructure, industrial real estate, energy conservation, air monitoring, waste management, and other)	9 531	62.77	5 458	61.53
Total	15 183	100.00	8 858	100.00

Source: DIW; IWH 1995 (54-55), own adaptation.

Table 5.2, above, shows that a large share of the local authorities loan expenditure scheme was allocated to the wastewater sector. Both water supply and wastewater treatment sectors made up for about 38 per cent of the overall loan commitments. Taking into account that a large share of the local authorities loan programme was not linked to environmentally-related infrastructure, but to the upgrading of public transport and industrial real estate and other measures, the amount of resources allocated to the water sector under this programme is significant. Between 1991 and 1992, the share of the loans extended under this programme to the overall financial assistance for projects in the sector reached on average 63.4 per cent. In the water supply sector, the financial assistance was of a lower value: 53.9 per cent within the same timeframe (DIW, IWH: 56).

Due to the high demand by project owners, the budget of the expenditure programme was quickly depleted. The initial budget of 5 113 mln Euro was increased twice, first in January 1991 and then in

53 *Idem*.

February 1992 to the total of 8 869 mln Euro (KfW 2000: 44). However, this increased budget was also depleted by April 1992. From this time on, public subsidies, as provided by the federal government, were no longer available (DIW, IWH 1995: 54). To meet the ever-increasing demand for capital in the water supply and sanitation sector, the programme was continued by the KfW on request of the federal government. Thus, the scheme was now fully financed by the KfW where the KfW raised debt on financial markets (cf. 5.2.5). A further 204 mln Euro was allocated by mid-1993 allowing for about 460 mln Euro of investments. Of these, about 70 per cent of the loans were extended to projects in the water supply and sanitation sector.

Following the phasing-out of the programme in June 1993, investments, especially in wastewater treatment, decreased significantly. However, further resources were needed to achieve water quality standards (Hentrich *et al*. 2000: 19). Subsequently, at the end of 1994, the programme was re-launched under a new name, the KfW Infrastructure Programme. The conditions of this programme were similar to its predecessor's, however, the volume of the programme was significantly smaller. The interest rates were still below market interest rates. The assistance rate decreased slightly from two-thirds to 50 per cent of eligible investment costs (DIW, IWH 1995: 56)[54].

Public environmental expenditure constituted a significant share of the investments in the water and wastewater management sector in the new *Länder*. Today, subsidies should, in principle, no longer be necessary as user charges are set at levels that allow for the full cost-recovery of investments. However, subsidies are still allocated in individual cases, especially in the new *Länder* (Kraemer *et al*. 1998: 312). In the case of wastewater treatment, additional investments are still needed in order to reduce nutrient loads, and to further develop and install best available technologies to prevent and handle high concentrations of hazardous substances in effluents (OECD 2001: 70, 159). These, however, do not require major subsidy programmes.

5.2.5 Sources of financing

Data on the specific revenue sources of the local authorities loan programme are hard to obtain. This is mostly due to the fact that the programme was phased-out long ago. The local authorities loans programme was initially financed through transfers from the federal government. User charges played an important role as a source for financing investments in this sector.

Following the upgrading of the water supply and wastewater treatment infrastructure, user charges rose significantly in the new *Länder*. Between 1990-1998, the charge increased by about 128 per cent in the new *Länder*, while at the same time the cost of living in Germany increased only by about 20 per cent. This increase was especially high until 1995, when most of the investments in the sector were undertaken. In a way, this massive effort led to over-investment in the sector. The full dynamics that led to these spectacular cases of over-investment in water infrastructure in the new *Länder* are many-fold and would require a more thorough analysis to account for all factors. Some of the most prominent factors are: inexperienced personnel at lending institutions and municipal authorities, lack of clear investment guidelines and checks and balances, political pressure to avoid migration, corruption to a limited extent.

In 1998, user charges in the new *Länder* were about 30 per cent higher than in the old *Länder*. The soaring level of user charges was due to several major factors which include, *inter alia*, the poor conditions of the water infrastructure in the new *Länder* and the need for significant investments, the construction of over-sized WWTPs as a result of overestimated wastewater volumes, wrong incentive structure based on over-subsidisation, as well as the more stringent enforcement of the principle of cost recovery of user charges (Hentrich *et al*. 2000: 23-24).

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[54] For an introduction on the KfW infrastructure programme cf. KfW 2000 (45).

A similar development took place in the water resource management sector. Still, increases in the rate of the water abstraction charge were not as high as in the case of user charges. Consumers' acceptance of the increases in the charges decreased rapidly, especially given the fact that water tariffs in the former GDR had remained relatively uniform (there was no regional differentiation in prices) and constant (Seidel 1998: 13-18) for many years. This dramatic increase of the user charges, however, resulted in much lower consumption levels of water: between 1991-1998, consumption in the new *Länder* fell to an average of 68 per cent of the 1991 consumption volumes, which is a decline from an average 139 litres per capita/day to 95 litres per capita/day. Currently, water consumption in the new *Länder* is among the lowest in the world (Interwies, Reidel 2002: 18-20).

The KfW, as a government-owned bank, normally uses the national and international financial markets to finance its programmes (KfW 2004). Following the depletion of the programme in 1992, the federal government ceased its support and asked the KfW to continue the programme using its own resources by borrowing on the financial markets. This financing strategy continued until June 1993, when the local authorities loans programme was fully phased-out.

5.2.6 Auditing and control

As a government-owned bank and in accordance with its statutes, KfW staff are obliged to prepare, annually, several reporting documents. These include, *inter alia*, annual financial statements, a management report, consolidated financial statements, and combined management report. These are prepared, audited, and published in conformity with the German Commercial Code (*Handelsgesetzbuch*). The auditor is proposed by the Board of Supervisory Directors in agreement with the Federal Audit Office (*Bundesrechnungshof*). Therefore, a strong political control, but also influence, exists over and guides the KfW. For example, the bank's policy, especially the implementation of subsidy schemes, such as the local authorities loans programme, relies on the consent of the Board of Supervisory Directors.

To ensure transparency, auditing and control measures are regularly undertaken. External auditing of the KfW's financial statements is carried out in accordance with legal requirements.

5.2.7 Compatibility with EU State Aid rules

The EU has developed strict rules on the provision of state aid. Regional development is an important aspect of EU policy and as such the EU competition policy allows state aid for underdeveloped regions.

Supporting investment projects, including infrastructure projects, has been of high importance for Germany. Following the German Unification, the new *Länder* faced the dilemma of low economic development and the need for a transition to a market economy. Against the background of these unique conditions, the EU Commission decided to declare the entire region of the new *Länder* eligible for regional aid according to Article 92 (3) (a)EC. This ruling was further extended in 1991, 1992, and 1995. After 1995, the Commission decided that no new specific aid regime for the new *Länder* was necessary (Depypere 1998: 1-2). Generally, this regulation also applied to the water and wastewater sector. Therefore, given the time-span of the programme, this subsidy scheme was in compliance with the EU State Aid rules.

Since 1996 onwards, the EU State Aid rules have been strictly applied in Germany. From this point, all aid granted had to be approved by the EU Commission in order to ensure that competition would not be distorted (Depypere 1998: 3).

5.3 Ex post programme analysis according to the PEEM framework

This section aims to assess the performance of the local authorities loan programme according to the Good Practices for Public Environmental Expenditure Management developed by the OECD. To the extent possible, the programme is evaluated in terms of three major criteria: environmental

effectiveness, budgetary good practices, and management efficiency. Each of these criteria is described through five main principles and further operationalised through specific sub-criteria. More details on the evaluation checklists used for this assessment can be found in Annex B of this report.

5.3.1 Environmental effectiveness

5.3.1.1 Additionality and consistency with other environmental policy instruments

The funding provided by the KfW on behalf of the federal government was used to mitigate hazards to man and the environment, and to raise the living standards in the new *Länder* in a considerably short period of time. Priority was given to addressing social issues, as high expectations existed on the part of the citizens of East Germany.

The programme was used to reinforce the use of other policy instruments, such as user charges. User charges, as the most sustainable source of financing of the water sector, were raised to cost-recovery levels in line with the user-pays principle. Subsidy support was provided to finance investments in fixed assets only.

The German government reviewed the programme annually and phased it out when it was deemed that the sector could afford raising debt on the financial market.

5.3.1.2 Well-defined programming framework

The programme was established as part of a wider economic policy for the new *Länder*, complemented by a number of other public expenditure programmes. It aimed at supporting both the achievement of higher environmental quality standards as well economic growth in the region. It had clear targets (contribution to the achievement of water quality standards in the new *Länder*, which had to reach those in the old *Länder* by 2000). In addition, eligible beneficiaries, project types, and project costs were clearly identified. However, as the programme was part of a variety of other expenditure schemes for environmentally-related infrastructure in the water supply and wastewater management sector, the effects of the programme alone are not measurable.

5.3.1.3 Clear identification of environmental outcomes

As part of the application process, the KfW did require qualitative as well as quantitative information on environmental effects. However, it is not clear how this information was used in the selection of projects that would obtain support through the programme. It is also not clear if monitoring the achievement of stated environmental effects was regularly carried out by the KfW or the relevant environmental authorities. It can only be assumed that all projects funded through the local authorities loans programme contained effective contractual sanctions, especially clauses concerning the repayment of loans and safeguards against the misuse of the public funds received.

5.3.1.4 Maximising environmental effect from available funds

Investments in the water sector of the new *Länder* were also undertaken in view of compliance with and implementation of EU environmental legislation. The EU has created a comprehensive legal body with respect to environmental protection, such as the Urban Waste Water Treatment Directive, the Drinking Water Directive, and the Water Framework Directive. The efforts undertaken have led to significant improvements of environmental water quality in the new *Länder*.

However, due to the phasing out of the programme, it was not possible to obtain information on whether cost-effectiveness (full lifetime project investment, operational and maintenance costs) was a prominent indicator in the project appraisal process. Given the wider political objectives of the programme, it is likely that cost-effectiveness was not considered an essential criterion in selecting projects for financing and it was not reported to those overseeing the programme.

5.3.1.5 Leveraging additional private and foreign finance for the environment

The water projects subsidised through this programme received (in all cases) less than 100 per cent of the overall project costs. No exact information is available on co-financing requirements, but it is known that project owners used significant own resources (employed or invested).

Leveraging additional resources from foreign sources, for example, did not seem to be so much of an issue, given the build-up of over-capacity in water supply and wastewater management facilities in the region.

The programme did not compete with the financial market at the time of its implementation, as long-term financing for the sector was not available at that moment. The soft loans offered through the programme were seen as a necessary incentive to induce other policy changes, such as the increase of user charges.

5.3.2 Budgetary good practice

5.3.2.1 Fiscal integrity of revenue

Data on specific revenue sources are no longer available, as the programme was phased out a long time ago. However, it is known that state revenues were generally recorded in treasury accounts before being transferred to the KfW. Furthermore, as the financing task was transferred to the KfW, the revenues were also recorded in the annual balances of the bank.

5.3.2.2 Avoiding constraints to efficiency

Given the lack of information on the revenue sources of this programme, it is difficult to assess if earmarking was an issue. It was probably not, as the programme was initially funded through direct federal budgetary allocations negotiated as part of the budget preparations by the Parliament.

5.3.2.3 High standards of fiscal discipline and transparency

Preparing robust estimates of the financial resources needed to finance a public expenditure programme and respective auditing requirements are major criteria in ensuring fiscal discipline. Environmental authorities had difficulty developing such financial envelopes and the programme's resources were increased several times on an *ad hoc* basis. It is also difficult to assess if the implementation of the expenditure programme caused unplanned fiscal deficits. As economic growth slowed down in Germany during the 1990s, budgetary restrictions increased sharply. However, the emerging fiscal deficit cannot be exclusively linked to the local authorities loans programme as a variety of other expenditure programmes existed at that time and other infrastructure measures, such as transport, were also supported through significant public financing.

Financial auditing of the KfW was conducted during project implementation as well as on an ex post basis by auditors proposed by the bank's Board of Supervisory Directors in agreement with the Federal Audit Office. A political influence in the auditing process cannot be ruled out.

5.3.2.4 Accountability

In retrospect, it is no longer possible to obtain data on individual accountability and legal liability of KfW managers with regard to the programme. The same applies to precautionary measures against fraud and corruption.

5.3.3 Management efficiency

5.3.3.1 Sound governance

Sound governance implies a clear division of responsibilities between programming, setting rules, supervision, and control, on the one hand, and project cycle management, on the other. The rules and procedures governing this programme are hard to obtain. The project appraisal and selection criteria are not clear at all.

Key stakeholders were represented within the local authorities loans programme. The Supervisory Board of the KfW, constituted by the representatives of ministers of finance, economy, and labour, as well as the Lower and Upper House of the German Parliament, labour unions, and other banking institutions, had a significant say in the programme.

5.3.3.2 Professional executive management

The KfW provided the professional management of the programme. The day-to-day management of the programme was clearly separated from the policy-making (programming and control) process. The KfW had a written mandate (contract with the Federal Republic of Germany) to carry out the local authorities loans programme and was held liable throughout this contract for its performance.

The staff of the bank were exclusively assigned to management tasks and usually selected by the bank management itself. It is assumed that the KfW employees were (and are) generally qualified for the management tasks required, as the bank itself has a good reputation in Germany and is thus capable of attracting qualified staff.

5.3.3.3 Sound project cycle management

No information is publicly available on project cycle management procedures or appraisal and selection criteria. Application for funding was accepted in standard forms, which were generally user-friendly. These were, however, also informal, as no detailed specifications on the planned investment had to be provided. Hence, it is difficult to assess the cost-effectiveness of the scheme. However, given the fact that over-capacity in the water supply and wastewater management sector was built through this programme, it may be assumed that cost-effectiveness was not a major criterion.

5.3.3.4 Fair and unbiased relations with external stakeholders

As no information is available on the KfW's relations with external stakeholders, it is difficult to assess the quality of its communication strategy. Some sources of information (Genter 1992) seem to suggest that the KfW was disseminating information on the programme to potential beneficiaries through workshops and other events. It can be assumed, though, that project applicants usually had equal access to information on the funding opportunities provided by the programme.

5.3.3.5 Effective management of financial products and related risks

The KfW, as the entity charged with managing the public environmental expenditure scheme, was responsible for the disbursement of subsidies as authorised by the federal government. Subsidies were provided in the form of soft loans. Grants were not available. Due to its experience and institutional capacity, the KfW was deemed more competent to manage the financial risk inherent in loan provision than government agencies.

Box 4. Main elements of the selected programme - Germany

Name of the programme

Local authorities loans programme (*Kommunalkreditprogramm*) of the KfW

Objectives of the programme

- Along with other public environmental expenditure schemes, to contribute to the achievement of environmental water quality in the former GDR, by the year 2000, to reach the standards of the old *Länder*
- To foster regional development in the new *Länder*
- To undertake preventive environmental protection measures

Eligibility criteria

- Projects demonstrate environmental and economic benefits
- Infrastructure measures follow the principle of cost recovery
- Only public owners eligible for funding

Types of project owners

- Different institutional arrangements of local authorities (municipalities, cities, counties)
  - Inter-municipal associations (*Zweckverbände*)
  - Direct Labour (Kommunaler Eigenbetrieb)
  - Municipal enterprises (*Kommunale Eigengesellschaft*)
  - Private associations (*Private Gesellschaften*) (under certain conditions)

Rates of assistance

- Up to two-thirds (or 66.66%) of the investment cost of a new treatment infrastructure
- Assistance through the local authorities loans programme can be combined with other funding sources

Financial products offered

- Soft loans

Maximum/minimum size of projects supported

- No limitation

Main revenue source of programme

- Transfers from the federal government
- Refinance through raising debt on financial market

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ANNEXES

A: Key data on the selected countries

The cases analysed in this report need to be considered in their respective national context. Some data on welfare indicators are provided in Table A.1, below, for the year 2005, unless otherwise specified.

Table A.1: Key data on the selected countries

	Austria	Belgium (Flanders)	France	Germany (New *Länder*[55])
Total area (m^2)	84 000	13 522	549 000	108 327
Population density (inhabitants/m^2)	97	447	110	139
GDP per capita (Euro)	29 982	26 493[56]	28 677	27 152[57]
Connection to wastewater treatment plants (% of population, last available year)[58]	86 (2001)	63 (2005)	79 (2001)	93 (2001)

In addition, OECD data on public environmental expenditure for wastewater treatment as a share of total general government expenditure over the period 1997–2001 show a relatively stable trend, with minor fluctuations, of public resources targeted at the sector (in general, these range between 0.4 per cent and 1.3 per cent of the total general government expenditure in 2001). OECD data also show that in the same period, the contribution of the business sector (including private specialised producers of environmental protection services) has been consistently lower than the contribution of the public sector (including public specialised producers of environmental protection services) in wastewater treatment.

55 New *Länder* excluding former East Berlin.
56 GDP for all regions of Belgium.
57 GDP for all regions of Germany.
58 Source: OECD (2006).

B: Checklist for measuring compliance with good practices for PEEM

Checklist 1. Performance in terms of environmental effectiveness

Principle	Good Practices
1. Additionality and consistency with other environmental policy instruments	• The need for any proposed public environmental expenditure programme should be justified with reference to the Polluter or User-Pays Principles. Public funds cannot and should not substitute for weak environmental policies; they should not be spent on achieving environmental objectives that could have been achieved with administrative or economic instruments, or by eliminating environmentally harmful subsidies. • Public funds should not be used for environmental projects that would have been implemented anyway *e.g.* projects that have high, risk-adjusted financial rates of return and could have been financed privately. • Public environmental expenditures should reinforce other environmental policy instruments and be consistent with their stated objectives. • Public expenditure programmes typically should be used to finance investments in fixed assets or precisely defined non-investment projects, and not the operational costs of environmental administration. • External auditors should periodically review the environmental value-added of public expenditure; there should be provisions to phase out public funds after they have fulfilled their purpose.
2. Well- defined programming framework	• Public funds should be spent in the framework of a publicly-available expenditure programme approved by the appropriate authorities. • The expenditure programme ideally should specify measurable, agreed, realistic, time-bound objectives. It should identify eligible beneficiaries, financing needs, eligible project types, and rules to guide decision-making so that objectives can be met at least cost. • Expenditure programmes should be established as part of a wider environmental programme or policy. • Economic, social, poverty reduction, or other non-environmental objectives may be integrated into the public environmental expenditure programme, but, unless explicitly included in the expenditure programme objectives, they should not undermine the achievement of the programme's environmental objectives. • The wider economic effects of public environmental expenditure programmes (*e.g.* in terms of public deficit, growth, employment) should be assessed, where appropriate, prior to their establishment and further evaluated during implementation.
3. Clear identification of environmental outcomes	• Standard application forms should be used to the extent practicable to solicit quantitative and qualitative information on projects' environmental outcomes. Once obtained, the accuracy and reliability of this information should be verified. • Indicators of environmental outcomes should be as unambiguous as possible and used as essential criteria in project appraisal and selection. Where appropriate, environmental outcomes should be valued in monetary terms for the purpose of explicit benefit-cost testing of projects. • Environmental outcomes should be monitored throughout the project cycle and after implementation; project level environmental data should be stored in a publicly available database that allows ex post verification and analysis. • If the project fails to achieve its intended outcomes, as stated in the application form or financing contract, project beneficiaries should be liable to sanctions specified in the contract and enforced in proportion to the violation. • Information on the environmental results achieved by the programme should be periodically reported to those responsible for programme oversight and to the public, reviewed by external auditors, and used to assess the programme's performance.
4. Maximise environmental effect from available funds	• Quantitative information on full lifetime project costs (investment, operational, and maintenance) should be requested from applicants in a standard application form and be verified; project level cost data should be tracked and stored in a database format in a way that allows ex post verification and analysis. • Project selection criteria should aim to achieve the greatest environmental outcome with the programme's resources. A clear cost-effectiveness indicator (unit lifetime cost of

	achieving environmental effects) and the rate of financial leverage should form the core of the quantitative basis for appraisal, scoring, ranking and selecting projects. Where justified by project size or other relevant considerations, project selection should be supported by transparent benefit-cost analysis. • Quantitative information on cost-effectiveness should be periodically reported to those responsible for programme oversight and to the public, be subject to periodic external, independent reviews and be used to assess the programme's performance.
5. Leverage additional finance	• To maximise their environmental impact, public funds should cover less than 100% of project costs; options for co-financing by the retained earnings of the beneficiary or other sources should be assessed. • The rate of financial leverage should be used to assess the programme's performance. • Public environmental expenditure programmes should not distort competition in financial markets, nor obstruct the development of private financial institutions. Financial products used in environmental expenditure programmes should not compete with those offered by private financial institutions. • Full financial plans of environmental projects should be required; commitments for financing from other sources should be verified. No disbursement should be made until full financing for the project is adequately secured.

Checklist 2. Performance in terms of budgetary good practice

Principle	Good Practices
1. Fiscal integrity of revenues	• All financial resources available to public environmental expenditure programmes should be clearly specified in the enabling legislation or regulation. • If the financial resources managed within the programme come directly or indirectly from compulsory transfer payments (taxes, charges, fees), they should be treated as public funds in the meaning of the rules and regulations applicable to public finance, public procurement, and/or state aid, as appropriate. As such, these resources should be subject to the usual fiscal discipline and requirements for transparency. • Revenues should be recorded in treasury accounts before they are allocated to the environmental expenditure programme.
2. Avoid constraints to efficiency	• Earmarking of revenues should be avoided as it usually results in inefficient use of public resources. However, if it is demonstrated that the advantages of earmarking outweigh the risks, an expenditure programme may be established using earmarked revenues, but it should be limited to a specified period of time. At the end of this time, earmarking should only be continued if it can be demonstrated that it is providing value-added in relation to its stated objectives. • Earmarking within earmarked schemes (*e.g.* sub-funds for specific sectors or groups of polluters within earmarked environmental expenditure programmes) should also be avoided since it further infringes on efficiency. If earmarking is nevertheless applied, safeguards that prevent inefficient resource allocation and perverse incentives should be implemented, such as competition between projects submitted by different firms within a sector, external controls, and/or checks of project appraisal.
3. High standards of fiscal discipline and transparency	• The risk of environmental expenditure programmes resulting in unplanned fiscal deficits should be avoided. Debt, and in particular, contingent and implicit liabilities (such as loan guarantees) should not be incurred without an explicit, prior approval from fiscal authorities. Medium-term financial forecasts, including contingent and implicit liabilities of all implementing agencies, should be regularly prepared and disclosed in financial statements. • For all public environmental expenditure programmes, an estimate of the financial resources available and the corresponding expenditures should be provided in the state (or sub-national) budget, at least as an annex. Statements on debt and contingent liabilities, especially of any extra-budgetary environmental institutions controlled by the government should be submitted along with the budget of the Ministry of Environment to the Ministry of Finance. • Mandatory internal and external independent financial audits should be regularly carried out. • Ex post reporting, according to a transparent expenditure classification system, should be regularly conducted and publicly disclosed.

4. Accountability	• Appropriate provisions should be made for holding managers of public environmental expenditure programmes accountable for their decisions. • Appropriate safeguards should be put in place to protect public funds against corruption and fraud, *e.g.* through dynamic systems of management control, including internal and external audits. Any potential conflicts of interest should be identified and eliminated. • Ex post reports on performance of managers and results achieved (in terms of specified performance criteria) should be periodically conducted and disclosed to the public.
5. Collection of revenues and public procurement separated from expenditure management	• The primary task of agencies implementing public environmental expenditure programmes should be programme and project cycle management, and project financing. Collecting revenue or making direct procurement of equipment and construction services should be performed by the government agencies usually assigned these responsibilities. • Revenue from fiscal or quasi-fiscal instruments should be collected by the appropriate fiscal authorities under the control of treasury services. • National or international public procurement rules should apply for all purchases that are co-financed by public funds, even if purchasing is outsourced to a private entity.

Checklist 3. Performance in terms of management efficiency

Principle	Good Practices
1. Sound governance	• Public environmental expenditure programmes should be governed by clear, explicit rules. • The terms and conditions of financing, decision-making and administrative procedures, internal policies, and principles of project appraisal and selection should be available to the public. They should be coherent and consistent, not change frequently or without explanation, and be periodically reviewed in order to identify areas for improvement. • A clear distinction should be made between policy-making and executive management functions. • An appropriate arrangement should be made for the policy-making function, such as the establishment of a supervisory board. Policy-making in this context includes programming, priority-setting, establishing rules, performance evaluation, supervision, and control. Political overseeing should be confined to programming and supervision. This is where the political process has a legitimate and important role to play. • The supervisory board of a public environmental expenditure programme should include representation from the key stakeholders with appropriate checks and balances between different interest groups. Consideration should be given to involving non-environmental authorities, parliament and non-governmental organisations, as appropriate.
2. Professional executive management	• Responsibilities for the day-to-day management and implementation of the environmental expenditure programme should be clearly separated from policy-making, clearly defined in statutory and operational documents, and shielded from *ad hoc* political pressures in support of specific projects. • An implementing agency should have a clear, legal mandate. It should be a professional, executive management body with an appropriate degree of operational autonomy, subject to strict accountability for performance. Its responsibilities should focus on project cycle management, and in particular, on impartial project appraisal and selection. • Executive managers should be held accountable for their performance. The supervisory board of the public environmental expenditure programme should apply explicit performance criteria and indicators when assessing the performance of executive managers. • Implementing agencies of large specialised environmental expenditure programmes should have staff assigned exclusively to their management and selected by executive managers. • The skills of the staff should adequately match the technical requirements of a given expenditure programme. The recruitment and remuneration of managers and of staff should be based strictly on merit. Remuneration should be adequate to attract and maintain suitably-qualified people and to reward integrity and commitment.
3. Sound project cycle management	• The project cycle should be subject to intelligible, transparent, and written procedures, which are consistent and publicly available, in particular to all potential beneficiaries; a project cycle manual should be available and staff required to use it.

	• Project identification should be proactive (for example by advertising the programme to potential beneficiaries), follow from the objectives of the public environmental expenditure programme, and be based on a realistic analysis of market trends and demand for financing. • Applications for financing should be accepted only in standard forms tailored to different project types and supported by clear, user-friendly instructions. Application forms should be easily available to all potential applicants, preferably in an electronic version. • Project appraisal and selection criteria and procedures should be objective, transparent, and clear. Discretionary elements of project appraisal and selection should be subject to explicit, written procedures, and the results of such decisions kept in publicly-available files. • Appraisal systems and procedures should be tailored to the size and complexity of different project types. For large investment projects, a two-stage appraisal process should be used (first stage - screening against eligibility criteria; second stage – appraisal and ranking of eligible projects). • The appraisal system should be relatively simple, based on impersonal rules, and allow for meaningful comparison of comparable projects against one another, or against a benchmark. The appraisal system should also allow for an ex post verification of the selection process, including tracking personal responsibilities for important judgements and decisions. Appraisal reports should be clear and publicly available.
4. Fair and unbiased relations with external stakeholders	• Relations with external stakeholders (beneficiaries, intermediaries, consultants) should be handled in a transparent, unbiased, and arms-length manner. Communication policy should ensure that all applicants have equal access to information on funding opportunities and equal opportunity to have their projects impartially reviewed on a merit basis. • Any outsourcing of tasks should be undertaken through a fair, transparent, competitive process.
5. Effective management of financial products and related risks	• Only financial products specified in the terms and conditions of the public environmental expenditure programme should be used by the implementing agency. • The complexity of operations, and the choice of financial products, should be proportional to the institutional capacity to manage the associated risks. • Grants are the most administratively simple and transparent financial product. When used, they should be designed and disbursed so as: to maximise incentives for timely and cost-effective implementation of individual projects and of the implementing agency's entire portfolio; to maximise the leverage of other resources; and to minimise chances of misuse of public money by applicants. • Other financial products could be considered in proportion to institutional capacity and in order of increasing risk and these include: interest subsidies, loans through intermediaries, direct loans, leasing, equity investments, and loan guarantees. Before a new financial product is adopted, its feasibility should be checked through an assessment of risks and market needs, and supported by a financial plan.

C: Overview of key aspects of the selected public environmental expenditure programmes

	Austria	Belgium (Flanders)	France	Germany (new *Länder*)
Programme	Public environmental expenditure in the water supply and wastewater treatment sector, managed by the Kommunalkredit Public Consulting (KPC).	Expansion of wastewater treatment facilities at a regional level through a public-private partnership institution.	Investment Programme of the French Water Agencies in the area of water supply and wastewater management.	Local authorities loans programme of the government-owned KfW.
Historical Background	The management of the public environmental expenditure was transferred to the KPC as it was perceived that a private sector bank would have more expertise to better manage the allocation of subsidies, and to achieve significant efficiency gains in the public funding process.	Significant problems with respect to surface and groundwater quality in Flanders, leading to non-compliance with EU Water Directives.	The French Water Agencies are responsible for overall water management on the basis of river basins. Over the past 30 years, the system of subsidising large investments in the water supply and wastewater sector has been firmly established.	After the German Unification in 1990, the environmental quality of surface and groundwater in former East Germany was low. A major subsidy scheme was initiated to speed up the development of an adequate sanitation infrastructure in the new *Länder* of Germany.

Objectives	• Ensure environmental protection, public health, and access to basic sanitation services;
	• Increase the connection rate to water supply and wastewater treatment facilities in rural areas;
	• Keep user charges for water and wastewater services at socially acceptable levels.
		• Improve and ensure the quality of surface water;
		• Increase the connection rate of households to collective treatment facilities to 100%;
		• Improve treatment capacity of current facilities;
		• Encourage the separation of rainwater at the municipal and supra-municipal level;
		• Comply with the EU Wastewater Treatment Directive.
			• Contribute to activities of common interest: conservation of water resources and pollution abatement:
			  • Installation of modern treatment technologies;
			  • Provision of a coherent net of wastewater collection systems;
			  • Reduction of the impacts from rainwater run-offs and diffuse pollution.
			• Establish a complete cycle of wastewater treatment including treatment, elimination, and disposal of treatment sludge.
				• Increase environmental quality in the new *Länder* to the level of the old *Länder* by the year 2000;
				• Foster regional development in the new *Länder*.

Eligibility Criteria	Projects need to meet the overall objectives of the Environmental Assistance Act: • Environmental effectiveness and cost-effectiveness of measures; • Eligible projects include investments in wastewater treatment plants, sewerage systems, sludge treatment, and water supply networks of various sizes.	• High environmental effectiveness with respect to wastewater treatment technologies; • Avoidance of long transport periods in main sewers.	• Projects need to be in line with overall objectives of the Water Agencies' investment programmes.	• Projects demonstrate environmental and economic benefits; • Infrastructure measures have to follow the cost-recovery principle.

	Austria	Belgium (Flanders)	France	Germany (new *Länder*)
Types of Project Owners	• Municipalities; • Provinces; • Public-private partnerships; • Private investors.	Aquafin, public-private company, responsible for the construction of wastewater treatment facilities based on the investment programmes prepared by the Flemish Environment Agency (VMM).	• Municipalities; • Industries (including farmers); • Based on the "solidarity approach" - everybody contributing to the Water Agency may apply for funding.	Different institutional arrangements of local authorities (municipalities, cities, counties): • Inter-municipal association; • Direct Labour; • Municipal enterprise; • Private association; • Delegation to private companies.
Rates of Assistance	• Up to 70 % of the installation cost of a new wastewater treatment plant; • 15 % of a new municipal water supply system; lump-sum subsidy for decentralised water supply measures.	N.A.	• Up to 40% of the installation cost of a new treatment plant; • Up to 20% may be added as a loan to the project applicant.	• Up to two-thirds (or 66.66%) of the installation cost of a new wastewater treatment infrastructure.
Financial Products Offered	• Interest rate subsidies; • Grants.	N.A.	• Grants; • Low interest loans.	• Soft loans.
Maximum/ Minimum Size of Projects Supported	No limitations.	N.A.	Vary with the type of the project owner.	No limitations.
Main Revenue Sources	Tax revenues as defined in the Austrian Fiscal Equalisation Law: • Tax revenue of the housing charge; • Share of income tax, tax on salary and wages, capital gains tax, corporate income tax; • Share of the value added tax (VAT).	MiNa Fund (the Flemish Fund for Nature and the Environment), which is capitalised from revenues from taxes levied on sewage discharge, abstraction of surface water and groundwater use.	• Water pollution charges; • Abstraction charges.	• Transfers from federal government; • Borrowing on capital market (by the KfW).
Auditing and Control	Transparency, accountability, and efficiency are ensured by independent auditors contracted by the Austrian Ministry of Environment, evaluations conducted by the Austrian Court of Audit, checks of the outcomes of randomly selected projects by the Ministry of Environment. The results are reported to the Austrian Parliament and the public at large.	Control of financial performance of Aquafin by governing authorities. Disclosure of company data in annual reports available to the public. Elaborate monitoring network in order to assess the environmental performance of Aquafin.	Water Agencies are fully accountable to the French government and are obliged to provide regular reports on their activities. ISO 9000 is increasingly used as a standard for assessing the quality of the Water Agencies' funding scheme. Monitoring and control of recipients of subsidies. Extensive monitoring networks are maintained by the Water Agencies themselves.	The KfW itself is controlled by its Board of Supervisory Directors, which includes, *inter alia*, several federal ministers, members of Parliament, and stakeholders from the national financial market and trade unions. Annual financial statements and management reports are regularly prepared, audited and published in conformity with the Commercial Code.

	Austria	Belgium (Flanders)	France	Germany (new *Länder*)
Compliance with EU State Aid Rules	Most of the funding goes to municipalities. Such aid is compatible with the EU State Aid rules. This also applies to privately undertaken investments, when they provide services on behalf of municipalities. Therefore, it is perceived that the public expenditure scheme for water supply and wastewater treatment measures is in compliance with the EU State Aid Rules. Aid provided to enterprises for industrial wastewater treatment measures should be approved by the European Commission (through a special notification procedure).	The institutional set-up for managing subsidies for the water sector selected by Flanders, as well as the procedures for preparing the management contract with Aquafin have been seriously criticised. Consequently, the management agreement between the Flemish Government and Aquafin was revised in 2005.	Subsidy schemes confirmed to be compatible with the EU State Aid rules according to an assessment conducted by the European Commission. Water Agencies pay special attention to ensuring continued compliance with these rules.	The new *Länder* faced the dilemma of low economic development and the need for a transition to a market economy. The European Commission declared the entire region eligible for regional aid until the end of 1995.

Note: N.A. stands for non available.

Summary of the analysis

This summary is based on the detailed analyses of the public environmental expenditure programmes in the selected countries. The analysis of the programmes uses the principles elaborated in the Checklists contained in the Good Practices for PEEM. The summary in the table below does not aim to provide a comprehensive comparative analysis. It rather emphasises the common aspects of the individual cases and identifies those issues that are crucial to the good performance of public environmental expenditure programmes. A more in-depth review of each programme is included in the case descriptions in the subsequent chapters.

Environmental effectiveness

Additionality and consistency with other environmental policy instruments	• The main overall goal of the reviewed programmes is an improved water quality in the countries in compliance with national and EU legislation. This is achieved through increased connection rates to water facilities and installation of modern technologies. The Polluter-Pays and the User-Pays Principles are acknowledged in all countries. Water pollution and abstraction charges play a very important role in the case of France and Flanders in providing financing for the water sector. User charges in Germany and France are brought to cost-recovery levels (in the case of Austria, they are kept at socially acceptable levels). In general, support is provided only to investment projects that meet stated programmes' objectives. • Control checks and balances are in place in all four reviewed countries, and the programmes are regularly reviewed by external independent auditors.
Well-defined programming framework	• In general, all four programmes are characterised by well-defined programming frameworks with clearly identified programme elements. The lack of publicly available information may explain that some elements have not been identified. Usually, these public environmental programmes have wider economic and social objectives (e.g. in the case of Germany, the water subsidies were part of a broader programme for fostering regional development and economic growth).
Clear identification of environmental outcomes	• In principle, application forms to solicit quantitative and qualitative information on projects' environmental outcomes are used in all four countries. These forms vary in the extent to which they require the provision of such information. Environmental effects are a prominent eligibility criterion in all four programmes. • Water quality is regularly monitored, as all countries have developed and implemented extensive monitoring networks. In case of failure to achieve stated results, project owners are sanctioned. In Austria, in the case of false information and data provided by the applicant, or in case of negligence and other offences under private law, the beneficiary is obliged to pay back the grant. In Belgium, the Flemish government renegotiated the management agreement with Aquafin. Stricter and clearer performance criteria have been introduced. Aquafin remuneration is now linked to its performance with regard to set targets.
Maximising environmental effect from available funds	• Quantitative information on project full lifetime cost (investment, operating, and maintenance) is generally required from applicants. However, from the available information it is not clear if cost-effectiveness (the unit lifetime cost of achieving environmental effects) plays a prominent role in the selection of individual projects. Information on the project appraisal process (appraisal and selection criteria, ranking of projects) is generally missing in the public domain information on the programmes analysed.

Leveraging additional private and foreign finance for the environment	• Generally, all four programmes provide support that covers less than 100% of the total costs of projects. Co-financing and full financial plans to cover the total costs of projects are usually a formal requirement. However, applicants in the reviewed countries often have access to other subsidy schemes, which they can use to close the financial gap on their projects. Thus, the leveraging effect of the individual subsidy is more difficult to assess and should be considered in the context of total public funds used to support the project.

Good budgetary practice

Fiscal integrity of revenue	• In all four countries, revenue sources are specified in the respective legislation. Also, revenue are recorded in treasury accounts before allocation to the respective project owners. In France and Flanders, water pollution and abstraction charges are collected by water companies before being transferred to the Water Agencies (in France) and the MiNa Fund (in Flanders). However, the revenue is subject to regular public scrutiny by the Ministry of Finance.
Avoiding constraints to efficiency	• Earmarking of revenue for water sector investments has been a usual practice in all the four countries. The negative effects of earmarking are minimised in Austria through the Law on Fiscal Equalisation, which reconsiders the need for public support for the sector with regard to other public needs every four years.
High standards of fiscal discipline	• The analysed public environmental expenditure programmes do not seem to have caused fiscal deficits. The financial products used are grants, interest rate subsidies, and soft loans. None of the countries uses loan guarantees (which can cause serious fiscal deficits). • All programmes undergo mandatory internal and external financial audits. Ex post reporting by programme managers is required and publicly disclosed. The least information was available on the German case study where it seems that in the haste of the post-unification process and attempts to catch up with economic development in the new *Länder*, less attention was paid to transparency. The programme ran into financial problems several times due to the lack of well-prepared initial financial envelopes.
Accountability and transparency	• In principle, checks and balances against fraud and corruption have been established in the expenditure programmes covered in this study (no information was available on the historic German case in this respect). This is mainly realised though auditing procedures by a court (as in the case of Austria) or independent private auditing firms (as in the case of Flanders). In the case of Flanders, Aquafin managers are clearly held responsible for the performance of the programme.
Collection of revenues and public procurement separated from expenditure management	• In all four countries, collection of revenue and public procurement is separated from professional expenditure management. In Flanders, Aquafin is responsible for expenditure management, but also procurement and investments as well as operation and maintenance of the built infrastructure.

Management efficiency

Sound governance	• In general, all programmes are governed by explicit rules. The terms and conditions of financing provided through the programmes are made available to potential applicants and the public at large. Governing bodies of the implementing agencies have different levels of stakeholder participation in the decision-making process. In Belgium, these are limited to government institutions and Aquafin; in Germany, representatives of municipalities sit on the Supervisory Board of the KfW; the French Basin Committees consist of a broad range of stakeholders.

Professional executive management	• In general, responsibilities for the day-to-day management and the implementation of the expenditure programmes are clearly separated from programming and policy-making. All implementing agencies have clear legal status and are operationally autonomous. The relations between the implementing agencies and the government are based on contracts (as in the case of Flanders and Austria) or a law (in the case of France). These contracts/laws also specify the criteria for assessing the performance of the agencies. Political interference is minimised through balanced representation of stakeholders from different government agencies who participate in the governing bodies of the implementing agencies. Due to the specific setup of the implementing agencies and the competitive remuneration they offer, they are in a position to attract and retain highly qualified personnel. • ISO 9000 certification is used as an international benchmark of performance quality, such as in the cases of Flanders and France. The Austrian KPC obtained EMAS certification.
Sound project cycle management	• Information on project cycle management practices and procedures has been difficult to find. General descriptions are available but they do not provide a sufficient basis for a more in-depth evaluation of the specific rules and procedures that govern the implementing agencies in the selection of individual projects for financing from the public programmes. In principle, project application forms of different levels of complexity are used in all programmes. However, project appraisal and selection criteria and principles do not seem to be publicly available. While cost-effectiveness is often claimed to be an important indicator, it is not clear how it is calculated and respectively used in the appraisal and selection process.
Fair and unbiased relations with external stakeholders	• In principle, all external stakeholders (beneficiaries, consultants) have equal access to information on funding opportunities from the analysed programmes as well as equal opportunity to have their projects impartially reviewed and evaluated. Due to the limited scope of this report, however, it is difficult to assess how strictly fairness and impartiality in relations with external stakeholders is maintained.
Effective management of financial products and related risk	• The financial products offered by the expenditure programmes are defined in the respective contracts/laws. Grants, interest rate subsidies and soft loans are the main products offered through the reviewed programmes. In principle, where banks are involved in loan provision, they usually have the necessary expertise to manage risk and conduct proper due diligence (e.g. in Germany, Austria). In the case of France, and given the scope of this report, it is difficult to assess the capacity of the French Water Agencies to manage the risk inherent in the loans they provide.

D: Relevant EU directives

Water framework directive (2000/60/EC)

The Water Framework Directive (WFD) constitutes a completely new approach aiming at a more efficient and sustainable management of water resources throughout the EU. The main goal of the Directive is to achieve a "good status" for all waters, including surface waters as well as groundwater, by the year 2015.

To achieve this goal, the Directive proposes an integrated approach. First, water bodies, and no longer water uses, form the centre of water policies. Second, "good status" is defined on the basis of three factors: biology, chemistry, and morphology. Third, water bodies are no longer considered as autonomous environmental compartments, instead the Directive seeks to promote a river basin approach for the management of water resources. This explicitly extends the responsibility of water managers beyond the water body itself to the surrounding environmental systems.

The implementation process for the WFD consists of several steps: after a characterisation of the river basin districts, the review of the environmental impact of human activity in these districts, and an economic analysis of water uses, member states need to assess whether or not the respective water body will reach the environmental quality goals in the foreseen timeframe. Member states are required to design a programme of measures if a water body is at risk of not attaining the respective quality goals. In addition, the member states are required to undertake a combined approach to addressing point sources, mostly originating from industrial sources, as well as wastewater treatment plants and diffuse sources of pollution, mostly caused by agricultural activities. Member countries should use economic analysis methods to identify the most cost-effective measures in drawing up the programmes of measures.

From a management perspective, the WFD fully integrates the conditions of the Aarhus Convention[59] and requires the participation and involvement of citizens and other concerned stakeholders in the planning procedures and decision-making in water resource management. This new approach could also contribute to creating better awareness about the linkages between soil and water resources and thus have beneficial effects on soil protection as well.

Council directive concerning urban waste water treatment (91/271/EEC)

The Urban Waste Water Treatment Directive (UWWT) aims at the reduction of the pollution of freshwater, estuarial, and coastal water resources resulting from domestic sewage, industrial waste water, and urban surface run-offs. The Directive establishes standards and compliance mechanisms pertaining to the collection, as well as the treatment and discharge of the waste water resulting from the above sources and generally referred to as "urban waste water". It also regulates the disposal of sewage sludge.

The approach taken in the Directive is based on the classification of areas according to the sensitivity of the respective water sources (*i.e.* used as drinking water sources, high level of eutrophication, compliance with EU water standards). Standards of differing stringency apply to the various classes (sensitive, normal, and less sensitive areas). According to the three categories of receiving waters, different minimum standards for sewage treatment are set. The Directive introduces mechanical-biological treatment

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[59] Convention on Access to Information, Public Participation in Decision-making, and Access to Justice in Environmental Matters, agreed upon in Aarhus, Denmark, on 25 June 1998.

as a minimum standard, and further treatment (*i.e*. tertiary treatment) in sensitive areas. Furthermore, the Directive originally required that all agglomerations greater than 2000 p.e. should have built collecting systems for waste water by the end of either 2000 or 2005, depending on their size (cut-off size: 15 000 p.e.). The treatment requirements are more stringent for larger agglomerations. Smaller towns or villages (less than 2000 p.e.), which are not obliged by the Directive to install secondary treatment systems, are still required to provide "appropriate" treatment, sufficient to ensure compliance with quality objectives or the requirements of other EU legislation. The following table provides an overview of the respective deadlines and requirements:

Table D1: Overview of Urban waste water directive requirements

Compliance by (month/year)	12/1998	12/2000	12/2005
Sewerage collection	> 10 000 p.e. in sensitive areas	> 15 000 p.e. in normal and less sensitive areas	> 2 000 p.e. in all areas
Primary treatment		> 15 000 p.e. in less sensitive areas[1]	> 10 000 p.e. in less sensitive areas
Secondary treatment		> 15 000 p.e. in normal areas	> 2 000 p.e. in normal and sensitive areas[2]
More advanced treatment	> 10 000 p.e. in sensitive areas		

If sewage is collected in agglomerations < 2 000 p.e., appropriate treatment should be applied
[1]For > 150 000 p.e. primary treatment only in exceptional circumstances
[2]Appropriate treatment for discharges to coastal waters

The Directive sets targets and limit values to be achieved through the treatment efforts. In addition, the Directive specifies monitoring and evaluating procedures for expected results. In the case of excessive costs for treatment systems, alternative systems may be used to achieve the same level of environmental protection. Finally, the disposal of sewage sludge is also regulated, while the dumping of this sludge at sea or in other surface waters was mandated to be phased out by 1998.

Council directive relating to the quality of water intended for human consumption (80/778/EEC and 98/83/EC)

The legislation related to drinking water sets the standards for the quality of water intended for drinking or use in the manufacturing of food and beverages, and is motivated by human health considerations. At the same time, the drinking water directive supports environmental protection, since drinking water resources should be sufficiently free from contamination to allow for inexpensive treatment. The first European Directive in the area of drinking water dates back to 1980. Directive 80/778 provided an extensive legal framework for ensuring consumer security for drinking water purposes. However, with the first proposals for this Directive dating from 1975 its scientific/technical basis as well as the managerial approach no longer reflect today's standards. Therefore, a new directive (98/83/EC) replaced 80/778/EEC on 25 December 2003.

The Drinking Water Directive defines drinking water as "Water intended for human consumption means all water either in its original state or after treatment used for this purpose, regardless of its origin". Drinking water quality is managed through setting specific standards, *i.e*. these are defined as physical, chemical, and microbiological parameters. Detailed monitoring requirements are also specified. The new Directive is designed to provide more transparency and requires the quality targets to be met at the point of use, *i.e*. the tap and is therefore often referred to as the tap water directive.

While the old Directive contained 66 parameters, this number was reduced to 48 in the new Directive. The parametric values were reviewed and were strengthened in accordance with the latest available scientific knowledge[60]. The main changes to the parametric values in the new version as compared to the old version of the Directive are the following:

- Lead: reduced from 50 µg/l to 10 µg/l; 15 years transition period to allow for replacing lead distribution pipes;

- Pesticides: values for individual substances and for total pesticides were retained (0,03 µg/l and 0,5 µg/l) plus additional, more stringent, ones introduced for certain pesticides (0,03 µl/l);

- Copper: value reduced from three to two mg/l;

- New standards were introduced for new parameters such as trihalomethanes, trichloroethene and tetrachloroethene, bromate, acrylamide, etc.

The parameters and methods of the Directive are to be reviewed at least every five years. Member states are obliged to report to the EU Commission on the quality of their drinking water every three years. The member states are furthermore required to inform the consumer of the drinking water quality and the measures taken to comply with the requirements of the Directive.

[60] WHO Guidelines, Scientific Committee on Toxicology and Ecotoxicology.

E: List of experts contacted

Country	Name	Organisation	Position/Department
Austria	Michael Aumer	Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management	Department for Sustainable Development and Environmental Financing
	Dorith Breindl	Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management	Residential Water Management Head
	Gottfried Lamers	Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management	Department for Sustainable Development and Environmental Financing
	Verena Ressel	Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management	
	Bernhard Sagmeister	Kommunalkredit Public Consulting GmbH	Executive Director, CEO
Belgium	Davide Aubin	Université Catholique de Louvain	Association universitaire de recherche sur l'action publique (AURAP))
	Marc Craps	Katholieke Universiteit Leuven	HarmoniCOP Project
	Sabine Parisse	European Investment Bank	
	Patrick Swartenbroeckx	Formerly with Aquafin, Belgium	
	Frederique Varone	Université Catholique de Louvain	Association universitaire de recherche sur l'action publique (AURAP)
France	Bernard Barraqué	ENPC	LATTS
	François Colas-Belcour	Agence de l'Eau Seine-Normandie	
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	Yann Laurans	Agence de l'Eau Seine-Normandie	Directorate of Studies, Prospective and Environmental Evaluation
	Sylvie Lupton		
	Jean-Pierre Rideau	Ministère de l'Ecologie et du Développement durable	Direction de l'eau, Bureau de l'economie de l'eau et de la programmation
Germany (New *Länder*)	Steffen Seiffert	KfW	Grundsatzabteilung
	Jörg Rechenberg	Federal Environmental Agency	Quality of Surface Waters
	Ingo Heinz	University of Dortmund	Institute of Environmental Research