

Annual report 1998

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Preface by EEA Executive Director, Domingo Jiménez-Beltrán



In 1998, the Agency capitalised on the operational progress made in 1997 and continued to develop the three instrumental pillars of networking, monitoring and reporting, and developing the European Reference Centre on Environmental Information. At the core of the Agency's networking activities is EIONET – the European Environmental Information and Observation Network which pulls together national capacities connected through an Internet-based network. For monitoring & reporting activities, work has focused on creating innovative and consistent routines to be able to better know and report periodically on the environment. Lastly, development of the European Reference Centre on Environmental Information and related services has forged ahead towards granting permanent and easier access through the Internet to best available data and information.

As anticipated in our last annual report, the main challenges for 1998 were to make the Agency work better, to make our products and services more responsive and more timely and relevant to the policy needs and agenda, and also more user friendly and more easily accessible to the public. The Agency has responded to the challenge, thanks in part to policy developments that have enhanced the role of environmental information as a tool, not only to improve environmental policies, but also to re-orient economic policies towards a more sustainable development. At the same time, some paths have been opened to better inform the public; however, much still remains to be done in this area.

The Agency's report *Europe's Environment: The Second Assessment* was delivered on schedule and was presented to the 4th Pan-

European Environment Ministers' Conference in Århus in June 1998 as a main input to their debate. It was widely recognised that nowadays it is not just lack of information and assessment of problems that prevents politicians from taking effective action, but more often simply a lack of political will. This report was the last of a series concentrating on known problems and has become a model of how to produce information at national level and to aggregate it at regional and European levels assuring a consistent picture. The next generation of reports will focus not only on problems or pressures and state of the environment, but also on an integrated assessment of the DP-SIR (Driving forces – Pressures – State – Impact – Responses) chain with trends and outlooks based on scenario analyses.

The move to the next generation of environmental reports and preparation of the state and outlook report (*Environment in the European Union at the turn of the century*, to be published in June 1999 and covering the 18 EEA member countries and also the Accession Countries) has occupied significant Agency capacities during 1998. The development of the first annual report based on a package of indicators, *European Environmental Signals 1999*, has also started and will be published by the end of 1999. This will be the first of the annual exercises to accompany economic development signals with environmental signals.

During 1998, a number of political developments, besides the Århus Conference, created new opportunities to put environmental information to work.

At EU level, opportunities included the Cardiff initiative, presented by the European Commission to the Cardiff European Council (June 1998) as a first response to the Swedish Prime Minister's proposal,

made at the Luxembourg European Council (December 1997), to progressively benchmark transport, energy and agricultural policies using environment and sustainability indicators. To this list were added development, internal market and industry policies following the conclusions of the Vienna European Council (December 1998). The Agency's work on indicators will support and benefit from this major political process in 1999.

The Council and the European Parliament also prompted the Commission, together with the Member States, to produce a Global Assessment of progress made under the EU's Fifth Environmental Action Programme. This exercise will be supported by the Agency's 1999 state and outlook report and will pave the way for the elaboration and adoption of the first EU environmental policy plan for the next millennium.

On various occasions, Commission services, in particular DG XI, made requests which require our multiannual work programme 1999-2003 to be more supportive of their practical needs.

Thus, all in all, 1998 was a significant year for putting environmental information at the service of more effective environmental policies and above all for starting to change unsustainable trends in many areas of economic policy.

The Agency and EIONET have continued in 1998 their active partnerships with Eurostat and the Joint Research Centre while enhancing awareness and information at an international level through efficient cooperation with organisations like UNEP, WHO, ECE and OECD. Joint products such as the EEA/UNEP Statement on Chemicals (*Chemicals in the Environment:*

Low Doses, High Stakes?) have further consolidated the process begun in 1997, with the joint EEA/UNEP message on water stress, to bring emerging issues into focus. Chemicals are now high on the political agenda.

These are just some elements showing how the Agency has made progress in the challenge during 1998 to become more politically useful and relevant in order to better serve the decision-making process. This remains a core challenge for the Agency in 1999. Moreover, the Agency has to make environmental data and information more easily accessible to the public at large, in the different languages and in adequate formats. During 1998, the Agency developed a strategy with the member countries to meet that objective and this has already begun to bear its first fruits. Working together with member countries, important progress is expected to be seen in the coming year in this area.

Finally, I want to thank all those who made the progress of the Agency possible during 1998: the staff at the Agency, our partners in EIONET and the PHARE programme, our colleagues in Eurostat and at the JRC. I also want to express my recognition of the Management Board's and Bureau Members' support and dedication to the Agency in 1998, and to the Scientific Committee whose guidance in 1998, to preserve the Agency remit and to respond to new challenges, was of paramount importance.

Domingo Jiménez-Beltrán
Executive Director, EEA

Copenhagen
March 1999

Foreword by the Chairman of the EEA Management Board

As I look back over 1998 and compare the Agency's performance with its first beginnings in 1994, it is obvious that great strides have been made over the period, and that the Agency is now a major player on the European environment scene.

This was brought home vividly to me at the Pan-European Environment Ministers' Conference, held in Århus, in June 1998. For that occasion, the Agency had prepared its major report *Europe's Environment: The Second Assessment*, showing the changes in the state of the environment and the changing pressures on it. By common consent, this was the Agency's best report yet. It illuminated the progress and the continuing problems in Europe's environment in a vivid and compelling way. It seemed only right and natural therefore that the Executive Director should be the keynote speaker at the start of this Conference, introducing the report and setting out the issues and challenges which the Ministers needed to address.

Increasingly, the Agency is being seen to have the information, the expertise and the objectivity to present issues in this way. The European Commission and the Member States increasingly appreciate that everyone benefits from having the key facts brought together authoritatively by the Agency as the background to debate and policy making.

During 1998, the EU institutions have been considering a report on the operation of the Agency during its first few years, and a Commission proposal for amendments to the Agency's governing Regulation. All the institutions have been supportive of the Agency's work so far, and the amended Regulation, in the form it is likely to emerge, amounts to a reaffirmation of its remit, with some small amendments to improve its procedures.

The keys to continuing success are the close professional working relationships which are steadily being forged between the Agency on the one hand, and the Commission, Member States and the European

Parliament on the other. Supported by the vital work of the European Topic Centres, the Agency plays a key role in setting out the facts about the environment and how it is changing. Increasingly, its assessment and scenario work also illuminates the prospects for future changes, whether favourable or unfavourable. The Agency reports accurately and objectively, but without sensationalism. The facts themselves can then exert their own proper weight and influence on policy analysis, negotiation and decision making.

In 1999, there will be a great deal of interest in the Global Assessment which the Commission is preparing on progress during the Fifth Environmental Action Programme as a prelude to the new strategy which it will be developing for the first period of the new century. The Agency has now become the Commission's natural partner in this process. It is working very closely with the Commission to provide the factual analysis of the key issues which the Commission wishes to highlight. It will also help to analyse where policies are successfully delivering improvements over time and where there is still more to be done to deliver the better environment we all want.

The Agency has to work closely with the countries of central and eastern Europe, particularly the Accession Countries, as well as with the countries already in the Union. At Århus, all the countries of the European region were present on an equal footing, and all had equal need for the objective information base which the Agency provided. For the Global Assessment review, it will again be necessary for the report to go beyond the boundaries of the existing Union to give a complete picture of the situation and the problems ahead.

During the past year, the staff of the Agency have built up increasingly close contacts at working level with the countries of central Europe, with the help and support of the PHARE programme. Some moves have also been made towards bringing the Accession Countries into full membership of the Agency, though progress on this has



not been as fast as the Management Board would have liked, because of the wider political considerations concerning enlargement. Following a decisive lead by the Commissioner responsible for environment, we are hopeful that more substantial progress on this may be possible during 1999. We hope also to develop relations with the countries of eastern Europe, with the assistance of the TACIS programme.

As and when the Agency is enlarged, the Management Board and the other meetings involving member countries will be correspondingly enlarged. We shall need to think hard how to manage this efficiently and effectively. One possibility might be to rely more on an enlarged Bureau for the regular administrative oversight of the Agency's work, and to have less frequent meetings of the full Management Board for discussion of strategic issues, and the occasional major decision.

The quality of the Agency's work and its reporting is steadily improving. There is still, however, a long way to go in making its reports more widely known both to the general public around Europe and to those particularly concerned with environmental policy. The Agency has made progress in planning its future publications more systematically, and in making its reports or executive summaries more accessible and user friendly with translations more widely available in all the languages of the Union. But more needs to be done both by the Agency and in member countries to develop outreach more effectively. This will be a big task for the next five years.

This is one aspect of a larger task which still remains to be tackled – how to make the Agency more useful and valuable to individual member countries, as well as to the Commission and the Union as a whole. I believe there will need to be a more systematic effort to identify how the Agency can best provide added value to individual member countries during the next five years. The central task is to find an acceptable and useful way of presenting information about an individual country's environ-

ment in a European context. How does one country's environment look from a European perspective? How does it compare with the norm or with others in a similar position?

Some people have suggested that the Agency should take on the task of overseeing implementation of European environmental legislation in the Member States. The Agency and the Management Board have always resisted the idea of playing a direct role in the enforcement of European environmental legislation, because the Agency does not have the necessary skills and capacities, and because such a role would probably compromise our ability to obtain reliable information from Member States on a voluntary basis.

We have, however, seen the possible development of a role in monitoring the adequacy of the information and monitoring systems in each country. An outside view may sometimes be helpful in considering a country's information needs and the adequacy of its monitoring and reporting arrangements. How does a country's information base compare with that of others? Where are the gaps or defects in the quality of information? Where may countries need help to improve their information and get it more consistent? As the Agency and its Topic Centres settle into their stride, a regular dialogue on these issues could become an important part of the Agency's activities.

The quality of the Agency's work depends fundamentally on the quality of the staff. Much of the achievement of the first four years is due to the enlightened leadership of the Executive Director, Domingo Jiménez-Beltrán. The Management Board has been delighted to be able to persuade him to accept another three-year term of office when his initial term expires in June 1999. At the end of 1998, we appointed for the first time a Deputy Director, Dr Edda Müller, who has a formidable track record and will add strength to the management. There is also quality in depth throughout the organisation. Everyone who has dealings with the Agency is impressed by the

calibre of the whole of the Agency's team, and its energy, commitment and enthusiasm. As we look forward to the new century, I am confident that the Agency will surge forward to new achievements.

F(Derek) A Osborn
Chairman of the EEA Management Board

March 1999

1998 in brief ¹

Closing the cycle – the first multiannual work programme

1998 was the year in which the Agency completed the first multiannual work programme cycle and fulfilled the bulk of the work for the major products foreseen at a European level. These were *Europe's Environment: The Second Assessment* which was presented as planned at the 4th Pan European Environment Ministers Conference at Århus in June 1998 and the state and outlook report *Environment in the European Union at the turn of the century*, to be published in June 1999. This latter report will provide significant input to the EU's review of progress in environmental policy, in particular to the Global Assessment process to be conducted by the European Commission at the request of the Council of Ministers and the European Parliament.

The end of the five-year cycle of the first multiannual work programme was also marked by development of the European Environmental Information and Observation Network in the member countries, the EIONET. This network can be said to have achieved the maturity and capacities necessary for it to be used effectively by member countries and the Agency's European Topic Centres. The progress made in these developments in information exchange alone could justify the Agency's operation. 1998 was also marked by the end of most of the initial three-year contracts with Topic Centre partners and the negotiation of new contracts and tasks.

During the final phase of this multiannual work programme cycle, the progress made to date in the fundamentals necessary for efficient reporting on the state and trends of the environment became apparent as the various work streams were brought together (environmental monitoring systems,

databases and the so-called Topic reports). The achievements are apparent in the improved consistency of reporting systems which are emerging at regional, national and European levels. The possibility to deploy, already in 1998, monitoring systems such as Eurowaternet and to publish thematic reports such as *Urban Air Quality*, is as much a consequence of the progress made until now as of current and future requirements. These products will set the pattern for future yearly thematic publications on the state of environment.

Opening a challenging period – the second multiannual work programme

As the end of the first multiannual cycle drew to a close, so the programme for the next period was developed. Following an intense and broad consultation process, and in tandem with the adoption of a revised Agency Regulation, a new multiannual work programme for 1999 to 2003 was adopted. The new multiannual work programme consolidates our mission and instrumental model and builds on the Agency's ENVISION-document. The work programme identifies the main political goals to be served integration, sustainability, EU enlargement, as set out in the Cardiff European Council conclusions – and specifies the Agency's seven challenges for the coming years.

The Agency's mission statement for 1999-2003

The Agency aims to support sustainable development and to help achieve significant and measurable improvement in Europe's environment through the provision of timely, targeted, relevant and reliable information to policy-making agents and the public.



¹ This section of the EEA Annual Report is available in all official EU languages.



The seven challenges

1. Further develop and maintain EIONET in Europe;
 2. Build the European Reference Centre for Environmental Information;
 3. Develop an integrated monitoring to reporting process;
 4. Identify emerging issues of environmental importance;
 5. Support directly the framing and development of environmental policies;
 6. Support implementation and evaluation of environmental policies;
 7. Support the environment chapter of the enlargement.
-

For the first time the Agency included a multiannual indicative budget in the multiannual work programme 1999-2003. This will allow the Agency to plan ahead and allocate financial resources more effectively. This feature is anticipated to be demanded in the forthcoming revision of the Agency Regulation.

Progress in 1998

The Agency is continuing its pioneering work in operating as a network organisation, developing and pooling external capacities. In 1998, armed with increasing experience in managing its personnel and financial resources, the Agency was even able to marshal resources beyond the established EIONET within member countries. This model shows how, even with limited personnel and financial resources at the Agency's headquarters in Copenhagen, the first operational cycle could be successfully completed.

Table 1

Multiannual budget 1999-2003 (the figures for 2000-2003 are indicative)

Budget (1000 EUR)	1999 ²	2000 ²	2001	2002	2003
Staff & administrative Expenditure	9300	10100	10200	10400	10500
Operational expenditure	8800	9400	10600	11600	12500
Total	18100	19500	20800	22000	23000

² As adopted by the Management Board on 19 March 1999.

Personnel resources in 1998

The European Environment Agency had 63 staff posts under temporary contracts and 8 national experts, detached from their governments for a maximum period of three years. Sixteen different countries are represented; half of the staff has an academic profile. (For further information see Annex 1.)

Budget resources in 1998

The Agency is funded almost exclusively by the EU. In 1998, the EU contribution was EUR 16 500 000 plus an EFTA contribution of EUR 311 850. Around half the budget is used for contracts with third parties. The Agency's budget is presented in Annex 2, and is available in full on the Agency website.

Despite the progress in 1998, experience shows that with a small central headquarters, there was significant stress in particular at the level of personnel resources (with more than 20% work overload). Financial stress was also evident, in particular, in relation to Topic Centres and longer-term capacity building. Some improvements are already foreseen and proposed to the Management Board for 1999 and 2000.

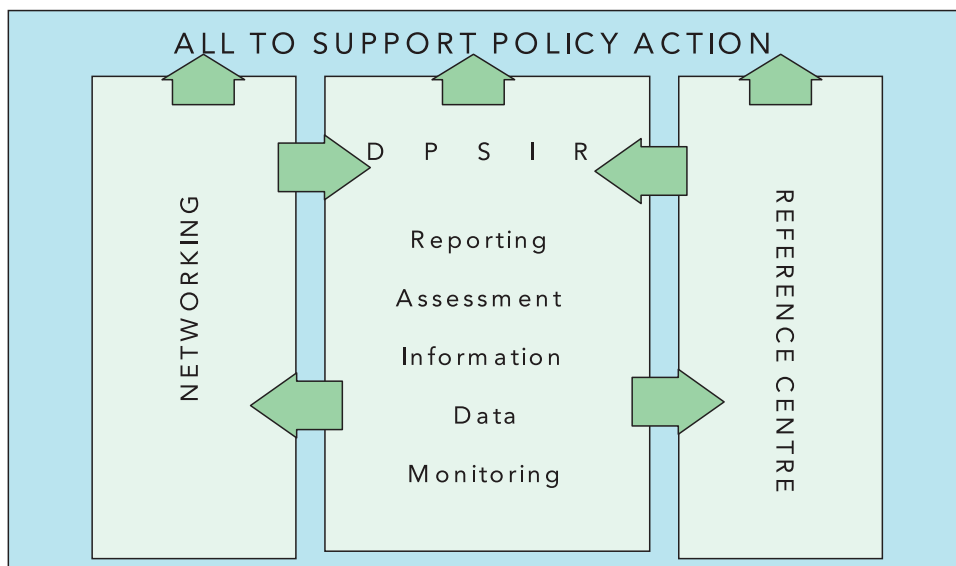
The three instrumental pillars

- main achievements

Achievements were made in each of the Agency's three instrumental pillars. Development work in all three areas continues in parallel to the delivery of products and services. Even for the relatively new Reference Centre, where work has concentrated on establishing flows and pools of data and information, products were already delivered in 1998. Activities in each pillar provide direct support to policy action.

EEA's three instrumental pillars

Figure 1



 Networking – major achievements in 1998

- Further consolidation of the NFP/EIONET group as the forum for the implementation of the work programme;
 - Integration of five PHARE Topic Links into their respective Topic Centres to extend the work programme to the 13 PHARE countries in these five areas;
 - Completion of the Internet-based telematics network in the member countries and Topic Centres and initial launch in the PHARE countries;
 - Establishment of an Internet-based forum for document exchange and communication between EIONET members;
 - Significant progress in collaboration with the European Commission's Joint Research Centre and Eurostat;
 - Opening up of a new area of collaboration with the World Health Organization concerning children, environment and health;
 - Close cooperation with UNECE in the preparation of the Århus Pan-European Ministerial Conference on the Environment;
 - Co-production with UNEP of a joint statement on chemicals in the environment;
 - Contributions to discussions within OECD on indicators for sustainable development
 - A growing and maturing technical cooperation with the United States Environmental Protection Agency.
-



 From monitoring to reporting – Agency publications and databases

 Main developments in monitoring

- Development and updating of technical manuals for consistent monitoring such as: *Guidance Report for Air Quality Management Assessment* and *Assessment and Management of Urban Air Quality in Europe*;
 - Implementing water monitoring schemes on a catchment basis as part of Eurowaternet;
 - Establishing and updating basic datasets for inclusion in Natlan;
 - Establishing and updating databases such as the EU98 Data Warehouse, Airbase and Corinair;
 - Establishing annual reporting systems in thematic areas (ozone episodes, urban air quality).
-





The European Reference Centre – making environmental information available on the Internet

The concept of the European Reference Centre is to offer an Internet-based public information service to access easily understandable and well structured environmental information, wherever possible in the user's native language.

The Reference Centre will include information supplied to, maintained in and emanating from the agency reporting system. This will be made accessible electronically to all, along with a series of Web-based services which facilitate public access to environmental information developed by co-operating partners and other reliable national and international sources.

Several products and services were developed and launched in 1998. These included:

- the Data Warehouse;
- EEA's world-wide calendar of environmental events;
- EnviroWindows;
- the Multilingual Search Service (pilot phase only);
- the Sustainability Targets and Reference Values (STAR) database.

The official launch of the European Reference Centre will take place at the end of 1999.

Main publications

- Periodical reports: *Europe's Environment: The Second Assessment*, June 1998;
 - Joint statement with UNEP: *Chemicals in the Environment: Low Doses, High Stakes?*
 - *Assessment and Management of Urban Air Quality in Europe*;
 - Topic Reports: These describe and/or analyse specific topics. Published in 1998: *Towards a European Habitat Classification*; *Review Study on European Urban Emission Inventories*; *Air Pollution by Ozone in the European Union*; *Corinair 1994*; *Selection Criteria for the Catalogue of Data Sources*; *Annual Topic Updates for Inland Waters, Marine and Coastal, Air Quality, Air Emissions, Land Cover, and Nature Conservation*;
 - Technical reports: These handle results on monitoring and data issues. Examples include *Data Collected within the Framework of the Regional European Sea Conventions* and *Availability and Access to Data on Europe's Marine Environment*;
 - Manuals and handbooks: These pool existing information to support actors implementing environmental actions, such as local authorities and economic agents. Examples include reports on *Environmental Risk Assessment*; on *Life Cycle Assessment*; on *Sludge Treatment and Disposal*; on *Environmental Management Tools for SMEs* and on *Urban Wastewater Projects*.
-



1. Planning and support to policy action

In 1998, the Agency reviewed its first multi-annual work programme (1994-1999) and developed the second multiannual work programme (1999-2003). During the process, the programme was discussed extensively with a broad range of partners and users of the Agency's products and services. After receiving the official opinions of the European Commission and the Agency's Scientific Committee, the programme was adopted by the Management Board on 26 November 1998. Simultaneously during 1998, there has been an ongoing review of the Agency's founding Regulation. The Agency has been following this process closely, in order to ensure that the framework for the annual work programmes in the coming five years is also valid under the new amended Regulation, which is expected to be adopted in 1999.



The Agency's programme and project groups

- Topic databases and reporting
 - Socio-economic data
 - Pressures
 - State and quality
- Integrated assessment Environmental issues
 - Regional assessments
 - Sectors and instruments
 - Research dissemination and emerging issues
- Periodical reporting
 - The five-year reports
 - Regular indicator-based reports
- Reporting system support
 - Scenarios, methodologies, guidelines
 - Data and information management
 - Public access to environmental information – European Reference Centre
 - Institutional networking
- Service and network infrastructure
 - Information and networking technology
 - Information capacities and services

Within these areas, 64 projects are defined (see Annex 3 to this report).

In the new programme, key publications are the regular, comprehensive state and outlook reports on Europe's environment (once every five years) and the more frequent indicator-based reports. Working in close collaboration with DG XI and the other relevant DGs, we will, in the coming years, increasingly develop environmental information to support sustainable development, in particular the integration of environmental protection requirements into all relevant EU policies.

The Agency's products and services need to be based on consolidated core data and information. Improving quality, consistency and timeliness of the required information

is a key priority. A shared and important objective of the Agency and the member countries is to build and further develop the European Reference Centre for Environmental Information with national EIONET partners and with ETCs as a cornerstone of Agency activities. The Agency will furthermore seek to develop the capacity to identify emerging issues and to give early warnings.

The Management Board has acknowledged that the annual budgets are, at present, limited but provide steps towards meeting the requirements and expectations as defined in the Agency's Regulation. The Agency is now striving to secure additional funding from relevant DGs within the Commission services as well as from external sources, to allow for additional activities, in particular in the following three areas:

Additional funding is needed to support

- the enlargement process;
 - the integration of environment into other economic sectors; and
 - pan-European programmes beyond the EU.
-

In the context of the EU enlargement process, extensive cooperation between the Agency and central and eastern European countries (CEECs) has evolved with the support of the PHARE programme. The current PHARE cooperation project will expire in October 1999. Even though Accession Countries are expected to become EEA members before joining the European Union, securing funding for the interim period is important, in order to maintain the momentum in the cooperation already achieved. The Management Board recognises that the challenge of covering these countries is beyond the scope of the normal Agency budget. As a consequence the Agency has submitted a separate funding proposal to the Commission to ensure continuity of activities and funding for this cooperation, however the situation develops

over the coming months. Both the Commission and the Agency welcome Accession Countries' applications to become members of the EEA.

The success of the Århus Conference also called for a reinforced and feasible follow-up. An appraisal has now been made of the required follow-up activities that the Agency should take. Three areas of work are covered: 1) extending the Agency network for monitoring and reporting, 2) preparing the indicator-based report for the next Ministerial Conference, and 3) preparing Europe-wide reports on biodiversity and technological hazards not sufficiently covered in *The Second Assessment*. The next pan-European Environment Ministers' conference will be held in Ukraine in 2002.





In the second multiannual work programme the Agency has seven major challenges

1. **Further develop and maintain EIONET in Europe** towards a fully functioning network of environmental experts, data providers and information users interconnected by leading-edge informatics systems, which will provide for efficient data supply and data/information access and retrieval from the European Reference Centre.
 2. **Build the European Reference Centre for environmental information** – facilitating access to data, information, models and methods supplied to and emanating from the EEA and EIONET; also to communicate and ensure active publication and dissemination of all products and services from EEA and EIONET, and to ensure access to relevant environmental information developed from other national and international sources.
 3. **Develop an integrated monitoring to reporting process** to deliver in an efficient, timely and routine way comparable results and reference indicators for reporting on the state, trends and prospects of Europe's environment as a whole. This requires that the focus and priorities of monitoring, database and assessment activities, and the scope and contents of the key reporting documents are linked, co-ordinated and synchronised. It also requires that data at European level on priority areas of work are made available.
 4. **Identifying emerging issues of environmental importance** – to be considered in monitoring-to-reporting and to help the Commission and EEA member countries in the identification and framing of new policies so that adequate measures can be taken in good time. To this end stimulate the development and application of forecasting techniques and the diffusion of information emanating from the most relevant environmental research.
 5. **Support directly the framing and development of environmental policies including integration into economic policies:** integrate the Agency's reports and findings into the policy process, e.g. delivering reports on specific topics and issues, review of efficiency of policies, serving both overall and specific political needs. An integrated part of developing EIONET is assisting in defining monitoring requirements in new legislation, etc.
 6. **Support implementation and evaluation of environmental policies including integration into economic policies.** Assessments of the implementation, impacts and effectiveness of legislation and other policy measures; information to support the actors in implementing policies and monitoring environmental effects of implementation.
 7. **Support the environment chapter of the enlargement** – increasing geographical coverage and cooperation in Europe, and in particular assisting Accession Countries and the Community in environmental aspects; increasing cooperation enabling provision of environmental information from European countries outside the EU.
-

Support to policy action

All Agency activities are oriented to supporting policy action but this occurs over different time scales and at different levels. During 1998, the Agency's staff and experts from the European Topic Centres have continued to provide direct support to the European Commission and Member States in the framing and development of specific EU environmental policies and legislation.



The European Topic Centre for Inland Waters (ETC/IW), in particular, has provided substantial technical support to DG XI in the continuing negotiations on the proposed Water Framework Directive. Support has mainly been concentrated on the development of the appropriate technical annexes in the Directive. During 1998, the ETC/IW also produced a report detailing information provided by Member States covering eight Directives under the terms of the Standardised Reporting Directive (91/692/EEC).

In addition to this, the development of the Agency's 1999 state and outlook report *Environment in the European Union at the turn of the century*, has, during the year, been more closely synchronised to the needs of the Commission to support it in the Global Assessment of the Fifth Environmental Action Programme. The year also saw important developments in the sectors which the Agency has been supporting through the development of independent sectoral reporting mechanisms.



During 1998, the Agency's staff and experts from the ETCs continued to provide direct support to the European Commission and Member States through participation in meetings and the provision of reports and databases. Some of the most notable policy areas included:

- Auto-Oil II Programme
- Water Framework Directive
- UN Framework Convention on Climate Change
- UN Convention on Biological Diversity
- UN Convention on Desertification
- Community Noise Policy
- EU Ozone/Acidification Strategy
- Air Quality daughter directives
- European Spatial Development Perspective
- Development of sectoral indicators
- Support for EC Global Assessment of the Fifth Environmental Action Programme
- Support to UNDP Second Global Environmental Outlook (GEO2)
- Participation in the Environmental Policy Review Group (EPRG)
- Convention on Long-Range Transboundary Air Pollution – EMEP Steering Body
- Support to the European Consultative Forum on the Environment and Sustainable Development
- Polluting Emissions Register (Under Integrated Pollution Prevention and Control Directive)
- Habitats Directive/Natura 2000
- Sewage Sludge Directive

The European Councils in Cardiff (June) and Vienna (December) discussed integration of environment into other policy areas. One of the outcomes was a request to sectoral Councils to monitor progress of environmental integration using indicators. Since then, an intensive cooperation has started among Commission services, Eurostat and the Agency to develop a number of sectoral reporting mechanisms. Work on transport, and the development of a Transport and Environment Reporting Mechanism (TERM) started at the beginning of the year and was used to support the UK's EU Presidency and to prepare for the Cardiff European Council. Lists of indicators for energy and industry have also started to be prepared in cooperation with the European Commission as well as proposals for developing monitoring mechanisms in these sectors.

Finally, following the co-decision by the Council of Ministers and the European Parliament on the Commission's review on the progress and implementation of the Fifth Environmental Action Programme, a Global Assessment of the programme was initiated by the European Commission in mid-1998. It is planned to complete this assessment by mid-1999 in cooperation with the Member States. The main purpose of the assessment is to give special attention to any revision and updating of the objectives, priorities and measures that may be required or necessary beyond the year 2000. The Agency is supporting the European Commission in this exercise and in particular, the Agency's state and outlook report, due to be published at the end of June 1999, provides the environmental baseline against which the policy analysis carried out through the Global Assessment will be made.

Networking and capacity building are specific tasks of the Agency. The Agency is rapidly becoming the node of an extensive operational network for the flow and exchange of data, for improving data, and for conducting analyses and reporting on environmental topics such as air quality, state of flora and fauna, waste and water quality.

A major challenge for the Agency is the development of the European Environment Information and Observation Network, EIONET, which contributes to the Agency's projects as partners. The Agency is co-ordinator of the EIONET which consists of National Focal Points (NFPs), European Topic Centres (ETCs), National Reference Centres (NRCs) and Main Component Elements (MCEs). Details of ETCs and NFPs can be found in Annexes 6 and 7 of this report.

EIONET is supported by an international Internet-based network which connects the various organisational elements electronically and provides tools (hardware and software) to facilitate efficient electronic communication, data flows and document exchange between the partners. It also connects to the EU institutions and international organisations like OECD and those parts of the United Nations involved in environmental data, reporting and assessment.

The focus of EIONET activities in 1998 was to speed up development and implementation of the networks being developed by the ETCs; to establish and integrate the organisational and telematics elements in the PHARE countries; to further develop efficient electronic communication and document exchange between EIONET partners, both in the Agency and PHARE countries; and to pilot data flows between countries, the Agency and ETCs, based on user needs. The following paragraphs further explain the achievements in 1998 in each of these areas.

EIONET has three main purposes

- to support the Agency's activities on data collection, reporting and integrated assessments;
- to support the Commission Services, in particular DG XI, and Member States in

2. Networking European capacities: EIONET and beyond

data collection and reporting as required under EU legislation;

- to facilitate streamlined data flows and reporting between countries and Community institutions/international bodies as well as between Community institutions and international bodies, so as to minimise duplication and eliminate redundant efforts

The PHARE countries participate in the network through their appointed National Focal Points and work in selected areas including reporting. In five topic areas – air emissions, air quality, inland waters, land cover and nature conservation, PHARE Topic Links have been established to work with the original European Topic Centres.

The topic areas on air quality, inland waters and land cover became fully operational in 1998. The latest two, on air emissions and nature conservation were set up in 1998 and launch meetings were organised together with the Agency and European Topic Centre partners. The cooperation between ETCs and their corresponding PHARE Topic Links is progressing well, especially in connecting their work programmes and ensuring a wide geographical coverage. Progress is still expected in terms of strengthening the cooperation between partners.

Implementation of networks

Developments in EIONET are co-ordinated through the NFP/EIONET Group which meets three times a year in advance of the Management Board meetings. The group includes representatives from PHARE countries, member countries and representatives from DG XI, Eurostat, JRC and the Agency's Scientific Committee. Most Topic Centres held workshops in 1998 to consider progress in networking and databases as well as monitoring-to-reporting and to discuss and agree plans for future work.

Workshops in the European Topic Centres 1998

- Nature Conservation, Perth, United Kingdom (April)
- Air Emissions, Wismar, Germany (June)
- Waste, Copenhagen, Denmark (September)
- Contaminated Sites (Soil), Athens, Greece (September)
- Air Quality, Copenhagen, Denmark (October)
- Inland Waters, Budapest, Hungary (October)
- Catalogue of Data Sources, Dublin, Ireland (November).

PHARE country representatives participa-

EIONET index page from the EIONET website

Figure 2



ted in the air emissions and air quality workshops. The PHARE Topic Link experts participated in the air quality and inland waters workshops.

Making use of the EIONET telematics network

In 1998, the telematics network extended to almost all member countries, and to the nine European Topic Centres (further information on Topic Centres can be found in Annex 6). Many of the countries have also extended the network to include their national reference centres and main component elements.

In 1998, the EIONET Internet-based network was also extended to 10 PHARE countries, and full PHARE coverage is expected for 1999. An official launch of this network for PHARE countries took place during the joint EEA Management Board-PHARE countries' top executives meeting, in November 1998.

The funding for the network was realised through joint efforts from the DG III IDA Programme, the PHARE Programme and the Agency's own budget.

In 1998, the Agency made substantial progress on document sharing and exchange with its EIONET partners through the implementation of a new software package called CIRCLE. This Internet-based tool makes it possible for the end users to access and manage documents through standard browser facilities. The

documents are arranged in Interest Groups, which are collective collaboration areas for projects, and protected by user names and passwords. Currently there are about 70 such Interest Groups on EIONET's 33 servers. A total of 100 000-150 000 accesses (hits) per month have been counted in these groups in 1998.

Several pilot projects have been established to test the use of CIRCLE. Most progress has been made for air emissions where the use of the telematics network was piloted in five countries. This was successful and has now been extended to cover all Agency member countries in 1999. The expectation is to establish, by the year 2000, annual data flows from the countries to the European Topic Centre Air Emissions for those pollutants and greenhouse gases needed for our reporting activities and for reporting under international conventions.

In a separate contractual framework, the European Centre for Nature Conservation is receiving support from DG III to build a Community Clearing-House Mechanism under the UN Convention on Biodiversity. This work makes use of EIONET's infrastructure and is co-ordinated by the Agency as required by the Community's Biodiversity Strategy. These projects will be funded with over EUR 2 million and will commence in 1999-2000.

Local networking

The Princes' Award and Copenhagen environment week were taken as opportunities for the Agency to present itself to the Danish public at large and passing tourists, through an exhibition in front of the Agency, providing information on *The Second Assessment* report and on the Århus Conference.

The Agency also has a permanent information centre open to the Danish Community which answers questions on Agency products and environmental issues. In 1998 the



information centre answered around 200 requests per month, 20% of which are from Danish people.

The Princes' Award and Copenhagen environment week

The Princes' Award event, Europe's annual environmental film and multimedia festival, took place, for the third time, on 22 June 1998 in the Town Hall of the City of Copenhagen.

Launched in 1996 by the Agency, under the auspices of its patrons, HRH Crown Prince Frederik of Denmark and HRH Crown Prince Felipe of Spain, the Award aims to raise awareness of environmental problems and to promote public participation in the move towards sustainable development. The Princes' Award Foundation was set up by the Agency with the support of the City of Copenhagen, R98 (a local waste-management company) and SAS – Scandinavian Airlines System.

In 1998, 93 entries for the Princes' Award were received. Award winners were:

1. In the Factual and Documentary Category – *'The Secret Factor', Denmark* (Producer and director: Bente Milton): Sensational footage and documents from KGB archives reveal there was a local earthquake with its epicentre less than 12 km from Chernobyl exactly 20 seconds prior to the nuclear accident in 1986. It turns out that a large number of nuclear power plants including several RMBK (Chernobyl-type) reactors are placed in geologically unstable areas.
2. In the Fiction and Drama Category – *'Nord-Sud', France* (Producer Dominique Soyer and Director Mathieu Bastid): six-minute animation which retraces the creation of planet Earth since the origin of the universe, as time passes, the globe divides into the exploitative and environmentally destructive northern hemi-

sphere and the exploited south. It shows excessive industrialisation and the tragic consequences of over-exploitation.

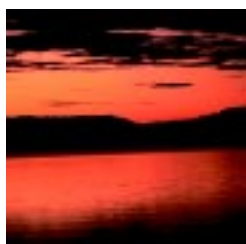
3. In the Multimedia Category – *'Staking the Globe / Experiment in Toftlund / Klima på Nettet', Denmark* (Radio and TV production: Poul Erik Heilbuth and Hans Bülow; Web producer: Jørgen Madsen and Website Editor: Jørgen Poulsen): Cross-media productions. All three productions are based on the same research and have been produced simultaneously. Cross-media productions are becoming an integrated and natural part of the services of DR, Danish Broadcasting Corporation.
-

Partnership with EC services

Cooperation with the Joint Research Centre (JRC)

During 1998, the JRC continued to support the Agency in the areas of monitoring, data analysis and information handling. Support to the Agency's European Topic Centres is central to this cooperation. Thus, during 1998, the Air Quality and Air Emissions ETCs worked with the JRC to provide coordinated support to the Auto-Oil II Programme. The Air Quality ETC has also worked with the JRC to provide joint input to an EU guidance report to the air quality Framework Directive. JRC also contributed to the third EIONET workshop on air quality monitoring and assessment held in Copenhagen. JRC has a seat on the Management Committee of the Inland Waters ETC, which met three times in 1998. JRC is also co-leader of the Land Cover ETC, and contributed to several activities organised by the Land Cover ETC including publication of a joint publication on the technological and methodological guide for updating the CORINE land cover database.

The Agency is one of the main users of the



results of the Centre for Earth Observation (CEO). This information has been used to support the Agency's reporting activities, especially for analysis of changes in coastal and urban areas during the past few decades.

JRC contributions to the Agency's reporting work have also covered other areas. During 1998, inputs have focused on the Agency's 1999 state and outlook report. Contributions covered data and material on land use, technological hazards, GMOs and public perception. In addition, the Alpine Convention Secretariat, which is run and hosted by the JRC, has been involved in the development of the report's chapter on mountains.

This year's cooperation and support was the last covered by the existing agreement for the period 1995-1998. The new EU Framework Programme for Research and the Agency's second multiannual work programme will be the new framework for future cooperation. To prepare for this, a summary report and review of the results of our cooperation with JRC has been under preparation during 1998. This will be completed during the first half of 1999 when future joint activities will be planned.

Cooperation with Eurostat

Substantial progress was made towards improved cooperation between the Agency and Eurostat. *Europe's Environment: The Second Assessment* which was published in June was supported by a *Statistical Compendium* which was produced by Eurostat. Privileged access to Eurostat's new CRONOS database was granted to the Agency and its partners for use in the 1999 state and outlook report. For its part, the Agency and ETCs made substantial data and technical contributions to the indicators in Eurostat's *Towards Environmental Pressure Indicators* report. Elsewhere on indicators, the Agency and Eurostat have been co-operating closely on the development of sectoral reporting mechanisms to support the integration of environmental considerations into sectoral policies. A core set of indicators for the Transport Environment Reporting Mechanism (TERM) has been agreed and a first assessment report is due in December 1999. Methods are also being developed for the energy, agriculture and industry sectors.

At a coordination level, the Memorandum of Understanding (MoU) between the Agency and Eurostat was revised in 1998 with particular emphasis given to improved cooperation on data collection and exchange, and on indicators. The new MoU will be supported by a set of annexes setting out joint work programmes in those areas where cooperation has the greatest priority i.e. air



emissions, water quantity and waste. It will become operational in 1999, following approval by the Agency's Management Board.

During 1998, the Agency also reviewed the data needs of Eurostat under its 1998 Joint Questionnaire with OECD, to see where EIONET may be able to meet these data needs in the future, starting with the 2000 Joint Questionnaire. The expectation is that the review will result in a reduced number of requests for data from member countries under the year 2000 questionnaire, hence contributing to streamlined data flows between countries and EU-institutions and reducing the overall reporting burden on countries.

Cooperation with the PHARE-countries

In 1998, the PHARE team continued to follow the main activity areas in the Agency's first multiannual work programme and the focus was on expanding the Agency's work towards the 13 PHARE countries. Significant developments included setting up of latest two new PHARE Topic Links on Nature Conservation and Air Emissions as extensions of the ETCs. All five PHARE Topic Links are now in place and fully operational.

PHARE countries were fully involved in all phases of the Agency's main reporting activities in 1998, namely the preparation and launching of *Europe's Environment: The Second Assessment*, as well as the Agency's 1999 state and outlook report. PHARE supporting projects assisted the countries in complying with the Agency's requirements.

A joint PHARE/EEA initiative to harmonise the national state of the environment reports on the Internet for PHARE countries was carried out by UNEP's Grid Arendal and Grid Budapest. The national state of the environment reports are linked to EIONET servers and NFP websites and are one of the first on line products in the PHARE network. An official launch took place in November 1998.

A PHARE country network in line with the EIONET has been developed. More than 300 PHARE experts are involved in various aspects of cooperation between the Agency and PHARE countries. Around 30 events were jointly organised by the Agency and the PHARE Programme during 1998.

These included meetings between the members of the Management Board and PHARE countries' top executives, regular joint NFP/EIONET meetings, and expert group meetings on various topics.

The regular NFP/EIONET meetings in 1998 brought together, for the first time, both member countries and PHARE country representatives. The exercise proved to be useful for all participants and is helping to improve cooperation. Full participation will continue in 1999 in order to maintain and consolidate the network.

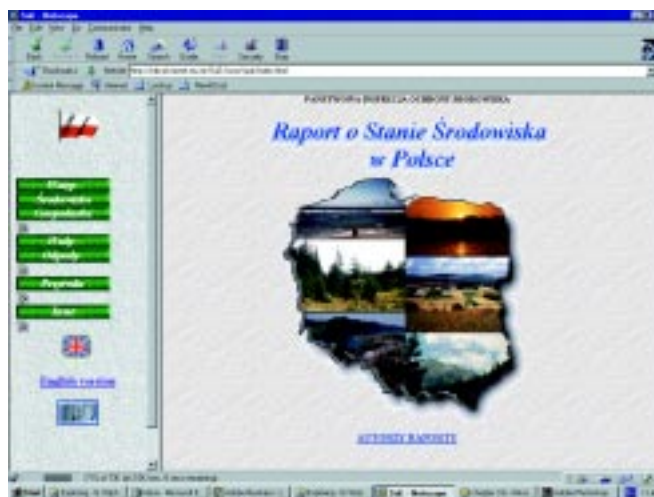
Cooperation with the World Health Organization (WHO)

A new area of collaboration began in 1998 concerning children, environment and health. Although this activity is principally led by the European Office of WHO, the Agency has provided support and input and facilitated the setting up of a children, environment and health network. The Agency hosted a first meeting on the subject and will be publishing the proceedings jointly with WHO in 1999. This activity is typical of the way in which WHO and the Agency aim to address cross-cutting issues, joining interested parties in different but related fields and improving dissemination and accessibility to related information.

Cooperation has continued in the fields of water, transport and air pollution. A joint *Monograph on Water Resources and Health in Europe*, drafted by the ETC Inland Waters, was completed and will be published in 1999. This, and the work on transport, will contribute to the London Ministerial Conference on Environment & Health to be held in June 1999. Both organisations give support to the development of documents for Conferences such as the London one

Figure 3

Index page of the environment report on EIONET sources



and the 4th Pan European Environment Ministers' Conference held in Århus, Denmark, in June 1998. For the Agency, this has meant in particular a continued participation in WHO's European Environment and Health Committee.

Cooperation with the United Nations Economic Commission for Europe (UNECE)

Following the presentation of *The Second Assessment* by the Executive Director at the Århus Conference, the Agency was asked to continue updating the pan-European assessment, and to present at the next UNECE 'Environment for Europe' conference (to be held in Kiev, Ukraine in 2002) a new updated report based on indicators.

During 1998, there have been intensive discussions between the Agency, the ETC Air Quality, the ETC Air Emissions and the UNECE EMEP Centres based in Norway on how to share and derive relevant information and presentations of air quality and air emissions data collected under the Agency's work programme and the UNECE Convention on Long-Range Transboundary Air Pollution to mutual advantage. A joint work programme was infor-

mally agreed for air emissions, and the EMEP Centres continue to collaborate as partners within the ETC Air Quality on the exchange of air quality data. Discussions will continue in 1999 with the EMEP steering body to formalise these arrangements.

Cooperation with the United Nations Environment Program (UNEP)

There is a growing awareness and understanding that the combination of UNEP and Agency activities is essential for improving the quality and supply of environmental data and information at European level. The cooperation is based on the development of synergies and the removal of duplication, particularly in relation to contacts at national level for the supply of data. In practice, this has meant coordination of data collection and reporting activities during 1998 between the Agency's EIONET and UNEP's ENRIN networks, especially in central and eastern European countries. Joint activities here supported the development of the Agency's *Second Assessment* report.

The close cooperation between the networks has enabled standardised web pages and state-of-environment reports to be de-

veloped and made available to the public in 13 CEECs. This work, supported by the EC's PHARE programme, involved close cooperation with UNEP.

Cooperation in the Mediterranean between the Agency and the UN-Commission for Sustainable Development's Mediterranean Action Programme (MAP) has also shown significant progress. Projects target work to streamline and develop consistent monitoring and reporting activities in different countries. In this context, the Agency and MAP have agreed to establish a Memorandum of Understanding with the objective of combining efforts to support these developments. A first joint report on monitoring the Mediterranean Sea quality is due to be published in 1999, as a step towards integrated reporting.

Cooperation with the Organisation for Economic Cooperation and Development (OECD)

Cooperation with the OECD was established in 1996, by an exchange of letters. The first steps to intensify the cooperation between the organisations in the field of reporting were made by involving the OECD in the Agency's 1999 state and outlook report, as the OECD will also embark on an environmental outlook exercise in the coming years. New opportunities are expected to arise out of expanding cooperation on indicators and outlook developments.

Cooperation with the United States

The second semi-annual bilateral meeting of the Agency and the United States Environmental Protection Agency's Office of Information Resource Management was held in July. Since 1995, when the Executive Director had first meetings with high-ranking officials of the US Environmental Protection Agency (USEPA), contacts have been on-going. Collaboration during the year focused on exchanging information

on the use of World Wide Web technologies to retrieve information from distributed databases. Both agencies are working to improve international access to sound environmental information for wide audiences; from policy makers, to sectoral and industry groups, and to the public. Both agencies are expanding their efforts to make useful documents available online and to provide better tools to facilitate consumer access.

The Agency has now established an annual review of the state of development of EIONET, which underpins the monitoring-to-reporting chain. The 1998 review was presented to the Agency's Management Board in March 1998. The Board called on the Agency to co-ordinate reports on the situation regarding implementation in the member countries, and to identify problems hindering implementation and solutions to achieve more rapid progress.

The NFP/EIONET Group has pointed out eight areas for specific attention concerning development of the EIONET:

- monitoring/reporting under the EU Exchange of Air Quality Information Decision;
 - emissions data under the Corinair emissions inventory;
 - monitoring/reporting activities to support implementation of EuroWaterNet;
 - monitoring/reporting requirements under the International Marine Conventions;
 - monitoring/reporting on Designated Areas - to be included as core data in the EUNIS system;
 - review of national needs for and update of the CORINE land cover database;
 - reporting of national metadata to the Agency CDS;
 - use and maintenance by countries of the NFP EIONET servers.
-

The Agency sent questionnaires to member countries in September as tools to aid completion of the national reports. Reports on the state of national development in each



of these areas include where ETCs could provide additional assistance or have possible needs for increased funding. The Agency will report to the Management Board in March 1999 with a preliminary analysis of the national reports and the next steps on EIONET implementation. ETCs also continue to prepare a range of technical reports to help improve the monitoring-to-reporting chain and as support to policy implementation.

The Agency also made a major contribution to the preparation and presentation of the 'Bridging the Gap' Conference held in London in June 1998. This conference recognised the need to streamline monitoring, assessment and reporting and explicitly called upon the Agency to co-ordinate an initial Europe-wide review of the possibilities for rationalising and streamlining existing systems for monitoring environmental information, and for filling significant gaps in the systems.

Special reports

Europe's Environment: The Second Assessment

On 2 June 1998, the Agency published *Europe's Environment: The Second Assessment*, in time to be available at the Fourth Pan-European Environment Ministers' Conference held in Århus, Denmark on 23-25 June. The report was presented to the Ministers by the Executive Director on the opening day of the conference where it was well received.

The report is based on data collected by international organisations, including the UN, OECD, WHO, the European Commission and Eurostat. In addition, the Agency has carried out a further data collection exercise through its network of European Topic Centres. More than 120 individuals all over Europe contributed to the data collection and the writing of the report.

Europe's Environment: The Second Assessment covers the state of the environment in the 44 countries of the European continent. The report measures progress in Europe's environmental quality compared to the Agency's first report, the Dobbris Assessment (1995). The report focuses on 12 prominent European environmental problems (Climate change, Stratospheric ozone depletion, Acidification, Tropo-

3. National monitoring to European reporting: from data to efficient information

spheric ozone, Waste, Chemicals, Biodiversity, Inland waters, Marine and coastal environment, Soil degradation, Urban environment and Technological and natural hazards) and provides a striking picture of the extent to which many environmental problems, such as episodes of summer smog, increased acidity, soil degradation, contaminated sites and large amounts of waste, are common to all European countries. The report makes it clear that the policy measures that have been taken have not yet produced a significant improvement in the state of the environment overall. Too many environmental policies have led to 'end-of-pipe' measures which have resulted in some improvement in some areas, but not enough to cope with increasing infrastructure development, production and consumption.

The main conclusions of the 295-page report are:

- Europe has made progress in reducing some pressures on the environment from pollution: emissions of sulphur dioxide, lead, ozone-depleting substances, and phosphorus have been substantially reduced, whilst common urban air pollutants, i.e. nitrogen oxides and volatile organic compounds, have also decreased since 1990.
- Progress has been greatest in areas covered by international legal instruments, such as the Vienna Convention for the Protection of the Ozone Layer and the UNECE Convention on Long Range Transboundary Air Pollution.
- The absence of such initiatives for soil conservation and waste (other than hazardous waste) partly explains the limited progress and poor data availability in these areas.
- Progress in emission reductions, however, has not led to an overall improvement in the quality of Europe's environment.
 - Natural time delays are the reason why ozone depletion is

continuing above Europe and eutrophication in lakes is still

at the same level as in the beginning of the 1990s.

- In many cases the scale of measures to reduce pressures on the environment has been too limited given the size and the complexity of the problems, for instance in dealing with climate change, summer smog, pesticides in groundwater, polluted sites and soil erosion.

- For nature protection and biodiversity conservation many initiatives have been taken, but implementation in the field has been slow, partly due to lack of resources for ensuring proper management. Measures are now needed to help conserve the unspoiled natural areas in central and eastern Europe.

- The transport and agriculture sectors are key causes of many of Europe's environmental problems, and the environmental pressures caused by these sectors are in some cases growing fast. In addition, emissions from agriculture and transport are more difficult to control than those from industry, from which the pressures have been reduced since 1990.

The many diagrams included in the report show that in general western Europe is the biggest contributor to pollution in Europe. This is especially the case since the start of the economic transition in central and eastern Europe and the Newly Independent States where the initial economic slow down resulted in reduced emissions. The report shows that a special effort is needed to ensure that, once economic growth picks up again in Eastern Europe, it does not lead to degradation of nature in the region and deterioration of environmental quality in Europe.

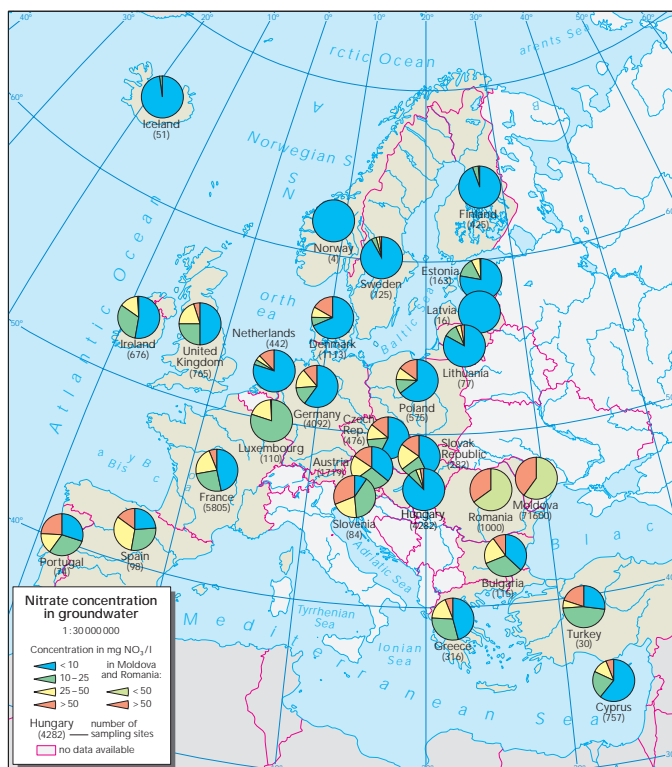
At the special request of the host of the Århus Conference, the Danish Minister for Environment & Energy, Svend Auken, the

Key environment problems	PROGRESS policies	PROGRESS state of environment
climate change	☹️	☹️
stratospheric ozone depletion	😊	☹️
acidification	😊	☹️
tropospheric ozone	☹️	☹️
chemicals	☹️	☹️
waste	☹️	☹️
biodiversity	☹️	☹️
inland waters	☹️	☹️
marine and coastal environment	☹️	☹️
soil degradation	☹️	☹️
urban environment	☹️	☹️
technological hazards	😊	😊

- 😊 Positive development/change
- ☹️ Insufficient development/little change. Uncertain
- ☹️ No development/unfavorable change or still poor situation

Figure 4

Illustration from *Europe's Environment: The Second Assessment* showing nitrate concentration in groundwater



Agency launched *The Second Assessment* report well before the Århus Conference. The official launch of the report, a few weeks before the conference, was carried out simultaneously in 14 Agency member countries, as well as in Slovenia. In Belgium, Denmark, Finland, Italy, Norway, Sweden and the United Kingdom, Minis-

ters for the Environment participated in the launch events. In Portugal it was the Secretary of State who gave '*acte de présence*'. Most members of the Agency Management Board and some members of the Scientific Committee were also actively involved in the launches.

These launches were organised together with the Green Spider Network – the European Environmental Communication Network – and the NFPs. The press conferences resulted in reports in a number of major national newspapers and coverage was also given on radio and TV stations. For the presentations of the results, a set of additional products were developed, including brochures of the Executive Summary in all EEA languages and in Russian, a data pocketbook, overhead presentation in various languages, two videos and two posters. Together with Eurostat, a *Statistical Compendium* to the report was also produced. Technical support from a TACIS-funded project allowed summary reports of the state of the environment of six New Independent States to be compiled and published in English. These were also made available at the Århus Conference.

The launch of *The Second Assessment* was a success with coverage and acclaim in many European countries. The successful experience with the cooperation between the Agency, the NFPs and the Green Spider Network in launching the report but also the good teamwork within the Agency leads to the conclusion that this model can and should be repeated for future launches of key Agency products.

Chemicals in the European Environment: Low Doses, High Stakes?

Following the joint publication of *Water Stress* in 1997, the Agency and UNEP published a statement in 1998 on another subject of prime concern: chemicals in the environment. As watchers of Europe's environment, these statements aim to raise public and political awareness on critical or emerging issues to facilitate preventative action by governments and others.

Improved scientific knowledge points to increasing long-term health effects of even low doses of certain hazardous chemicals. The joint message presents the state of information and action on manufactured chemicals in Europe, the risks the environment and people face and the measures available to reduce these risks.

Since chemicals circulate globally – both through trade and through air and water – no country or region acting alone can protect its citizens and environment from risk, said Domingo Jiménez-Beltran, the Agency's Executive Director, at the launch of the statement on 23 June 1998, in Århus.



The main points addressed in *Chemicals in the European Environment: Low Doses, High Stakes?*

- the marketing of 100 000 manufactured chemicals in the European Union: their use, disposal, associated degradation and metabolites;
 - the current EU and international legislative frameworks that exist to control chemicals;
 - the serious lack of monitoring and information on the dispersion of these chemicals in air, water, soils, foods and ecosystems, and related exposures and effects on people;
 - the insufficient toxicity and eco-toxicity data publicly available for large-volume chemicals and risk assessments as well as the financial needs and time needed to fill these gaps;
 - increasing evidence of some chemical hazards in people, and disturbances to wildlife and eco-systems from low-level chemical exposures;
 - the inclusion of the 'precautionary principle' in many international agreements;
 - steps to reduce chemical 'loads' in the environment, especially for persistent substances;
 - increasing environmental and social costs and associated use of taxes on chemicals; their incorporation into market prices to encourage greater eco-efficiency;
 - the shift from selling chemical *products* to providing chemical *services*;
 - the development of 'softer' chemicals from farm crops.
-

Assessment and Management of Urban Air Quality in Europe (EEA Monograph no. 5)

This report gives a comprehensive overview of the situation in European cities. A short introduction into general air pollution problems is followed by a summary of air

quality guidelines and monitoring and data assessment techniques frequently employed. The air quality monitoring and management capability of 72 major urban agglomerations within 32 countries is assessed on a city by city basis. A further analysis of 10 detailed case studies into the relative importance of key factors such as climate, economic, topographic and demographic viewpoints is conducted and recommendations on how to improve air quality conditions most efficiently, are suggested.

The Concept of Environmental Space – Implications for Policies, Environmental Reporting and Assessments

This report was produced as an input to Agency's work from external experts. Introduced as an academic concept in the 1980s, the notion of environmental space was taken up by environmental NGOs in the early 1990s. The first major effort to quantify environmental space at the European level was carried out in 1994 by the Wuppertal Institute for Climate, Environment and Energy in Germany, at the instigation of Friends of the Earth Europe. Today, some national governments, including those of the Netherlands and Denmark, are studying how the concept of environmental space may benefit their policy-making.

The report clarifies the implications of the environmental space concept for sustainable development policies, as well as for environmental reporting and assessments – two fields in which the Agency is charged with special responsibilities. It is expected that it will also be found useful by a wider audience, including those with corresponding responsibilities at a national level in European countries. The report is aimed at environmental specialists, but will also be found useful by a wider audience.

Spatial and Ecological Assessment of the TEN:

Illustration box from Expert Corner publication: *The concept of environmental space*

Figure 5

"MATERIAL INPUT" AND "RUCKSACKS"

The concept of "material input" (MI) is a conceptually radical way of simplifying the problem of material-resource consumption.

The concept reflects the idea that the sum of problems associated with materials consumption (physical disturbance, pollution through dissipation, waste disposal and so on) can be roughly related to the **total amount** of materials **moved in the course of economic activity**. If this amount can be reduced, then so will the overall impact of materials consumption. In other words, the assumption is that, in practice, shifts as between the kinds of materials moved are likely to mean less than changes in the total quantity.

Materials **moved** not only include those actually **extracted** with a view to making products out of them (e.g. limestone extracted to make cement and then buildings, or bauxite extracted to make aluminium products). They also include the earth or rock overburden that must be **removed** (albeit only a short distance) in order to get at the economically valuable material. Also, they include the economically worthless materials that have to be moved in the course of construction activities, and materials **unintentionally** moved in the course of economic activity, e.g. by accelerated erosion.

Associated with the concept of MI is that of "rucksacks". The rucksack is the amount of "invisible" MI - moved materials - behind our consumption of a specific material, e.g. aluminium.

To make one ton of aluminium takes about 4.8 tons of bauxite. In order to extract one ton of bauxite, however, some 0.6 tons of topsoil must typically be removed. So far, this makes for a "rucksack" of $(4.8 + 1.6) = 6.8$ tons of moved material per ton of aluminium. To make the aluminium, however, various other materials are also required as auxiliary inputs. The total "rucksack", counting these materials but not the materials moved to provide energy for the processes, has been estimated by at Wuppertal Institute researchers at some 8.6 tons per ton of aluminium.

Virgin steel has a smaller relative "rucksack" (requires less MI per ton), partly because iron ore grades are typically around 50-60%, so less ore is moved per ton of metal. Copper, on the other hand, has a very large "rucksack", because the average ore grade today is only 0.7%. Therefore, 140 tons of rock must be blasted to make one ton of copper.

Demonstration of Indicators and GIS Methods

In accordance with the provisions of the EU guidelines for the Trans-European transport Network (TEN), a European Commission working group investigated the feasibility of carrying out a full spatial and ecological assessment of the network. The aim of the study was to develop and test a number of indicators, to consider the availability of data and to identify issues for further research. The study and the resulting report are intended to promote further discussion between all stakeholders on the issue of strategic environmental assessment (SEA) in relation to TENs.

The methodological study *Spatial and Ecological Assessment of the TEN: Demonstration of Indicators and GIS Methods* realised most of its original objectives. It demonstrated the technical feasibility, but also the limita-

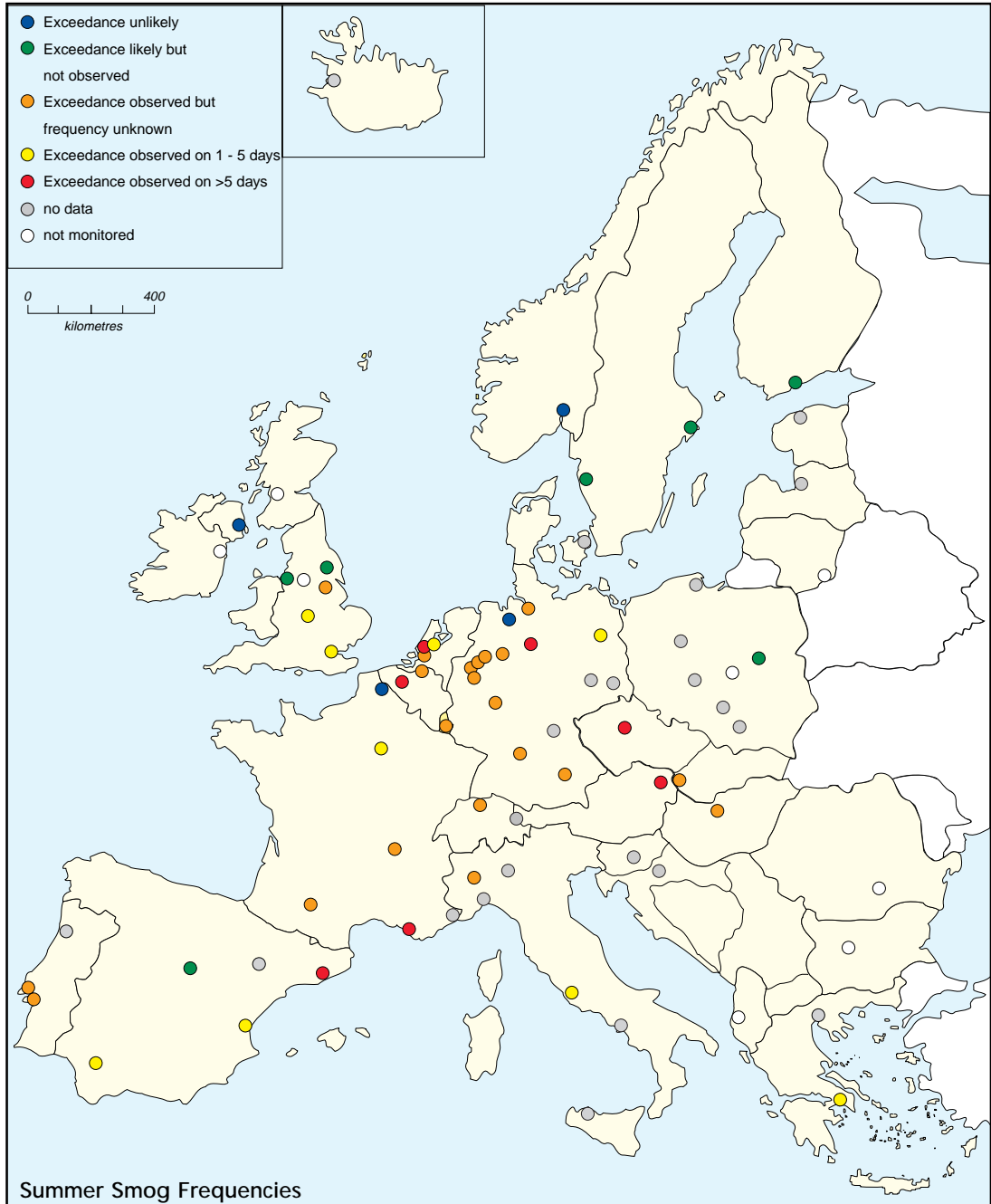
tions, of an European-wide strategic environmental assessment of the Trans-European Network, and stressed the usefulness of multidisciplinary data collection at a European scale.

Topic reports

The Agency continued to publish in 1998 a range of reports in the Topic Report series. These included the *Corinair 1994 Inventory* and a set of Annual Topic Updates 1997 from six European Topic Centres. *Corinair 1994 Inventory* (Topic Report 8/1997) presents emission estimates for acid gases, greenhouse gases, ozone precursors, heavy metals and persistent organic compounds

Figure 5

Illustration from: *Assessment and Management of Urban Air Quality in Europe*



reported for 1994 by the 18 EEA member countries, the 13 PHARE countries, Switzerland, Malta and Croatia.

Topic report list

- Air Pollution by Ozone in the European Union; 1995 – Summer 1996 (TR 29/1996)
 - Review Study on European Urban Emission Inventories (TR 30/1996)
 - Air Pollution by Ozone in the European Union; 1996 – Summer 1997 (TR 7/1997)
 - Corinair 1994 Inventory (TR 8/1997)
 - Inland Waters – Annual Topic Update 1997 (TR 1/1998)
 - Marine and Coastal Environment – Annual Topic Update 1997 (TR 2/1998)
 - Air Quality – Annual Topic Update 1997 (TR 3/1998)
 - Air Emissions – Topic Update 1997 (TR 4/1998)
 - Selection Criteria for the CDS (TR 5/1998)
 - Land Cover – Annual Topic Update 1997 (TR 6/1998)
 - Nature Conservation – Annual Topic Update 1997 (TR 7/1998)
-

Annual Topic Updates 1997 for the six European Topic Centres (Air Emissions, Air Quality, Inland Waters, Land Cover, Marine and Coastal Environment, and Nature Conservation) were published in September/October. The reports provide an overview of the Topic Centres' activities in 1997 – the main events and extracts from the various products, including contributions to *The Second Assessment*. They also provide details of where and when other ETC reports are published.

Progress was made by the ETCs to further establish and populate topic-based net-

works and databases, which will be accessible through the European Reference Centre for Environmental Information.

Air Emissions

The ETC on Air Emissions provided a range of tools to help national experts compile and provide atmospheric emission inventories. The ETC also compiled time series of national air emissions data in various formats into the European Corinair database as well as the EU15 inventory of greenhouse gas inventories for the UN Climate Change Convention which is available through the Commission (DG XI) Internet website. PHARE countries have continued to be involved in the Corinair project and are now assisted by the PTL on Air Emissions.

Air Quality

The ETC on Air Quality developed the Airbase Data Exchange Module (DEM) as the basis of national reporting to the Commission and EEA on air quality networks, sites, time series and summary statistics as specified in the new Exchange of Information Decision which entered into force in 1998. These data compiled into Airbase are accessible on the ETC website. PHARE countries started to select their sites for inclusion in Euroairnet and provide data for inclusion in Airbase and Agency reports.

Land Cover

The ETC on Land Cover continued to compile and maintain the CORINE Land Cover database. Discussions were held with various stakeholders and potential funding programmes on user needs and resources for an update of the database for the year 2000. The project was finalised in 10 PHARE countries. A new CD-ROM containing the Land Cover database for these PHARE countries, will be available in 1999. To support the updating of the Land Cover databases, the PTL on Land Cover is assisting the PHARE countries in the identification and analysis of the land cover changes over the last 20 years. The results of this exercise will be used to improve understand-

ing of the pressures and impacts on environmentally sensitive areas caused by recent changes in land use practices in these countries.

Nature Conservation

The Topic Centre on Nature Conservation continues to support the Commission and Member States in the handling and review of data provided under the Habitats Directive to establish NATURA 2000. To support this work, databases on designated areas, species and habitats are being developed. CORINE Biotopes databases were delivered by the first six PHARE countries and the Baltic States. Two international teams contracted by the PHARE Programme are assisting the final phase of the project in the initial recipient countries and are developing the extension for the new participant countries.

Manuals and handbooks

Developing 'pools' of existing information on 'state-of-the-art' information is focused on issues of interest for the 'doers' or implementers of environmental policy, in particular local authorities and businesses, especially small and medium-size enterprises.

The Agency acts in this area as a facilitator exploiting existing sources of information and knowledge, but drawing on capacities beyond the EIONET, to assure that the 'best available information' is collected. This aim is to assure free dissemination of best practices, and success stories with high added value at a low cost.

Environmental Risk Assessment: Approaches, Experiences and Information Sources gives an overview of the methods of environmental risk assessment, and their application, in the European Union. It is not a 'how to' guide, but rather provides a taste of the subject by covering first the concepts of risk assessment, then looking at how the techniques and methods are applied in practice, before going on to examine the likely direction of future policy in this sphere. A considerable segment of the book is devoted

to a directory of information sources on organisations, databases, software models, publications, websites and legislation. The publication is aimed at people in the administration, semi-experts, NGOs, industry, students, interest groups and the general public.

Life Cycle Assessment – A guide to approaches, experiences and information sources aims to help business and other readers find their way through the LCA maze to the right tools for the application they have in mind. The early chapters are written in such a way as to be easily accessible to environmental managers in companies and other similar professionals, whereas the methodology sections may require readers to have some LCA background knowledge. The Internet version and the supplementary database have been developed as complementary products in order to give greater access to the information.

Sludge Treatment and Disposal gives a general description of handling and disposing of waste-water sewage sludge. Conceived as a decision support tool, the information contained in the report covers the most significant aspects of sludge management methods and technologies to help in selecting suitable methods for disposal. The report provides an introduction to sludge handling for agricultural use, sludge composting, incineration, and landfilling with an overview of chemical, biological, and physical stabilisation issues.

Urban Wastewater Projects – A Layperson's Guide: its primary purpose is to provide persons who do not have a technical background – including the general public – with information on aspects and issues that arise when planning and implementing an urban wastewater project. The guide is principally aimed at employers and politicians involved in local, regional and national governments in Member States of the European Union and neighbouring countries. It has also been designed and written to be of interest to persons at all levels of the administration who have a technical background and who, for the first

time, are to be involved in the management of wastewater.

Environmental Management Tools for SMEs: A Handbook tries to meet the need for information about environmental management tools, success stories and other experiences for small and medium enterprises. It is also a gateway to other products and services within the Agency's EnviroWindows programme.

Small and Medium Enterprises need four types of information:

- help and advice with environmental problems, concerning compliance etc., and their solutions;
- tools for better environmental management (and general management);
- 'success stories' and experiences that are specific to their sector;
- trends and scenarios about future marketing opportunities.

By developing the European Reference Centre for Environmental Information, the Agency aims to establish a public information service on the Internet. The ambition is that the Environmental European Reference Centre will, in time be recognised throughout Europe as the main gateway to access easily understandable and well structured environmental information. Whenever possible this will be in the user's native language. The objective is to facilitate access to environmental information developed by the Agency, partner organisations and other national and international sources.

Although the European Reference Centre for Environmental Information is formally to be launched at the end of 1999, several components, which will form a part of the European Reference Centre, were developed and launched in 1998. These include: The Data Warehouse – providing access to State of the Environment data
One of the main new services launched on

Illustration from *Environmental Risk Assessment: Approaches, Experiences and Information Sources*

Figure 6

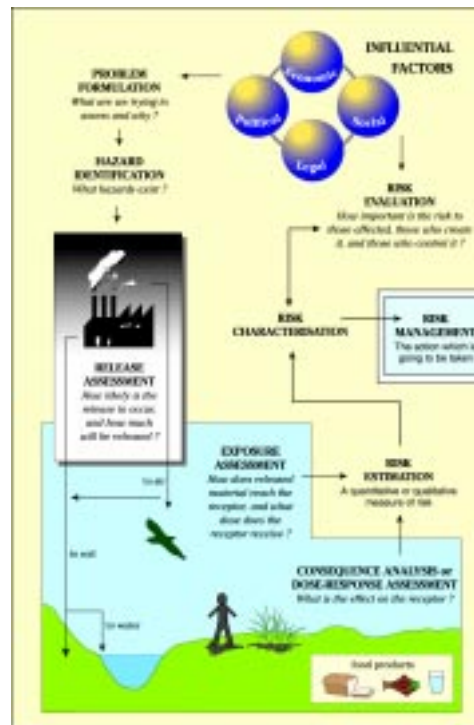
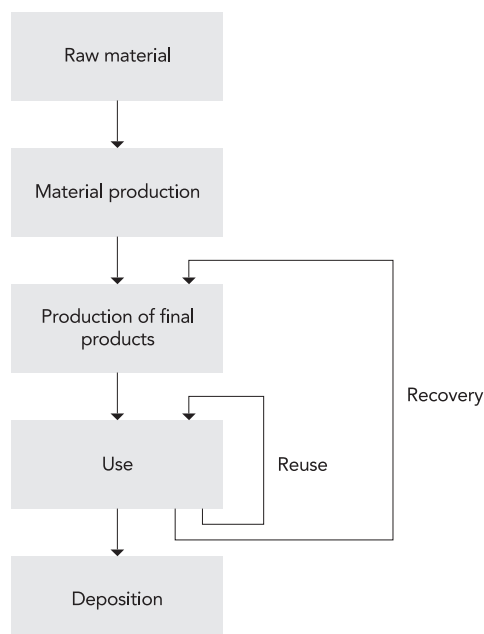


Illustration from *Life Cycle Assessment – A guide to approaches, experiences and information sources*

Figure 7





our Public Website in 1998 was the Data Warehouse, providing public access to a selection of data underpinning the *Second Assessment* report.

By doing so the Agency is supporting the general goals of the Århus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters which requires public authorities to introduce and/or maintain practical arrangements to facilitate access to the information held by the authorities.

Accessing the Data Warehouse on the website, users can view selected data from the *Second Assessment* report, either in tables or maps, or create dynamic graphs. Users also have the possibility to download data to their own computer for further processing. The main results of reports are integrated within the Data Warehouse in order to present data in its proper context and guide user interpretation of the data.

Catalogue of Data Sources – the ‘telephone book’ of the European Reference Centre

One of the cornerstones of the European Reference Centre is the Catalogue of Data Sources (CDS). At the Fifth annual ETC/

CDS Workshop, held in Dublin in late September, and attended by more than 100 participants, who represented both the various providers of environmental information in Europe, the ETC/CDS presented a new user-interface to the Catalogue which was launched on the Agency’s website in December.

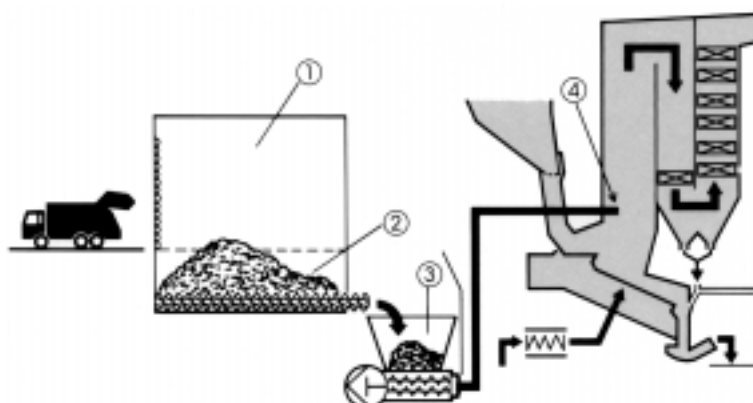
The main conclusion the Agency draws from the Workshop is that continued efforts to streamline different cataloguing efforts in Europe are of key importance to develop the European Reference Centre for Environmental Information. By harmonising national initiatives, the development of the gateway will be more cost-effective and national systems can also better benefit from the Agency’s software development. Selected CDS software modules are already used by several countries, while other countries are adapting the complete software package.

The catalogue is maintained by the ETC/CDS which also supports the Agency in harmonising the description of environmental information in Europe.

The Sustainability Targets And Reference database (STAR)

Figure 8

Illustration from *Sludge Treatment and Disposal Management Approaches and Experiences*



4. The European Reference Centre: environmental information on the Internet

STAR is an inventory of international, and, where more stringent, national sustainability reference values and policy target values for each of 13 environmental themes. The STAR database may be accessed through its Web search tool at <http://star.eea.eu.int/> STAR contains:

- current international environmental policy target values in force in Europe;
- selected current national environmental policy target values where these:
 - a) are more stringent compared with international policy targets, and
 - b) reflect national policy on transboundary environmental problems;
- European and global sustainability reference values for each environmental theme;
- Selected national sustainability reference values where these provide interesting or innovative approaches (e.g. Dutch, German and UK standards for soil quality).

The database will be revised, improved and updated quarterly in 1999.

EnviroWindows – EIONET's arm for outreach to the private sector, research groups and citizens

EnviroWindows (E-Windows) is a pilot service aiming to support the implementation of environmental policies, initiatives or voluntary actions to improve the environment in Europe. It is a meeting point to foster online collaboration, the creation of libraries, directories of people and institutions active in the implementation of environmental policies.

E-Windows consists of

- a set of online discussion fora that foster cooperation and information exchange among remote users who are members of specific interest groups
- an Internet report clearinghouse, and
- a publication service that disseminates documents generated by interest groups on particular subjects, for members of the public unable to access the Internet.

E-Windows is a service that extends outside the EIONET community. The Agency has identified a clear and growing need for environmental professionals in Europe to establish collaborative work flows between and among themselves.

Barchart illustration of total carbon dioxide emission from the EEA Data Warehouse

Figure 9



Environmental information on the Internet accessible in 13 European languages

A major challenge for the Agency is to provide access to environmental information across national and linguistic barriers. To assure multi-lingual access through the European Reference Centre, the Agency has been developing and testing an application which makes use of thesauri and glossaries to retrieve information. The user can select a search term from GEMET/Glossary in his own language and retrieve documents in other languages.

Within the context of the Catalogue of Data Sources Topic Centre, a multilingual access module based on the General European Multilingual Thesaurus (GEMET) was developed for the purpose of indexing and retrieving information. It now includes more than 5 000 terms, arranged in a hierarchical structure. Translation of the terms into all 13 languages of the Agency member countries was completed in 1998. For some languages, the quality check has yet to be completed and further developments are envisaged.

The Multilingual Search Service developed in 1998 will be launched in the European Reference Centre in 1999. It will first help multilingual retrieval of the information on the Agency website, and during the year other websites of relevance to the European Reference Centre will gradually be included.

So many used the Reference Centre services

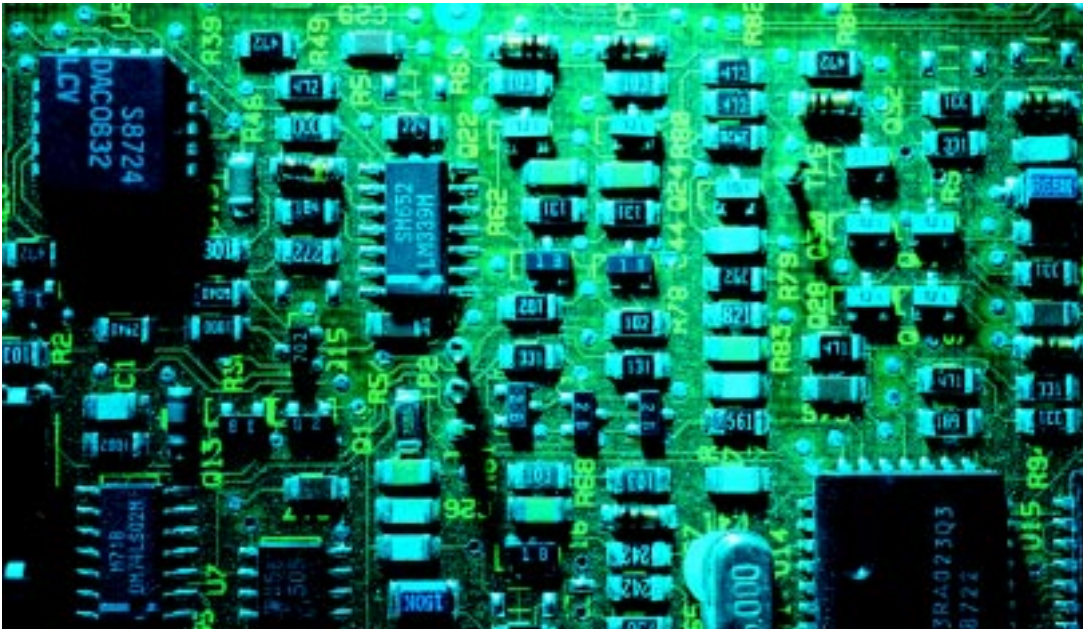
The popularity of our website is still on the increase. From 140 000 hits per month in 1996, increasing to 300 000 in 1997, the number of hits has since climbed to about half a million per month in 1998. Although the 'hit-rate' is a good figure for comparison, it does not tell you much about the actual number of people visiting the site. The

number of user-sessions is a figure which tells more about the number of people who are actually visiting the site. This figure went up from 15 000 per month in 1997 to almost 27 000 per month in 1998, and to 37 000 users at the end of 1998.

One of the most accessed documents in 1998 has been the Executive Summary of *Europe's Environment: The Second Assessment*. Since its availability on the Agency's website in June, it has been downloaded around 20 000 times in total. Other popular documents have been the joint EEA/UNEP *New Year's message on Water Stress* (around 12 000 downloads) and the *Expert's Corner Report on Freedom of Access to Information*, with around 8 000 downloads.

Airbase	EEA Air Quality database
Århus Conference	Fourth Pan-European Environment Ministers' Conference, which was held in Århus, Denmark, on 23-25 June 1998 (web reference: http://www.mem.dk/aarhus-conference/)
Accession Countries	Countries preparing for accession to the European Union
Agency (the)	European Environment Agency (web reference: http://www.eea.eu.int/)
Cardiff European Council	web reference:





	http://presid.fco.gov.uk/meetings/cardiff/		
Catalogue of Data Sources	A database containing description of authoritative EEA and EIONET information resources developed by the ETC/CDS (synonym to Directory of Information Resources)	CIRCA	ment. A customised version of the CIRCA software used on EIONET (web reference: http://eionet.euro.int/eionet-circle/)
CDS	Catalogue of Data Sources (web reference: http://www.undis.ch/system/cds)	Commission	Collaborative software used by EUROSTAT and several DGs.
CEEC	Central and Eastern European countries	Community	European Commission (web reference: http://www.europa.eu.int/comm/dgs_en.htm)
CIRCLE	Centre of Information Resources for Collaboration on Environ-	CORINE	European Community Coordination of the Information on the Environment (work started

Glossary

	under Decision 85/338/EEC; environment information pilot project continued in EEA)
Corinair	Core Inventory Air (former EC programme CORINAIR) since 1995 an EEA/ETC-AEM project.
Council	EU Council of Ministers(web reference: http://ue.eu.int/en/summ.htm)
Data Warehouse	web reference: http://www.eea.eu.int/frdb.htm
DG	Directorate General of the European Commission (web reference: http://www.europa.eu.int/comm/dgs_en.htm)
DG III	Directorate General for Industry (web reference: http://www.europa.eu.int/comm/dg03/index_en.htm)
DG XI	Directorate General for Environment, Nuclear Safety and Civil Protection (web reference: http://www.europa.eu.int/comm/dg11/index_en.htm)
DPSIR	Concept of the chain of causal links for environment adopted by the EEA: Driving forces, Pressures, States, Impacts, Responses (first developed as PSR by OECD)
Dobris Assessment (the)	EEA's first multiannual report on Europe's Environment produced in 1995: <i>Europe's Environment - the Dobris Assessment</i> (web reference: http://www.eea.eu.int/frdocu.htm)
ECE	Economic Commission for Europe (UN) (web reference: http://www.unece.org/)
EEA	European Environment Agency (web reference: http://www.eea.eu.int/)
EEA 18	The EEA member countries - the EU15 Member States + Iceland, Liechtenstein and Norway.
EEA/EIONET Regulation	Council Regulation (EEC) No 1210/90 of 7 May 1990 establishing the EEA and EIONET
EFTA	European Free Trade Association
EIONET	European Environment Information and Observation Network (web reference: http://www.eionet.eu.int/)
EMEP	Co-operative Programme for Monitoring and Evaluation of long range transmission of air pollutants in Europe (Web reference: http://www.unece.org/env/emep_h.htm)
ENRM	G7 Information Society project Environment and Natural Resource Management
ENVISION	EEA ENVISION - a framework for goals, priorities and ways of working supporting development and execution of Work Programmes
ETC	European Topic Centre - Contracted by the EEA to lead the development in European Environmental Information in a given topic. (web reference: http://www.eionet.eu.int/)

ETC/AEM	European Topic Centre on Air Emissions (web reference: http://www.aeat.co.uk/netcen/corinair/corinair.html)
ETC/AQ	European Topic Centre on Air Quality (web reference: http://www.etcaq.rivm.nl/)
ETC/CDS	European Topic Centre on Catalogue of Data Sources (web reference: http://etc-cds.eionet.eu.int/)
ETC/IW	European Topic Centre on Inland Waters (web reference: http://www.eionet.eu.int/)
ETC/LC	European Topic Centre on Landcover (web reference: http://www.mdc.kiruna.se/projects/etc/)
ETC/MC	European Topic Centre on Marine and Coastal Environment (web reference: http://estaxp.santateresa.enea.it/www/etc/etc-mc.html)
ETC/NC	European Topic Centre on Nature Conservation (http://www.mnhn.fr/ctn/)
ETC/S	European Topic Centre on Soil (web reference: http://www.eionet.eu.int/)
ETC/W	European Topic Centre Waste (web reference: http://www.eionet.eu.int/)
EnviroWindows	web reference: http://www.eea.eu.int/frproj.htm
EU	European Union
EU 15	The fifteen Member States of the European Union: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Portugal, Spain, Sweden, the Netherlands, United Kingdom
EU 98	Working Title of the EEA's report on the State and Outlook of the Environment in Europe. This report is due to be published in June 1999 as <i>Environment in the European Union at the turn of the Century</i> .
EUNIS	European Nature Information System: the ETC/NC managed system of databases containing the information on species, habitats and sites which is being used for assistance to the Commission on NATURA2000 specifically and for EEA reporting needs in general.
EUR	European Union Currency (EURO)
Eurostat	Statistical Office of the European Community (web reference: http://www.europa.eu.int/en/comm/eurostat/serven/home.htm)
E-Windows	EnviroWindows: EnviroWindows is the EIONET's interface to external partners such as NGO's, companies, and research groups.
FCCC	Framework Convention on Climate Change
F.Y.R.O.M	Former Yugoslavian Republic of Macedonia
Fifth Environmental Action Programme	'Towards Sustainability' – the Fifth Environmental Ac-

	tion Programme of the European Community, 1992 (web reference: http://europa.eu.int/comm/dg11/actionpr.htm)
GEMET	General European Multilingual Thesaurus (web reference: http://www.mu.niedersachsen.de/servlets/CatalogueServlet?page=CCDSFrameSet&language=ENG)
GELoS	Global Environmental Information Locator Service (web reference: http://www.eea.eu.int/frdb.htm)
GEO-2	Second Global Environmental Outlook project by UNDP
Green Spider network	Network of communication officers of EU environmental Ministries
IDA	Interchange of Data between Administrations – operated by DG III of the European Commission (web reference: http://www.ispo.cec.be/ida/ida.html)
IGs	Interest Groups.
Interest Groups	Collective collaboration areas for projects protected by user names and passwords.
JRC	Joint Research Centre of the European Communities – composed of 7 Research Institutes. They are located in Belgium, Germany, Italy, Spain and the Netherlands. (web reference: http://www.jrc.org/jrc/index.asp)
LC	Landcover
LCA	Life-Cycle Analysis
LRTAP	Long Range Transboundary Air Pollution
Management Board	The EEA's management Board.
MAP	UNEP's Mediterranean Action Plan
MAWP 1999-2003	EEA Multiannual Work Programme for the period 1999-2003
MCE	Main Component Elements – national environment information bodies appointed as units in the EIONET by member countries.
Member countries	Member countries of the EEA – the EU 15 Member States + Iceland, Liechtenstein and Norway.
Member States	Countries of the European Union.
MoU	Memorandum of Understanding – the Agency has MoUs with several organisations to secure efficient co-operation.
NATLAN	NATure and LANDcover a frame for making widely public maps and analyses concerning nature and landcover, which have been produced or used for EEA work.
New CRONOS database	Eurostat database containing general statistical information.

NIS	Newly Independent States
NFP	National Focal Point (web reference: http://www.eionet.eu.int/)
NGO	Non-Governmental Organisation
NRC	National Reference Centre – a national body appointed by a member country as its expert body on a certain topic, often as a national counterpart to a European Topic Centre.
OECD	Organisation for Economic Cooperation and Development (web reference: http://www.oecd.org/)
Pan-European	Europe from the Atlantic to the Ural mountains and from the Arctic to the Mediterranean Sea.
PHARE	An EU initiative for economic integration with central and eastern European Countries. The 13 countries are: Albania, Bosnia-Herzegovina, Bulgaria, Czech Republic, Estonia, FYROM, Hungary, Latvia, Lithuania, Poland, Romania, Slovak Republic, Slovenia. (web reference: http://www.europa.eu.int/comm/dg1a/PHARE/index.htm)
POPs	Persistent Organic Pollutants
PTL	PHARE Topic Link
PTL/AEM	PTL on Air Emissions
SEA	Strategic Environmental Assessment
Second Assessment (the)	EEA's second multiannual report on Europe's Environment produced in 1998: Europe's Environment: The Second Assessment. (web reference: http://www.eea.eu.int/frdocu.htm)
SME	Small and Medium sized Enterprise
STAR	Sustainability Targets And References database (web reference: http://star.eea.eu.int)
State and Outlook Report	Abbreviated title for the EEA's comprehensive multiannual report series on the State and outlook of the Environment in Europe. This report is due to be published in June 1999 as <i>Environment in the European Union at the turn of the century</i> . The report is a follow-up of <i>Environment in the European Union 1995</i>
TACIS	Technical Assistance to the Commonwealth of Independent States, a European Union initiative. The 13 partner countries are: Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Mongolia, Russian Federation, Tajikistan, Turkmenistan, Ukraine and Uzbekistan.
TEN	Trans-European Network
TERM	Transport and Environment Reporting Mechanism
UN	United Nations (web reference: http://www.un.org/)
UNCCD	UN Convention to Combat Desertification

UNECE	United Nations Economic Commission for Europe (web reference: http://www.unece.org/)
UNEP	United Nations Environment Programme (web reference: http://www.unep.org/)
UNDP	United Nations Development Programme (web reference: http://www.undp.org/)
UNFCCC	UN Framework Convention on Climate Change (web reference: http://www.unfccc.de/)
US EPA	United States Environmental Protection Agency
Warehouse	Data Warehouse (web reference: http://www.eea.eu.int/frdb.htm)
WHO	World Health Organization (web reference: http://www.who.int/)
WBCSD	World Business Council for Sustainable Development (web reference: http://www.wbcsd.ch/aboutus.htm)

¹ This section of the EEA Annual Report is available in all official EU languages.

² As adopted by the Management Board on 19 March 1999.

Annexes

The page features a solid blue background. In the upper right quadrant, the word "Annexes" is written in a black, sans-serif font. Below this text, there are several thin, white, curved lines that sweep across the page from the left and right edges towards the center, creating a sense of movement and design.

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Annex 1 • EEA staff list

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Annex 2 · Finances

The Agency's budget is financed mainly by a contribution from the European Union. The breakdown of the Agency's income is shown in Table 1. The Agency's expenditures are shown, by major type of expenditure, in Table 2.

Some of the Agency's expenditures are identified also in the Agency's multiannual work programme (MAWP). The expenditures

related to the 1st MAWP are shown in Table 3.; The expenditures related to the 2nd MAWP are shown in Table 4.

In addition to the financial figures, the Agency's budget establishes the number of posts for staff; the authorised posts are shown in Table 5.

A detailed 1998 budget is available at the EEA website: <http://www.eea.eu.int>

Table 1		Income of the budgets 1997 to 1999 (in euro)		
	Budget 1997	Budget 1998	Budget 1999	
European Union contribution	16 500 000	16 500 000	17 800 000	
EFTA contribution	297 000	311 850	300 000	
Miscellaneous revenue	110 000	85 900	pm	
Total	16 907 000	16 897 750	18 100 000	

Table 2		Expenditures of the budgets 1997 to 1999 (in euro)		
	Budget 1997	Budget 1998	Budget 1999	
Staff	5 396 000	6 122 179	6 910 000	
Expert meetings and translations	925 200	910 000	1 000 000	
Multiannual Work Programme (MAWP) [1st MAWP in 1997 & 1998; 2nd MAWP in 1999]	8 796 000	7 772 889	7 800 000	
Administrative Expenditure	1 789 800	2 092 682	2 390 000	
Total	16 907 000	16 897 750	18 100 000	

Table 3		Expenditures (except staff) directly related to the implementation of the 1st MAWP in 1997 and 1998 (in euro)	
	Budget 1997	Budget 1998	
Dissemination and pooling of information and know how	212 538	5 450 238	
Reports on the state of the environment	598 325	1 090 002	
Guidelines for reports, assess. data process at European level	349 020	153 305	
Media oriented monitoring; assessment of the state and trends of the environment	2 743 750	2 637 557	
Source oriented monitoring	840 000	988 000	
Integrated environmental assessment - problems, areas and sectors	226 173	17 163	
Scenarios for environmental improvement	653 946	71 745	
New instruments and challenges for environment policy - development and implementation	81 850	181 600	
Capacity building in the functions of EEA and EIONET	2 137 764	1 628 165	
Exchange and dissemination of information - Publications, seminars, conferences and education	952 634	950 850	
Total	8 796 000	7 772 889	

Expenditures (except staff) directly related to the implementation of the 2nd MAWP in 1999 (in euro)

Table 4

Budget 1999	
Topic Databases and Reporting	
Socio-economic data	30.000
Pressures	820.000
State and Quality	1.905.000
Integrated Assessment	
Environmental Issues	765.000
Regional Assessments	180.000
Sectors and Instruments	330.000
Research Dissemination & Emerging Issues	60.000
Periodical Reporting	
The five year report	120.000
Regular indicator-based report	500.000
Reporting system support	
Scenarios, Methodologies, Guidelines	410.000
Data and information management	260.000
Public access to environmental information - Reference Centre	520.000
Service and Network Infrastructure	
Information and Networking Technology	910.000
Information capacities and services	990.000
Total	7.800.000

Establishment table of the budgets 1997 to 1999 (number of posts for staff)

Table 5

GRADE	1997	1998	1999
A	28	28	32
B	15	16	16
C	17	17	18
D	2	2	2
TOTAL	62	63	68

Annex 3 · the EEA work programmes

OVERVIEW BY PROGRAMMES AND PROJECTS – Projects in the multiannual work programme 1994-1999 and their status in the 1998 annual work programme. The framework of the second multiannual work programme 1999-2003.

The 1998 annual work programme was the last in the framework of the first multiannual work programme (MAWP1). This consisted of 10 programme areas – implemented in the three programme groups in the EEA, each responsible for two-six programme areas, with project activities often involving other programme groups:

- Analysis and Integrated Assessment:
Programme areas 1-2-3-6-7-8.
- Monitoring and Databases.
Programme areas 4-5
- Operational base and Infrastructure, Publications and Information.
Programme areas 9-10

The AWP 1998 was adopted by the Management Board on 27 November 1997 following receipt of the opinions of the Scientific Committee and the European Commission. The AWP 1998 presented a total of 63 projects in the 10 programme areas.

All of the 60 projects from 1997 were continued in 1998, and the 3 new projects were a re-introduction of project (3)G1 and introduction of projects (5)SS2 and (5)SSW3.

Overview of projects active in the 1998 annual work programme, within the framework of the multiannual work programme and projects active in former years.

		1994-1995	1996	1997	1998
1.	Dissemination and pooling of existing information and know-how				
D1	Strategy for dissemination and pooling of information and know-how				
D2	Handbooks on existing experiences				
-D3	Pool of information on sustainable development				
D4	Pool of experiences on environmental management tools				
-D5	Information dissemination on environment-employment				
2.	Periodical reports on the state of the environment				
PR1	Publication of Dobris – Europe's Environment				
PR2	Development of products of Europe's Environment				
PR3	Development of monographs on Europe's Environment				
PR4	Triennial report on the state of the environment				
PR5	Reports in agreement with other institutions				

3. Guidelines for reports/ assessments/data processing of special interest at european level		1994-1995	1996	1997	1998
G1	Analysis of comparability and reliability, needs for guidelines and standards				
G2	Guidelines for reports on the state of the environment				
G3	Guidelines for drafting sustainable development reports				
G4	Guidelines for evaluating costs of environmental damage and policy responses				
-G5	Guidelines for developing indicators				
-G6	Guidelines for evaluating socio-economic impacts of environmental/resource degradation				
-G7	Guidelines for developing programmes and projects for environmental infrastructure – technical and financial aspects (EIB)				
4. Media oriented monitoring. assessment of the state and trends of the environment: water – air – nature – soil					
MW1	Water resources – general approach to assessment				
MW2	Inventory of water resources monitoring networks				
MW3	Design of a freshwater water monitoring network				
MW4	European freshwater monitoring network and databases				
MW5	Water resources evaluation				
MW6	Information on coastal and marine water quality				
MW7	Coastal pressure and state indicators (former IAR2)				
MA1	Air Quality – general approach to assessment				
MA2	European air quality monitoring network and databases – establishment and maintenance				
MA3	Harmonisation in the use of models for ambient air quality and pollution dispersion/transport				
MA4	Ambient noise levels and exposure				
MN1	Nature protection – general approach to assessment				
MN2	State and trends of biodiversity in Europe				
MN3	Support to NATURA 2000 network				
MN4	Land cover – ecological monitoring				
MN5	Forest conditions – monitoring network and databases				
MS1	Soil quality and degradation – general approach				
MS2	Soil characteristics, monitoring and mapping				
MS3	Methodologies for inventories of contaminated sites				

5. Source oriented monitoring: assessment of pressures		1994-1995	1996	1997	1998
SG1	Common tools for emissions and waste integrated inventories	■	■	■	■
SA1	Air emissions – general approach and assessment	■	□	□	□
SA2	Air emissions inventories	■	■	■	■
SW1	Emissions to water – general approach and assessment	■	■	■	■
SW2	Inventories on emissions to water	□	■	□	□
SS1	Emissions to land and soil – general approach and assessment	■	■	□	□
SS2	Inventories on emissions to land and soil	□	□	□	■
SWS1	Waste generation and flows – general approach and assessment	■	■	□	□
SWS2	Waste – pilot projects for further assessments of inventories and analysis of main flows	■	■	□	□
SWS3	Inventories and analysis on waste movements and transfers	□	□	□	■
6. Integrated environmental assessment: problems, areas and sectors					
*IAG1	The European environmental agenda: Highlights – basis for identification and ranking of priorities	■	■	■	■
IAG2	Strategy for integrated environmental assessment (merged with IAG1 in 1996)	■	■	■	■
IAP1	Identification of need and feasibility of complementary analyses for specific problems	□	■	■	■
IAP2	Chemical pathways – references & pilot analysis	□	□	■	■
IAP3	Natural cycles perturbances – references & pilot analysis	□	□	□	□
IAP4	Threats to human health (merged with PR3 in 1996)	■	■	■	□
IAR1	Integrated assessment – urban areas (merged with PR3 in 1996)	■	■	■	□
IAR2	Integrated assessment – coastal areas (in 1996AWP as MW7)	■	■	□	□
IAR3	Integrated assessment – rural and mountain areas (merged with PR3 in 1996)	□	■	□	□
IAS1	Integrated assessment – economic sectors (previously merged with IAP1)	■	■	■	■
7. Scenarios and prospective analyses for environmental improvement					
SC1	Development of environmental scenarios & tools for prediction & analysis of trends	■	■	■	■
SC2	Analyses of cases – air emission reduction scenarios	■	■	■	■
SC3	Analyses of cases – life cycle evaluations of specific products and production processes	□	□	□	□

8. Instruments and challenges for environmental policy development and implementation		1994-1995	1996	1997	1998
IC1	Policy instruments – analysis of applications and trends	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
-IC2	The precautionary principle – application	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-IC3	Environmental liability – state and prospects	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-IC4	“No regret strategies” – state and prospects	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-IC5	International conventions – state and prospects	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
-IC6	Sustainable development in main economic sectors – state and trends	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-IC7	Application of economic instruments – state and prospects	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-IC8	Environment and health – facts and questions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-IC9	Technology prospects – technology and environment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-IC10	Environmentally best available technologies – state and prospects	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-IC11	Environment and employment – state and prospects	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-IC12	Environmental research and development – state and prospects	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-IC13	Environment and trade	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Capacity building					
CB1	EEA information technology infrastructure	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
CB2	EEA wide area network	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
CB3	Data and information interchange	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
CB4	Consistency of terminology	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
CB5	Development of multilingual thesaurus	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
CB6	Catalogues of data sources – EEA and EIONET	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
CB7	Development of data models	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
CB8	Development of software for EEA-CDS	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
CB9	Interconnecting CDSs of EEA and EIONET (merged with CB8)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
CB10	Development of library	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
CB11	Support to EU Reporting Directive	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
CB12	Acquisition of basic data	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
CB13	Work-share agreements	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
CB14	Pre-press and publications	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
CB15	Programming and quality control of the EEA products	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
CB16	Reports and research for the Scientific Committee	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
CB17	Reports and projects not foreseen – requested by EU Institutions	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

10. Exchange and dissemination of information					
ED1	Publications, bulletins, catalogues, CD-ROMs (Datasets, multimedia), report series, etc.	■	■	■	■
ED2	Seminars, conferences and public information	□	□	■	■
ED3	Fellowships at the EEA	□	□	■	■
ED4	Information exchange system with member countries/ EU / NGOs	■	■	■	■
ED5	Promotion of external participation – marketing of the EEA	■	■	■	■

NOTE : - = not adopted in the MAWP by Management Board on 26 - 27 July 1994 (to be considered in next review)
A very few have been taken on board by the Management Board on an individual basis, to fulfil specific needs.

■ Active project ■ active, but merged with other project(s) in 1996

EEA multiannual work programme 1999-2003

The second multiannual work programme has a framework of 5 Programme Areas, 15 Projects Groups and 64 projects as presented below.

Programme areas, project groups and projects in EEA multiannual work programme 1999-2003

1	Topic databases and reporting
1.1	Socio-economic data
1.1.1	Eurostat data co-operation
1.1.2	Co-operation with other bodies
1.2	Pressures
1.2.1	Atmospheric emissions
1.2.2	Waste
1.2.3	Chemicals
1.2.4	Water discharges
1.2.5	Releases to land and soil
1.3	State and Quality
1.3.1	Air Quality
1.3.2	Water Quality and Resources
1.3.3	State of Flora, Fauna and Biotopes
1.3.4	State of Soil
1.3.5	Land Cover
1.3.6	Coastal and Marine Environment
1.3.7	Noise

2. Integrated assessment

2.1 Environmental issues

2.1.1	Air Quality and Ozone
2.1.2	Climate Change
2.1.3	Water Stress
2.1.4	Eutrophication
2.1.5	Acidification
2.1.6	Biodiversity changes
2.1.7	Exposure to Chemicals
2.1.8	Health
2.1.9	Land and soil degradation
2.1.10	Waste Management

2.2 Regional assessments

2.2.1	Mediterranean area
2.2.2	Integrated Coastal Zone Management (ICZM)
2.2.3	Transport TEN SEA
2.2.4	Landscape
2.2.5	Urban Environment

2.3 Sectors and Instruments

2.3.1	Transport
2.3.2	Agriculture
2.3.3	Energy
2.3.4	Tourism
2.3.5	Industry
2.3.6	Households
2.3.7	Instruments

2.4	Research Dissemination and Emerging Issues	4.3.1	Directory of EEA/EIONET information resources
2.4.1	Research and environmental information	4.3.2	The EEA Web site: The Gateway to the Reference Centre
2.4.2	Emerging environmental issues	4.3.3	Access to Data warehouse and Topic databases
3.	Periodical reporting	4.3.4	Gateway to other information providers – GELOS, Envirowindows
3.1	The five year report	4.4	Institutional networking etc
3.1.1	EU98 SoER	4.4.1	EIONET and co-operation with third countries (ETCs, NFPs, NRCs)
3.1.2	State and Outlook on Europe's Environment	4.4.2	European Commission (DGXI, other DGs, JRC, Eurostat)
3.2	Regular indicator-based report	4.4.3	Council, Parliament, EcoSoc, Regions Committee
3.2.1	European Environmental Signals reports	4.4.4	International bodies
4.	Reporting System Support	4.4.5	NGOs (Business and ECO)
4.1	Scenarios, Methodologies, Guidelines	5.	Service and Network Infrastructure
4.1.1	Integrated Environmental Assessment	5.1	Information and Networking Technology
4.1.2	Scenarios and prospective analysis	5.1.1	IT capacities
4.1.3	Guidelines for environmental reporting	5.1.2	Telematics capacities
4.1.4	Support for reporting requirements (EU legislation and multilateral agreements)	5.1.3	IT application developments
4.2	Data and information management	5.2	Information Capacities and services
4.2.1	EIONET data flow	5.2.1	Publishing
4.2.2	EEA GIS support	5.2.2	Distribution and marketing
4.2.3	Data warehouse management	5.2.3	Communicating environmental information
4.3	Public access to environmental information – Reference Centre	5.2.4	Library and information services

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Norway	
<p>Harald Rensvik Secretary General Ministry of Environment Myntgata 2 PO Box 8013 Dep N-0030 Oslo Tel: +47 22 24 57 08 Fax: +47 22 24 95 60 E-mail: HAR@md.dep.no</p>	<p>Øystein Nesje Adviser Ministry of Environment PO Box 8013 Dep N-0030 Oslo Tel: +47 22 24 58 12 Fax: +47 22 24 95 60 E-mail: nes@md.dep.no</p>
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United Kingdom	
<p>F (Derek) A Osborn (Chairman) 48 Talbot Road Highgate UK-London N6 4QP Tel: +44 181 340 75 60 Fax: +44 181 340 75 60 E-mail:101576.2524@Compuserve.COM</p>	<p>Hilary Hillier Chief Statistician Environment Protection Statistics Division Department of the Environment Floor 5/D12, Ashdown House 123 Victoria Street UK - London SW1E 6DE Tel: +44 171 890 6440 Fax: +44 171 890 4421 & 890 6489 E-mail: Hilary.Hillier@nfp-gb.eionet.eu.int</p>
Designated by the European Parliament	
<p>Representatives: Michael Scoullos Professor University of Athens Elliniki Etairia 28 Tripodon Street GR-10558 Plaka, Athens Greece Tel: +30 1 322 5245 & 322 6693 Fax: +30 1 322 5240 E-mail: mio-ee-env@ath.forthnet.gr</p>	<p>Alternate representatives: Pier Paolo Binazzi¹ Geoplan Studio Associato Via E Fermi 100 I - 51100 Pistoia Italia Tel: +39 0573 53 25 03 Fax: +39 0573 53 25 04 E-mail: geoplann@tin.it</p>
<p>Brian Wynne Research Director Centre for the Study of Environmental Change Lancaster University Bailrigg Lancaster LA1 4YQ United Kingdom Tel: +44 1524 592 653 & 592 674 Fax: +44 1524 846 339 E-mail: B.Wynne@lancaster.ac.uk j.hamid@lancaster.ac.uk</p>	<p>Hans-Peter Lühr² Professor Technical University Berlin Institute of Civil Engineering Section Water Management Edelhofdamm 33 D - 13465 Berlin Deutschland Tel: +49 30 401 007 03 Fax: +49 30 401 007 04 E-mail: HP.Luehr@TU-Berlin.DE</p>

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¹ Alternate to the Management Board members designated by the European Parliament

² Alternate to the Management Board members designated by the European Parliament

³ is not an EEA Management Board member according to the provisions of the Establishing Regulation, but is invited to all MB meetings

Annex 5 · EEA Scientific Committee

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1998, Nominations:

- Dr. Robert Kroes: Management Board of 27 March 1998, as alternate.
- Prof. Bedrich Moldan: Management Board of 26 November 1998, as alternate.

Demosthenos Asimakopoulos, Eileen Buttle, Frank Convery, Walter Ganapini, Poul Harremoës, Jean-Claude Lefeuvre and Philippe Bourdeau are re-confirmed by the Management Board of 27 March 1998 for another 4 years.

Annex 6 • EIONET – European Topic Centres

The leading organisation (**in bold**) and the partner organisations of the eight European Topic Centres (ETCs) are as follows:

European Topic Centre on AIR EMISSIONS (ETC/AEM)

UBA	Umweltbundesamt – Berlin Dietmar Koch, Umweltbundesamt, P.O.Box 330022, Bismarckplatz 1, D-14191 Berlin. Tel.: +49 30 89 03 2392. Fax: +49 30 89 03 2178. E-mail: dietmar.koch@ uba.d	Germany
UBA	Umweltbundesamt, Vienna	Austria
CITEPA	Centre Interprofessionel Technique de la Pollution Atmosphérique, Paris	France
PIC	Poseidon S.A. Industrial Consultants, Thessaloniki	Greece
ENERO	European Network of Environmental Research Organisations including: RISØ National Laboratory, Roskilde ENEA, Rome TNO, Apeldoorn AEA Technology plc, Culham	Denmark Italy The Netherlands United Kingdom

European Topic Centre on AIR QUALITY (ETC/AQ)

RIVM	Rijksinstituut voor Volksgezondheid en Milieuhygiene – Bilthoven Roel van Aalst, RIVM, P.O.Box 1, NL-3720 BA Bilthoven. Tel.: +31 30 274 2025. Fax: +31 30 228 7531. E-mail: roel.van.aalst@rivm.nl	The Netherlands
NOA	National Observatory of Athens, Athens,	Greece
DNMI	Norwegian Meteorological Institute, Oslo	Norway
NILU	Norwegian Institute for Air Research, Kjelle,	Norway

European Topic Centre on CATALOGUE OF DATA SOURCES (ETC/CDS)

NUM	Niedersächsisches Umweltministerium, Hannover Stefan Jensen, Niedersächsisches Umweltministerium, Archivstrasse 2, D-30 169 Hannover. Tel.: +49 511 120 3452. Fax: +49 511 120 3697. E-mail: etc/cds@mu.niedersachsen.de	Germany
ISEP (Co-leader)	International Society for Environmental Protection, Vienna	Austria
MUVIS	MUVIS Umweltsysteme, Vienna	Austria
UDK-DC	Development Centre of UmweltDatenKatalog, Hannover	Germany
UBA	Umweltbundesamt, Berlin	Germany
LIPPKE & WAGNER	Dr. Lippke und Dr. Wagner GmbH, Berlin	Germany
CNR	Centre Nationale de Recherche, Rome	Italy
SABINI	Sabini Library Automation, Madrid	Spain
TNO	TNO Beleidstudies en Advies, JA Delft	The Netherlands

In addition an Advisory Committee comprised of members from Austria, France, Germany, Ireland, Italy, Liechtenstein, Norway, Spain, Sweden and Switzerland is established.

European Topic Centre on INLAND WATERS (ETC/IW)

WRc plc	Water Research Centre, Medmenham Tim Lack, WRc plc, Henley Road, Medmenham, UK-SL7 2HD Bucks. Tel.: +44 1491 571531. Fax: +44 1491 579094. E-mail: iw@wrcplc.co.uk	United Kingdom
AWW	Austrian Working Group on Water c/o Umweltbundesamt, Vienna	Austria
VMM	Vlaamse Milieumaatschappij, Erembodegem	Belgium
NERI	National Environmental Research Institute, Silkeborg	Denmark
IOWater	International Office for Water, Paris	France
NIVA	Norwegian Institute for Water Research, Oslo	Norway
INAG	Instituto da Água, Lisbon	Portugal
CEDEX	Centro de Estudios y Experimentación de Obras Públicas, Madrid	Spain

European Topic Centre on LAND COVER (ETC/LC)

MDC	Environmental Satellite Data Centre – Kiruna Martin Krynitz, MDC Environmental Satellite Data Centre, P.O.Box 806, S-981 28 Kiruna. Tel.: +46 980 671 74. Fax: +46 980 671 80. E-mail: mkr@ mdc.kiruna.se	Sweden
GEOSPACE	Geospace Beckel Satellitenbilddaten, Salzburg	Austria
GIM	Geographic Information Management, Heverle	Belgium
DIPS	Danish Institute of Plant and Soil Science, Tjele	Denmark
FEI	Finnish Environment Institute, Helsinki	Finland
IFEN	Institut Francais de l'Environnement, Orleans	France
StBA	Statistisches Bundesamt, Wiesbaden	Germany
HEMCO	Hellenic Mapping & Cadastral Organisation, Athens	Greece
NRDC	Natural Resources Development Centre, Dublin	Ireland
CI	Centro Interregionale, Rome	Italy
G ² ERE	G ² ERE c/o Centre de Recherche Publique Henri Tudor, Steinsel	Luxembourg
CNIG (co-leader)	Centro Nacional de Informação Geográfica, Lisbon	Portugal
IGN	Instituto Geográfico Nacional, Madrid	Spain
SC-DLO	Winand Staring Centre for Integrated Land, Soil & Water Research, Wageningen	The Netherlands
ITE	Institute for Terrestrial Ecology, Monks Wood	United Kingdom
JRC/SAI	European Commission's Joint Research Centre, Space Applications Institute, Ispra	Italy

European Topic Centre on MARINE AND COASTAL ENVIRONMENT (ETC/MC)

ENEA CRAM	Centro Ricerche Ambiente Marino, La Spezia, Marcello Peronaci, Marine Environmental Research Centre (CRAM), P.O.Box 316, I-19100 La Spezia. Tel.: +39 187 536 246. Fax: +39 187 536 273. E-mail: peronaci@ casacia.enea.it	Italy
IFREMER	Institut Français pour l'Exploitation de la Mer, Plouzane	France
NCMR	National Centre for Marine Research, Athens	Greece
NIVA	Norwegian Institute for Water Research, Oslo	Norway
LNEC	Laboratório Nacional de Engenharia Civil, Lisbon	Portugal
RIKZ	Rijkswaterstaat - Rijksinstituut voor Kust en Zee, Den Haag	The Netherlands

European Topic Centre on NATURE CONSERVATION (ETC/NC)

MNHN	Museum National D'Histoire Naturelle, Paris Juan Manuel de Benito, National Museum of Natural History, 57, rue Cuvier, F-75231 Paris Cedex 05. Tel.: +33 1 4079 3870. Fax: +33 1 4079 3867. E-mail: cteinf@mnhn.fr	France
NERI	National Environmental Research Institute, Rønde	Denmark
FEI	Finnish Environment Institute, Helsinki	Finland
BfN	Bundesamt für Naturschutz, Bonn	Germany
EKBY	Greek Biotope Wetland Centre, Thermi	Greece
ANPA	Agenzia Nazionale per l'Ambiente, Rome	Italy
NINA	Norwegian Institute for Nature Research, Trondheim	Norway
ISEGI	Higher Institute for Statistics and Information Management, Lisbon	Portugal
ICN	Instituto de Conservação de Natureza, Lisbon	Portugal
MNCN	Museo Nacional de Ciencias Naturales, Madrid	Spain
DG-CONA	Dirección General de Conservación de la Naturaleza, Madrid	Spain
SEPA	Swedish Environmental Protection Agency, Stockholm	Sweden
ITE	Institute of Terrestrial Ecology, Monks Wood	United Kingdom
JNCC	Joint Nature Conservation Committee, Peterborough	United Kingdom
ECNC	European Centre for Nature Conservation *, Tilburg	The Netherlands

* with affiliations to a.o WCMC, Cambridge, United Kingdom

European Topic Centre on SOIL (ETC/S)

CIDE (CISC)	Centro de Investigaciones Sobre Desertificación, Valencia Diego de la Rosa, Head, Land Evaluation Unit, Instituto de Recursos Naturales y Agrobiología, CSIC, Avda. Reina Mercedes, 10, P.O.Box 1052, E-41080 Seville. Tel.: +34 954 620225. Fax: +34 954 620315. E-mail: diego@irnase.csic.es	Spain
UBA	Umweltbundesamt, Vienna	Austria
GEUS	Geological Survey of Denmark and Greenland, Copenhagen	Denmark
INRA	Institute National de la Recherche Agronomique, Olivet	France
BGR	Bundesanstalt für Geowissenschaften and Rohstoffe, Hannover	Germany
ISM	Institute of Soil Mapping and Classification National Agricultural Research Foundation, Athens	Greece
TEAGASC	Agriculture and Food Development Authority Johnstown Castle Research Centre, Wexford	Ireland
SSLRC	Soil Survey and Land Research Centre, Cranfield University, Bedford	United Kingdom
JRC/EI	European Commission's Joint Research Centre, Environment Institute	Italy

European Topic Centre on WASTE (ETC/W)

	European Topic Centre on Waste Kim Michael Christiansen, Overgaden Oven Vandet 48e, DK-1415 Copenhagen K. Tel.: +45 32 64 01 69. Fax: +45 32 64 01 60. E-mail: etcw-kmc@mst.dk	Denmark
EPA	Danish Environmental Protection Agency, Copenhagen	Denmark
UBA	Federal Environment Agency, Vienna	Austria
EPA	Environmental Protection Agency (Wexford) ABAG-itm Gesellschaft für innovative Technologie- und Managementberatung mbh, Fellbach	Ireland Germany
	Junta de Residus, Generalitat de Catalunya	Spain

European Environment Information and Observation Network (EIONET)

 Distribution of EIONET-elements per country (15.10.1996)

COUNTRY	TOTAL	NFPs	<i>of which act also as NRC</i>	MCEs	<i>of which are NRC which</i>	<i>of which are NRC ETC-Part.</i>	ETC Partners	ETCs
Austria	19	1		12	4	2	6	
Belgium	38	1	x	35	3		2	
Denmark	77	1		71	8		5	
Finland	18	1	x	15	7	2	2	
France	45	1		38	9	1	5	1
Germany	36	1		27	6	1		2
Greece	28	1		21	4	3	6	
Iceland	12	1		11	6			
Ireland	44	1		41	9		2	
Italy	95	1		89	10		4	1
Liechtenstein	3	1	x	2	2			
Luxembourg	19	1		17	4		1	
Norway	23	1		17	9	2	5	
Portugal	21	1		15	4	4	5	
Spain	39	1		32	7	2	5	1
Sweden	22	1	x	19	4	1	1	1
The Netherlands	25	1		18	8	2	5	1
United Kingdom	39	1		32	5	2	5	1
						109	22	
EIONET total:	603	18		512	<i>NRCs:</i>	131	65	8

remarks: (1) some NRCs cover more than 1 topic, some topics are covered by more than 1 NRC

(2) ETC/LC and ETC/S have also JRC as ETC partner

Distribution of EIONET in the PHARE-countries – Elements per country (December 1998)

Country	Total	NFPs	<i>of which act also as NRC</i>	NRCs and MCEs	<i>of which are NRC</i>	<i>of which are NRC and PLT- partner</i>	PLT Partners	PLTs Leaders
Albania	10		1		9	1		
Bosnia-Herzegovina	1		1		—			
Bulgaria	3		1		1		1	1
Czech Republic	8		1		4	1	2	1 2
Estonia	10		1	x	8	3	1	1
FYROM	4		1		3	1		
Hungary	18		1		14		1	1 1
Latvia	7		1	x	6	6		
Lithuania	9		1	x	7	1		
Poland	13		1		10	3	2	1 1
Romania	11		1		8	3		2
Slovak Republic	5		1		1		1	2 1
Slovenia	4		1		2	2		1
						21	8	
EIONET total:	102		13		73	<i>NRCs:</i>	29	11 5

PHARE Topic Link on Air Emissions (PTL/AE)

	<p>ATMOTERM Sp.z.o.o., Opole Wanda Pazdan, PTL/AE Leader, ul. Katowicka 35,45-061 Opole; Tel.: +48 77 454 4667. Fax: +48 77 4542037. Email: wandapazdan@atmoterm.pl; WWW: http://www.ptl-ae.atmoterm.pl</p>	Poland
SHMI	Slovak Hydrometeorological Institute, Bratislava	Slovak Republic
NCESD	National Centre of Environment and Sustainable Development, Sofia	Bulgaria

PHARE Topic Link on Air Quality (PTL/AQ)

	<p>CHMI Czech Hydrometeorological Institute, Prague Jaroslav Fiala, PTL/AQ Leader, Na Sabatce 17, 146 06 Prague; Tel.: +420 2 401 9 801. Fax: +420 2 4403 2468. Email: fialaj@chmi.cz; WWW: http://www.chmi.cz/ptl/</p>	Czech Republic
DASY	Decision and Systems Management Ltd, Budapest	Hungary
SHMI	Slovak Hydrometeorological Institute, Bratislava	Slovak Republic

PHARE Topic Link on Inland Waters (PTL/IW)

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PHARE Topic Link on Land Cover (PTL/LC)

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PHARE Topic Link on Nature Conservation (PTL/NC)

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Annex 9 • EEA products in 1998 and key products foreseen in 1999

Three-year reports

Europe's Environment: The Second Assessment

Prepared by: European Environment Agency
Published by the European Environment Agency,
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300 pp

ISBN: 92-828-3351-8

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Price: EUR 70 (excluding VAT)

Executive Summary of 'Europe's Environment: The Second Assessment'

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Copenhagen, 1998

43 pp

ISBN: 92-9167-087-1

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Available free of charge

Europe's Environment:

The Second Assessment Data Pocketbook

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Copenhagen, 1998

39 pp

ISBN: 92-9167-098-7

Catalogue No: GH-14-98-211-EN-C

Price: EUR 6 (excluding VAT)

Statistical Compendium to 'Europe's Environment: The Second Assessment'

Prepared by: Eurostat, EEA

Published by Eurostat, Luxembourg, 1998

153 pp

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Catalogue No: CA-13-98-475-EN-C

Price: EUR 12 (excluding VAT)

Environmental issues reports

Environmental Risk Assessment:

Approaches, Experiences and Information Sources

Environmental Issues Series No 4

Prepared by: Robyn Fairman, Carl D. Mead, W. Peter Williams,
Monitoring and Assessment Research Centre, King's College,
London

Published by the European Environment Agency,
Copenhagen, 1998

252 pp

ISBN: 92-9167-080-4

Catalogue No: GH-07-97-183-EN-C

Price EUR 16 (excluding VAT)

Towards Sustainable Development for Local Authorities: Approaches, Experiences and Sources

Environmental Issues Series No 5

Prepared by: Malini Mehra, Anne-Mette Jørgensen
(co-author), Institute for Environment and Systems Analysis,
Amsterdam.

Published by the European Environment Agency,
Copenhagen, 1998

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Price EUR 20 (excluding VAT)

Life Cycle Assessment (LCA) A guide to approaches, experiences and information sources

Environmental Issues Series No 6

Prepared by: Allan Astrup Jensen, Leif Hoffman, Birgitte T.
Møller, Anders Schmidt, dk-TEKNIK Energy & Environment,
Denmark

Kim Christiansen, Sophus Berendsen A/S, Denmark

John Elkington, Franceska van Dijk, SustainAbility, United
Kingdom.

Published by the European Environment Agency,
Copenhagen, 1998

119 pp

ISBN: 92-9167-079-0

Catalogue No: GH-07-97-595-EN-C

Price: EUR 23 (excluding VAT)

Sludge Treatment and Disposal:

Management Approaches and Experiences

Environmental Issues Series No 7

Prepared by: ISWA's Working Group on Sewage & Waterworks
Sludge

Albrecht R. Bresters, The Netherlands; Isabelle Coulomb,

France; Bela Deak, Hungary; Bernhard Matter, Switzerland;

Alice Saabye, Denmark; Ludivico Spinoso, Italy; Adne O. Utvik,
Norway

Published by the European Environment Agency, Copenhagen,
and the International Solid Waste Association, 1998

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ISBN: 92-9167-081-2

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Demonstration of Indicators and GIS Methods

Environmental Issues Series No 11

Prepared by: DGVII-DGXI-Eurostat-EEA

Main contributors: Chris Steenmans, EEA; Ivone Pereira Mar-
tins, EEA; Wim Devos, GIM Geographic Information Manage-
ment; Ann Dom, DGXI; Johan Geert Koier, DGVII.

Published by the European Environment Agency, Copenhagen,
1998

52 pp

ISBN: 92-9167-112-6

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Experts' corner reports

The Concept of Environmental Space
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Experts' Corner, No 1997/2

Prepared by John Hille

Published by the European Environment Agency,
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58 pp

ISBN: 92-9167-078-2

Catalogue No: GH-07-97-604-EN-C

Monographs

Assessment and Management of Urban Air Quality in Europe

EEA Monograph No 5

Prepared by: Dorothee A. U. Richter and W. Peter Williams,
Monitoring and Assessment Research Centre (MARC), King's
College London

Published by the European Environment Agency,
Copenhagen, 1998

140 pp

ISBN: 92-9167-103-7

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Price EUR 30 (excluding VAT)

Topic reports

Towards a European Habitat Classification. Background
Review 1989-1995

Topic Report No 28/1996

By Dorian Moss and David Roy, Institute of Terrestrial Ecology

Published by the European Environment Agency,
Copenhagen, 1998

ISBN: 92-9167-115-0

Catalogue No: GH-18-96-122-EN-C

Air pollution by Ozone in the European Union
Exceedance of Ozone Threshold Values in 1995 and
Summer 1996

Topic Report No 29/1996 (AQ)

Prepared by: Frank de Leeuw, Esther van Zantvoort, European
Topic Centre on Air Quality

ISBN: 92-9167-074-X

Catalogue No: GH-07-97-531-EN-C

Review Study on European Urban Emissions Inventories
Topic Report No 30/1996

Published by the European Environment Agency, 1998

ISBN: 92-9167-075-8

Catalogue No: GH-08-97-921-EN-C

Air Pollution by Ozone in the European Union
Exceedance of Ozone Threshold Values in 1996
and summer 1997

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Marine and Coastal Environment

Annual Topic Update 1997

Topic Report No 2/1998

20 pp

ISBN: 92-9167-100-2

Catalogue No: GH-15-98-164-EN-C

Air Quality

Annual Topic Update 1997

Topic Report No 3/1998

Prepared by: Roel M. van Aalst

20 pp

ISBN: 92-9167-099-5

Catalogue No: GH-15-98-156-EN-C

European Topic Centre on Air Emissions

Annual Topic Update 1997

Topic Report No 4/1998

Prepared by: Dietmar Koch, ETC/AE

32 pp

ISBN: 92-9167-104-5

Catalogue No: GH-16-98-619-EN-C

Selection Criteria for the Catalogue of Data Sources

Topic Report No 5/1998

Prepared by: Ebbe Kvist, Swedish Environmental Protection
Agency

41 pp

ISBN: 92-9167-107-X

Catalogue No: GH-16-98-271-EN-C

Land Cover

Annual Topic Update 1997

Topic Report No 6/1998

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ISBN: 92-9167-105-3

Catalogue No: GH-16-98-433-EN-C

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Annual Topic Update 1997

Topic Report No 7/1998

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ISBN: 92-9167-109-6

Catalogue No: GH-17-98-128-EN-C

Technical reports

Comparing Environmental Impact Data on Cleaner Technologies

Technical Report No 1

Prepared by: Karen Leffland, COWI

Henrik Kærsgaard, COWI

Published by the European Environment Agency,

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111 pp

ISBN: 92-9167-110-X

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Computer Intelligent Processing Technologies (CIPTS):**Tools for Analysing Environmental Data**

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Published by the European Environment Agency,

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ISBN: 92-9167-114-2

Catalogue No: GH-17-9-071-EN-C

Data Collected within the Framework of the Regional European Sea Conventions

Technical Report No 3

Prepared by: Giulio Izzo, Marcel Chaussepied, Tor Bokn, Rajesh

Nair, Giuseppe M. R. Manzella, ENEA (Italy), IFREMER

(France) and NIVA (Norway)

Published by the European Environment Agency,

Copenhagen, 1998

56pp

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Technical Report No 4

Prepared by: Giuseppe M.R. Manzella, Rajesh Nair, ENEA

CRAM

Published by the European Environment Agency,

Copenhagen, 1998

32 pp

COPERT II – Computer programme to Calculate Emissions from Road Transport Users Manual

Technical Report No 5 (AEM)

Prepared by: Leonidas Ntziachristos (LAT/AUTH) and Zissis Samaras (LAT/AUTH)

Published by the European Environment Agency,

Copenhagen, 1998

51 pp

COPERT II – Computer programme to Calculate Emissions from Road Transport - Methodology and Emissions Factors

Technical Report No 6 (AEM)

Prepared by: Per Ahlvik (MTC), S. Eggleston (AEA Technology), N.Gorßen (UBA), D. Hassel (TUV Rheinland), A. -J. Hick-

man (TRL), R. Jomard (INRETS), Leonidas Ntziachristos (LAT/AUTH), R. Rijkeboer (TNO), Zissis Samaras (LAT/AUTH) and K.-H. Zierock (UBA)

Published by the European Environment Agency,

Copenhagen, 1998

55 pp

EUROWATERNET: The European Environment Agency's Monitoring and Information Network for Inland Water Resources – Technical Guidelines for Implementation

Technical Report No 7 (IW)

Prepared by: S Nixon, Water Research Centre

J. Grath, Austrian Working Group on Water

J. Bøgestrand, National Environmental Research Institute, DK

ETC-IW Project Leader: T J Lack

Published by the European Environment Agency,

Copenhagen, 1998

48 pp

A European Inventory of Emissions to Inland Waters – A first proposal

Technical Report No 8 (IW)

Prepared by: Philippe Crouzet (Ifen/IOWater) and Jens Bøg-

gestrand (NERI) with contributions from Dietmar Koch (UBA/ETC/AE), Jan Hulskotte (TNO/ETC/AE) and Rémy Bouscaren (CITEPA/ETC/AE).

Published by the European Environment Agency,

Copenhagen, 1998

37 pp

National Ozone Forecasting Systems and International Data Exchange in Northwest Europe

Technical Report No 9

Prepared by: The Technical Working Group on Data Exchange

and forecasting for Ozone Episodes in Northwest Europe

(TGW-DFO). R.M van Aalst and F.A.A.M. de Leeuw (editors)

Published by the European Environment Agency,

Copenhagen, 1998

50 pp

Miscellaneous

Chemicals in the European Environment: Low Doses, High Stakes?

Prepared by: David Gee (ed.), David Stanners, Domingo Jiménez-Beltrán (EEA), Prof. Philippe Bourdeau, Prof. B Jansson (EEA Scientific Committee), David Ogden, Jim Willis (UNEP)
Published by the European Environment Agency, Copenhagen, and the United Nations Environment Programme, Châtelaine
Available free of charge from the EEA and UNEP
32 pp

Urban Wastewater Projects – A Layperson's Guide

Prepared by: Mr Stephen D. Meyers The European Water Pollution Control Association e.V. (EWPCA), Mr Gunnar Fr. Aasgaard and Dr Harsha Ratnaweera, Dr Jogn Hawkins, Dr Peter Matthews and Mr Petter Wang
Published by the European Environment Agency, Copenhagen, in collaboration with the EWPCA, 1998
122 pp
Available in English, Spanish, Portuguese, Slovakian, Croatian and Polish from EWPCA, P.O Box 1165, 53758 Henff, Germany.
Price 69 DEM.

Information material

EEA Annual Report 1997

Published by the European Environment Agency, Copenhagen, 1998
62 pp
ISBN: 92-9167-108-8
Catalogue: GH-15-98-277-EN-C

1997: The Year in Brief

Summary of Annual Report
Published by the European Environment Agency, Copenhagen, 1998
12 pp

EEA Publication Catalogue 1997

Published by the European Environment Agency, Copenhagen, 1998
65 pp
ISBN: 92-9167-082-0
Catalogue No: GH-13-98-095-EN-C

The STAR Database (leaflet)

Published by the European Environment Agency, Copenhagen, 1998
Catalogue No: GH-17-98-047-EN-D

Calendar of Events 1998 (booklet)

Published by the European Environment Agency, Copenhagen, 1998

Visual Identity (leaflet)

Published by the European Environment Agency, Copenhagen, 1998

Europe's Environment: The Second Assessment (Video)

Published by the European Environment Agency, Copenhagen, 1998
Duration: 8 mins

Europe's Environment: The Second Assessment (Poster)

Published by the European Environment Agency, Copenhagen, 1998

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