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Accompanying document to the
COMMUNICATION FROM THE COMMISSION TO THE COUNCIL AND THE EUROPEAN PARLIAMENT

Towards a Shared Environmental Information System (SEIS)

IMPACT ASSESSMENT

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Towards a Shared Environmental Information System (SEIS)

IMPACT ASSESSMENT

This impact assessment has been amended to take account of the recommendations of the Impact Assessment Board. In particular:

- more details are provided on plans for updating the standardised reporting directive 91/692/EEC, including an assessment of which reporting obligations could be repealed with this update, and what streamlining would be left to updates of the thematic legislation;
- the specific objectives and options have been streamlined and reduced in number; time horizons have been given for the specific objectives, and options are more clearly linked to the specific objectives;
- text has been included to explain more clearly how effectiveness, efficiency and feasibility considerations have been taken into account when assessing options;
- positive impacts on citizens' rights of access to available information, as well as potential reorganisation of public administrations, have been highlighted more clearly.

1. PROCEDURAL ISSUES AND CONSULTATION OF THIRD PARTIES

1.1. Internal preparation

Work started with a group of DGs (ENV, ESTAT, JRC) together with the European Environment Agency (EEA), primarily interested and working on the issues that SEIS will address, which subsequently expanded to involve the services in DG ENTR leading the Commission's work on Global Monitoring for the Environment and Security. The later preparations undertaken from early September 2007 onwards have involved a wider group of DGs – SG, RTD, INFSO, TREN, FISH, AGRI, COMM, COMP, DIGIT, EAC, ECFIN, ELARG, JLS, MARKT, REGIO, SANCO, TAXUD, TRADE .

1.2. External Consultation with Stakeholders:

Preparatory Discussions with Member States on approaches to take to improve environmental monitoring and reporting started in 2004 and 2005 at meetings of the Environment Policy Review Group. In 2005 the Commission outlined a vision for a Shared Environmental Information System. This addressed increased sharing and access to environmental information, improvements in monitoring and modernised and streamlined reporting systems. (doc ref EPRG 10/05+ summary record)

Activities at the EU level to implement the vision have continued jointly led by DG ENV, JRC, ESTAT together with the EEA (the so-called Group of 4) in consultation with Member States mainly through the EEA and ESTAT structures. In relation to the streamlining efforts, in 2005 the three DGs and the EEA agreed on a Technical Arrangement on the establishment of ten environmental data centres as a joint system for the provision of data in some of the most important environmental fields, and agreed on principles for the sharing of responsibilities.

In order to prepare the Communication the Commission services have presented discussion papers (following in the main the impact assessment structure) containing ideas for actions to implement the SEIS vision at EEA Management Board meetings – in November 2006 and

June 2007 as well as to the June 2007 meeting of Directors of Statistical Offices (DIMESA). The same papers have also been discussed at technical meetings with Member State representatives – namely the EEA national focal points meetings in February and May 2007.

1.3. Key points emerging from the consultations with Member States:

There was overall support for the vision encompassing an integrated but distributed information system with wide access and reduced administrative costs. Some concerns were expressed about the detailed implementation including cost issues and priority-setting on information needs. Member States' representatives asked the Commission to provide as much clarity as possible on the overall vision and objectives of the Shared Environmental Information System. They especially highlighted their interest in concrete measures to reduce the administrative burden of reporting, while at the same time insisting that the good progress that has been achieved to date in Member States and at EU level to modernise information systems and monitoring and reporting should be clearly recognised. These issues are addressed in section 2 of this impact assessment.

The actual outline of the Communication will subsequently be presented and discussed at an international seminar 'Towards Effective Monitoring' organised by the Dutch government on 26 October 2007.

1.4. External Expertise

This impact assessment has been conducted by the ENV Commission services with assistance from EEA staff. It has also drawn on a number of internal and external studies and analyses including

- BICEPS report - Building an Information Capacity for Environmental Protection and Security (European Commission, DG RTD, 2004)
- DPAG report - Data Policy Assessment for GMES (European Commission DG RTD)
- INSPIRE Extended Impact Analysis – European Commission, SEC(2004)980
- Eionet Priority Data Flows June 2006- May 2007 - European Environment Agency annual assessment of data provision by Member States
- An overview of the environmental monitoring systems and surveys currently deployed in the Member States (EEA 2006).
- Reporting on environmental measures: Are we being effective. EEA Environmental issues report no. 25 (EEA 2001)
- An inventory of current reporting practices and emerging reporting needs from the 6th Environmental Action Plan Thematic Strategies. – (European Commission, DG ENV internal with the collaboration of EEA, ESTAT, JRC, 2005).
- Impact Assessment on the revision of Directive 96/61/EC concerning integrated pollution prevention and control and of related legislation on industrial emissions forthcoming Commission Staff Working Document SEC(2007)…
- Towards Effective Monitoring – Netherlands Steering Committee on the Environment, Nature Water (2006)

- Strategic Analysis of UK Monitoring Activity for ERFF – (ADAS 2006)

- Streamlining and Simplification of Environment Related Regulatory Requirements for Companies – Final Report of the 'BEST' Project Expert Group, (European Commission 2006)

2. PROBLEM DEFINITION

2.1. General background

Sustainable development is enshrined in the Treaty of the European Union as a central objective. Environmental protection must be integrated into all European policies and activities while ensuring economic growth and social development. This has led over time to a substantial body of legislation setting obligations on Member States to tackle a wide spectrum of environmental problems.

Clearly the preparation and implementation of such policies depend, to a very large extent, on the quality of the information base available for the decision-making process. Consequently, Community environmental legislation contains obligations to report data and information, not only to help the Commission to monitor compliance with the directives, but also to provide useful information that will allow the public to assess the status of the national environment and assist further policy development. In parallel to this, the European Environment Agency (EEA) was set up in 1990 with the specific mandate to provide the Community and its Member States with objective, reliable and comparable information at European level enabling them to take the requisite measures to protect the environment, to assess the results of such measures and to ensure that the public is properly informed about the state of the environment.

During this period information technology has evolved to an extent that brings considerable opportunities to streamline reporting systems and make much more effective use of the data that is available. Against this background it is clear that there is scope for simplification both of Community legislation and international environmental policies and legislation, in order to avoid duplication of efforts, overlapping and redundancies. Action taken at Community level to streamline and modernise reporting to the Commission and EU bodies for environment policy purposes would also help to stimulate and facilitate Member State efforts to streamline monitoring and reporting and reduce their own administrative burden.

Aside from the need for regulatory simplification, it is also essential to ensure that the right information is available where it is needed and in good time. The effects of policies are often the result of complex interactions developing over long periods of time and their assessment requires the mobilisation of best available knowledge. Making progress on sustainable development requires a joint effort of all societal actors, which can only be achieved if all stakeholders are properly informed. This includes governance and public participation for which adequate information platforms need to be available.

It must also be possible to link and combine information in a meaningful way, so that interactions can be properly assessed and compared in order to consider all the relevant causal processes and impacts. Given the great diversity of both uses and users of environmentally-relevant information, it is equally essential to ensure that such information meets general

criteria relating to content, relevance, scale, timeliness, consistency, accessibility, interoperability and transparency.

2.2. Specific problems

2.2.1. The need to further simplify reporting and monitoring obligations and reduce the administrative burden associated with them

Reporting and monitoring requirements form a substantial and necessary part of existing Community environmental legislation. Much of the information currently used for developing and implementing policy, both at European and at national level, is based on these requirements.

The purpose of these requirements has evolved over the past decades. The first pieces of environmental legislation were to a large extent developed on an *ad hoc* basis to address specific needs that had been identified. Reporting and monitoring requirements were mainly geared towards checking compliance with the legislation. As environmental policy has matured, it has become increasingly relevant to take more integrated approaches to policy. This has necessitated more extensive reporting and monitoring requirements in order to ensure that it is possible not only to check compliance with legislation but more generally to assess the state of the environment and relevant trends.

In the context of wider concerns relating to administrative burden due to Community legislation, specific concerns have been raised as to whether the burden resulting from these more extensive reporting and monitoring requirements may be excessive. Also, since environmental policy priorities tend to change faster than legally-underpinned monitoring and reporting systems can adapt, the monitoring, reporting and assessment systems underpinned in specific existing legislative instruments are not always best adapted to meet new challenges.

It is important not to over-emphasise the burden associated with reporting. While precise data on the administrative burden related to the implementation of policies and their monitoring and reporting are patchy as far as its coverage of legislation and Member States is concerned, the data that does exists suggests that reporting costs are generally in the range of 5-8% of monitoring costs and well under 0.5% of total implementation costs of pieces of legislation. For example, reporting costs for specific air quality directives have been estimated as being generally well under €100.000 per year per Member State. Even monitoring costs, which are certainly far more significant than those associated with reporting, are generally less than 5% of the total implementation costs (source EEA National Focal Points).

The Impact Assessment prepared for the review of the IPPC directive (SEC(2007)…) includes an estimate for the overall cost for all Member States to report on compliance to the Commission and arrives at a total of €1 million per reporting cycle (including Commission analysis of Member State reports). This is less than 0.3% of the total administrative costs of implementing this directive and a much smaller proportion of the total compliance costs of this piece of legislation.

It is also important to realise that the costs associated with reporting and monitoring are not always the inevitable result of Community legislation. This is one of the conclusions, for

example, of a recent study commissioned by a number of public authorities in the Netherlands[1]. Among the findings of this study are the following:

- In many cases, monitoring is carried out in greater detail than is required by European or international legislation or agreements;

- In practice, only a limited number of reporting obligations have been duplicated. Where this is the case, such as for waste, duplication is being eliminated at a European level;

- For water, monitoring preparations carried out in accordance with the Water Framework Directive offer the possibility of greater optimisation and coordination of monitoring activities. With regard to nature, there exists strong demand for better coordination between the various groups requesting monitoring information (harmonisation definitions) and the monitoring programmes in progress (coordination of supply and demand).

- In various cases, information collated on the basis of European or international obligations is eagerly employed at national and/or provincial level. For instance, information supplied concerning waste in order to conform to European or international obligations is used at provincial level;

- Monitoring activities often provide information for multiple reports. This means the monitoring burden is less than might be assumed from the large number of reporting obligations.

- While few overlapping of reporting obligations have been identified, the various monitoring efforts have not been reconciled and are partially overlapping. Reconciliation would lead to greater efficiency.

Nevertheless, some potential for streamlining and simplifying does exist, particularly as reporting obligations. Measures to address this specific problem could also be expected to have a "leverage" effect on both the administrative burden and the availability of information for policy-making by removing a significant and persistent source of frustration within national administrations.

2.2.2. Shortcomings in relation to the timeliness, availability, reliability and relevance of information

Apart from the issue of cost and administrative burden per se, and the possibilities for reducing these costs, it is also important to consider the extent to which they are justified by the benefits that accrue. In this context, the same report mentioned above identifies the following problems that limit the usefulness of the information gathered and thus render the cost-benefit ratio of monitoring and reporting higher than it could be:

- The high quality of information is in some cases undermined by inadequate quality safeguards and as a result of a lack of harmonisation of data from different monitoring programmes, which prevents the mutual comparison of data.

[1] Towards Effective Monitoring – Netherlands Steering Committee on the Environment, Nature Water (2006)

- European regulations often establish obligations only in general terms and frequently fail to impose demands on implementation. In most cases, this gives member states room to apply their own interpretation to the monitoring efforts to be supplied, allowing for completion to varying degrees of detail.

- In various cases, there are other users of the information than just the client. It is both possible and worthwhile to make data better accessible so that greater use is made of available information.

- The European Union's strongly thematic approach limits direct relationships between different types of directive and the associated obligations. In this way, it is mostly not possible to unequivocally link together the monitoring and reporting of environmental sources.

- Strengthening of the cooperation between authorities is needed in order to improve content-related coordination between the different monitoring programmes and to safeguard monitoring and reporting quality. This concerns both cooperation between and within various administrative bodies (at state and provincial level), and a demand for greater control in order to improve monitoring efficiency.

Considerable amounts of data and information are currently collected, not only as a result of Community environmental legislation but also in the context of voluntary reporting flows, information collected for international environment conventions, statistical information collected by the national and European statistical offices and the ESTAT and the data collections of research projects. However, this wealth of information and data cannot always be efficiently used to inform decisions and actions. Much of the information and data are not available when it is needed. This handicaps the ability of public policy makers either to respond quickly and wisely to crisis situations or to design and implement long-term and sustainable policies.

As highlighted by reports and studies so far[2] the reasons for this problem of availability of the collected data and information are due to a range of underlying drivers of a legal, financial, technical and procedural nature:

– ***Lack of interoperability and thus 'connectability' and sharing potential between the data and information systems:*** many of the collections of data, information and documents, reports etc are sitting in isolated databases and systems, whose existence is not widely known and cannot talk to each other (i.e. are not interoperable). This is often due to the fact that they are mostly custom-built based on protected company standards, designed in isolation without provisions for interoperability with an integrated framework and platform. It is clear that this situation entails a considerable waste of resources to "re-invent the wheel" as available data, information and functional elements and tools are not shared and accessible to others.

– ***electronic-Reporting not yet a reality:*** Although there are currently several EU and Member State activities to modernise reporting towards electronic-Reporting systems

[2] For example BICEPS Report – Building a European information capacity for environment and security (European Commission 2004), Towards Effective Monitoring – Netherlands Steering Committee on the Environment, Nature Water (2006), Strategic Analysis of UK Monitoring Activity for ERFF – ADAS2006)

seeking to benefit from the capabilities offered by the modern information technology (see below 2.3.1.1), much monitoring and reporting data is still not reported electronically, while built-in delays in the reporting systems often result in a paper-trail of data that are several years old and obsolete when published or submitted in reports. This decreases enormously the possibility to use efficiently this data for policy decision making and formulation.

– ***Lack of comparability and quality of data:*** This is a particularly serious problem for both Member States and EU Institutions and bodies, since it limits the usability of the data, prohibits efficient assessment of data and their efficient conversion to information tailored to the users needs, increases considerably the time and the labour needed for quality assurance as well as re-engineering of data and information in order to render them comparable. The cause of these shortcomings have been identified as resulting from diverging definitions and data collection practices and methodologies, a lack of common standards, insufficient inter-operability between monitoring systems and lack of co-ordination of monitoring programmes between levels of government and across borders.

– ***Data access and sharing restrictions:*** The existence of policies and businesses models prohibiting wider accessibility and sharing of environmental related data and information owned by public authorities (but also by research institutions and consortia) and their impact for policy makers, citizens and businesses has been recognised in many fora, reports and media (e.g. GMES, GEO, INSPIRE, Aarhus convention).

Other reports and studies have demonstrated that existing observational infrastructures are incomplete, lack interoperability and are even in decline because of lack of maintenance. In addition, when crossing legal and administrative boundaries, observational infrastructures are often deployed and operated in substantially different ways. This situation often leads to considerable difficulties when the cross-boundary effects of environmental pressures need to be addressed, and the safeguarding of observational data as a prerequisite for the assessment of trends and changes on which policies re-act is not guaranteed.

DPSIR (Driving forces, Pressures, State of the environment, Impacts and Responses) -related data is also collected on a project-by-project basis within the large number of research and development projects financed by the RTD Community Framework Programmes and national research programmes. This data however is often not maintained in accessible archives after the project ending and the observational infrastructures put in place for the projects not maintained.

2.2.3. Missed opportunities in relation to modernisation of the public sector and provision of e-Government services in the field of environment

In order to meet the EU policy objectives[3], the IDABC Programme (Interoperable Delivery of European e-Government Services to public Administrations, Business and Citizens) has

[3] The economic, societal and environmental benefits of common infrastructure for cross-border information exchanges between public administrations and, development and establishment of operational pan-European e-Government services for business and citizens are well understood and described in many recent policy papers. Since the adoption of the so-called Lisbon targets by the European Council in March 2000, improving Europe's economic performance has been at the top of the agenda of efforts to promote eGovernment2. Various recent policy papers have reinforced the importance of adoption of information technologies in the public sector. Alongside the economic

shifted its priorities not only to 'equip' organisations of the public sector with information and communication technologies (focus of the Programme at its start in 1995) but also to promote building such common infrastructures and pan-European e-Government services.

Review of the 4th Revision of IDABC programme for 2007 shows that while the uptake of programmes for 'linking up Europe' is progressing in the economic and social sector, the environmental sector is lagging behind: only 1 project (LISFLOOD) out of the 19 thematic projects funded by IDABC is in the environment field. The picture for provision of environmental national e-Government services varies from Member State to Member State but reflects the same pattern as the IDABC Programme: environmental e-Government services are lagging behind the economic and social ones.

The relatively slow modernisation of environmental public authorities and the development of e-Government services (national and (pan)-European) in the environmental field clearly undermines the ability of public policy makers either to respond quickly and wisely to crisis situations or to design and implement long-term and sustainable policies and the interaction with civil society at large.

2.2.4. Shortcomings in the capacity to quickly turn data to policy relevant information and implement integrated approaches to environmental policy efficiently

Policy decision makers do not require "data" itself so much as relevant, reliable and timely information. This is particularly important since environmental policy in Europe has matured over time to address more integrated cross-thematic and cross-sectoral approaches taking into account economic and social realms. Indeed, today's top environmental challenges such as water scarcity and more particularly adaptation to climate change and the need to preserve ecosystems and biodiversity depend crucially on cross-cutting integrated assessments and approaches.

As a result frameworks aiming to classify the different types of information required, such as "DPSIR" (Driving forces, Pressures, State of the environment, Impacts and Responses) have been developed. Indicators also play a crucial role in helping to channel data so that highly complex issues can be understood and measured. These frameworks are the touchstone of policy on sustainable development and an important driver to improve coherence across all the policy sectors that impact on environment. The DPSIR framework has now been widely adopted from regional to global levels (including UNEP and the EU's Strategic Environmental Assessment directive) as a means to rationalise and integrate policy action more efficiently and to ensure that the data and information needed to support it are balanced and complete.

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objectives stand a number of other values that eGovernment must contribute towards. Thus, in the Commission's strategic objectives for 2005-20097, prosperity stands alongside solidarity and security, and it is noted that "actions that promote competitiveness, growth and jobs, as well as economic and social cohesion and a healthy environment reinforce each other." Facing the Challenge - The Lisbon strategy for growth and employment, Report from the High Level Group chaired by Wim Kok, November 2004, http://europa.eu.int/growthandjobs/pdf/2004-1866-EN-complet.pdf
European competitiveness report 2004, Commission staff working document, SEC(2004)1397
i2010 – A European Information Society for growth, and employment, Commission Communication of 1.6.2005 (COM(2005) 229), http://europa.eu.int/information_society/eeurope/i2010/docs/com_229_i2010_310505_fv_en.pdf
Europe 2010: A Partnership for European Renewal Prosperity, Solidarity and Security, Communication from the President, 26.1.2005 (COM(2005) 12), http://europa.eu.int/eur-lex/lex/LexUriServ/site/en/com/2005/com2005_0012en01.pdf

However, the ability of public authorities (whether at regional, national or European level) to use these frameworks efficiently is limited. To some extent this is due to the shortcomings in relation to data availability, sharing, comparability and quality obstacles that are addressed in section 2.2.2, but it also the result of fragmentation of environmental policy regimes, a lack of consistent and coherent methodologies at both national and European level to perform integrated DPSIR assessments, and lack of information and e-government services to deploy such integrated methodologies efficiently. As the EEA pointed out in the 2005 report the European Environment most environment data is collected for thematic purposes related to compliance with legislation, which differ from that of producing integrated assessments. Similar finding emerge from a recent analysis of UK monitoring[4].

In particular, most of the elements of the environmental acquis and international conventions remain rather implicit with regard to defining the actual collection of observational data related to the Drivers, Pressures and State of Environment components of the DPSIR framework. Also, only in rare cases do they address the need for systematic archiving. Positive developments exist or are under way in a number of sectors. For example, the long-term archiving of climate-related data is recognized as an international priority in the endeavour to mitigate and adapt to climate change impacts, and the meteorological community has a long standing approach to cross-border inter-operability and harmonisation of their observational capacities. The European Environment Agency and the Joint Research Centre are undertaking considerable efforts to enhance and expand their environmental data centre capacities. However, many of these efforts are under pressure due to the lack of formal political commitments and funding.

2.3. How do we expect these problems to evolve in the future?

Several initiatives are underway at European and national level that will go some way in addressing the above problems. This section provides a brief description of the most relevant activities at European level and a selection of national initiatives, together with an assessment of what they can be expected to deliver without further political or legislative action at European level. At the global level, of most relevant is the global intergovernmental Group on Earth Observation, to which the EU Member States, the Commission and various other institutions have made a political commitment. In its 10-year plan for implementing a Global Earth Observation System of Systems (GEOSS), this Group has identified the sharing of information and data as the foundation on which information services will be built.

2.3.1. Initiatives at European level

2.3.1.1. Ongoing Efforts to streamline and update reporting requirements in thematic environmental legislation and develop e-Reporting systems

The need to streamline reporting requirements has long been recognised. Efforts to do so started with the 1991 "standardised reporting directive" (91/692/EC). Directive 91/692/EC grouped the various directives that included reporting requirements into three categories—air, water and waste—and established a harmonised procedure involving three-year reporting

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4 '*Current marine monitoring programmes, which are designed to demonstrate compliance with the requirements of current national and international regulations, are sector-based. As this report has shown, they do not provide sufficient evidence to provide a robust assessment of the overall state of the marine ecosystem*." *'A Strategic Analysis of UK Environmental Monitoring'* [Ref: **UKMMAS Paper – Revised 12th March 2007**, Marine Assessment Policy Committee**]**

cycles based on questionnaires adopted by the Commission with the assistance of a regulatory committee.

While the Directive was successful in achieving a certain level of streamlining and harmonisation, the Commission report on the First Application of Standardised Reports from member States for the period 1993-1995 showed that only 45% of the required data and information was reported, and often with significant delays. The report highlighted considerable problems with regard to the quality and comparability of the reported data and a lack of coherence between monitoring (sampling and measurements) methods and a lack to respect imposed standards.

Since then, several directives have imposed new reporting obligations that do not always fit into the scheme foreseen. Sometimes (as in the case of Directive 96/61/EC on integrated pollution prevention and control, IPPC) reference is made to the procedure, but the nature of the Directive does not allow the reporting to be fit into one of the categories foreseen in Directive 91/692/EC. Overall this directive only covers around a third of EU environmental directives and therefore in many pieces of legislation no reference is made to Directive 91/692/EC at all.

This situation can be explained partly by the fact that, as monitoring technologies (automatisation, remote sensing etc), information and communication technologies (ICT) and geographic information systems (GIS) have evolved, the approach of Directive 91/692/EC has become to some extent obsolete. There are now enormous possibilities for virtually connecting monitoring stations for real-time on-line availability of data and information, for the development of e-Reporting systems or for sounder and more efficient presentation and analysis of the data and information plotted on maps (GIS). In its current form, directive 91/692/EC does not take advantage of these new possibilities.

Also related to this are the differences in reporting intervals between different pieces of legislation. For example, in the areas of air quality and climate change reporting is annual rather than three yearly, as is appropriate in order to ensure timeliness of data, while in the area of waste the different directives have different 3-yearly reporting intervals.

To address this situation, the Commission has proposed or is working on a number of measures that achieve substantial streamlining of these requirements– e.g. air quality (the CAFÉ Directive), water quality standards or Commission proposals being prepared such as IPPC (which is also looking *inter alia* at the coherence of its provisions (including reporting requirements) with those of directives on large combustion plants and waste incineration and VOC solvents) due by the end of 2007 and the Greenhouse Gas Monitoring mechanism due in 2009. The streamlining option for reporting to be proposed under the IPPC review could reduce these reporting costs by half (SEC(2007)..).

In some cases such as chemicals new legislation (REACH) replaces the old reporting provisions. At the same time efforts to remove duplication with international conventions is also being addressed, for example in the areas of biosafety and trade in endangered species.

Beyond the streamlining of reporting requirements as such, ongoing developments in the context of thematic environmental legislation are also increasingly recognising the need to adopt a more modern approach to the production, collection, exchange, sharing and use of data and information via e-Reporting systems.

A particularly good example is the Water Information System for Europe (WISE), on which the Environmental Data Centre for water, hosted by EEA, is based. WISE was officially launched in March 2007 and is being developed jointly by the DGs Environment, ESTAT and JRC together with the EEA – the Group of 4 mentioned in section 1.

WISE has been designed from the outset as a distributed and shared information system consistent with the principles established by INSPIRE, and which would also need to underpin a Shared Environmental Information System. Initially designed as a reporting tool in the context of the Water Framework Directive, it is now extending to integrate reporting data flows from a number of existing and upcoming water-related directives as well as water relevant statistical data by 2010.

It was officially launched in March 2007 (http://water.europa.eu) . Its remit and the one of the Water Framework Directive for streamlining and rationalising monitoring and reporting activities have been has been recognised and appraised by Member States[5]:

'For water, monitoring preparations carried out in accordance with the Water Framework Directive offer the possibility of greater optimisation and coordination of monitoring activities'.

'.....The Water Framework Directive, for which monitoring programmes per river basin have to be constructed jointly by all the parties concerned, is a perfect example of this.'

Another example is the Ozone web. This service was launched in July 2006 and offers users the opportunity to monitor and track ground level ozone on a pan European scale. Data from around 700 measurement stations is provided in near real time. The site gives data providers, air quality experts, as well as EU-citizens the opportunity to have an overview of the situation at European level as well as follow the development of air quality in a specific region and inform users about local air quality information sites by linking to national and regional ozone websites. (see section 5.1 below).

http://www.eea.europa.eu/maps/ozone/map/

Other examples of successful activities include the on-going consolidation of all data services linked to the current legal reporting obligations on air pollutant emissions and air quality data under the umbrella of the European Air Data Centre, and the consolidation of CORINE Land Cover and Image 2000 under the umbrella of the Land Use Data centre. E-Reporting systems are also being developing for the areas of Industrial Emissions, Greenhouse gases and Biodiversity.

The above initiatives demonstrate the Commission's commitment, with the help of the EEA, to modernise the current reporting system, so as to reduce administrative burden for the Member States while at the same time improving the knowledge base for environmental policy. It is nevertheless recognised that overall they do not yet constitute the coherent reporting system that is necessary to respond fully to commitments relating to better regulation and simplification and to the problems set out in section 2.2.

In particular, some of the streamlined or new reporting systems that are being developed are voluntary such as WISE, and/or exist alongside legal reporting requirements that may be

[5] Minutes of EEA NFP meeting November 2006, Towards Effective Monitoring (Netherlands 2006)

outdated. This is particularly the case in the water sector where the reporting provisions covered by Directive 91/692 are obsolete. Streamlining of outdated legal obligations therefore remains a priority. At the same time, experience to date suggests that voluntary reporting systems are only partly effective in ensuring consistent and sustained provision of policy-relevant information over the long term. Options therefore need to be considered that would put such voluntary systems on a firmer legal footing.

A catalogue of environmental reporting can be found in the EEA Reporting Obligations Database http://rod.eionet.europa.eu/index.html.

The table at the beginning of Annexe 1 summarises the reporting streamlining efforts underway in the environment field and thematic information systems that are being developed based on the principles of the Shared Environmental Information System. The second part of Annexe 1 includes the details of these actions.

2.3.1.2. Development of a distributed system for on-line access and sharing of spatial data: The INSPIRE Directive (2007/2/EC).

The INSPIRE directive was adopted in April 2007 with the specific aim of improving the availability and interoperability of spatial (i.e. geographically referenced) data. INSPIRE covers data from 34 separate data themes covering various aspects of the "DPSIR" framework referred to in section 2.2.4. Specifically, the provisions of the INSPIRE directive aim to:

- ensure 'that the infrastructures for spatial information created by Member states are compatible and usable in a Community and trans-boundary context' and

- improve the on-line accessibility and sharing of spatial data between public authorities across municipal, regional, and national borders within EU as well as between MS and EU Institutions and bodies via the INSPIRE portal and its services (location of data, viewing and download foreseen) in the Directive.

One of the challenges in the design and implementation of the spatial data infrastructure provided for by INSPIRE concerns intellectual property rights and the business models of key data providers (such as mapping agencies).

If implemented successfully, INSPIRE will certainly help to overcome existing inefficiencies relating to the interoperability, share, use and usability of spatial data owned by public authorities.

However, while the precise wording of the directive reflects the need to balance transparency and availability with the financial viability and interests of public data providers, further and complementary measures are likely to be necessary in order to ensure that INSPIRE is fully successful in providing the much-needed improved the availability of data. INSPIRE will also not directly address data of a non-spatial or non-numerical nature, and will not by itself guarantee organisational consolidation within Member States or lead to an improvement in the quality and comparability of data. Nor will it address issues such as the need for further streamlining of reporting and monitoring, timeliness, reliability and relevance of data, provision of e-reporting services in relation to reporting obligations, or the services required for the implementation of integrated analyses.

2.3.1.3. Improving access to and sharing of environmental information: the Aarhus Directive, thematic data policies

Directive 2003/4/EC on public access to environmental information (the Aarhus directive) gives citizens a right to environmental information owned, held or produced by public authorities, including information on the state of the environment, but also on policies or measures taken, or on the state of human health and safety where this can be affected by the state of the environment. Applicants are entitled to obtain this information within one month of the request and without having to say why they require it. In addition, public authorities are obliged to actively disseminate environmental information in their possession.

A proposal for a Regulation to update the European Statistical System is currently under preparation and should propose provisions aiming at making statistical data at various aggregated levels more accessible to scientific communities and establish the relevant modalities.

2.3.1.4. Environmental Information Services for better policy making: The Global Monitoring for Environment and Security initiative (GMES)

GMES aims to provide, on an operational basis, information services for environment and security based on Earth monitoring data obtained from satellites and *in-situ* observations on water, air and land. These information services are intended to address first and foremost the needs for policy makers, as well as the European citizen and other stakeholders. The development of the GMES services aims to be as far as possible a user-driven process, with the Commission identifying and federating the relevant users' demands. Actions are based on an action plan entitled “Global Monitoring for Environment and Security (GMES): Establishing a GMES capacity by 2008 - (Action Plan (2004-2008))” (COM (2004) 65 final). GMES is the European contribution to the system of earth observations systems (GEOSS).

The architecture of GMES consists of an observation infrastructure collecting and integrating spatial and *in-situ* data from various sources and a "two-level" service component: the first level being the "core services" for producing multi-purpose or cross-sectoral information, mostly in support to European policies, and the second level being "downstream services" for producing more specific information mostly at national, regional or local level.

GMES is initially focusing on the development of three "fast track services"—land, marine and emergency response—with preparations for implementing a fourth service on atmosphere having started recently. These fast-track services offer a good opportunity to consolidate and improve existing monitoring systems in Europe by helping to identify and address gaps in currently available data and information products as required by the GMES services to fulfil their purpose of adequately addressing user needs and contribute to meeting policy demands. A good example of this is the focus on obtaining higher resolution land cover data for urban areas and forests from existing satellite observations.

The process of developing GMES services will thus help to clarify where further efforts of data collection might be needed, and where existing monitoring may be less effective and could therefore be reduced or streamlined. In this way, GMES has the potential to improve the use of existing data, contribute to the conversion of data into policy relevant information and enable the interoperability of relevant data through an adequate data policy. This will of course require appropriate decisions concerning governance, business models and intellectual property rights to be implemented for the information services. Similarly, and in order to

guarantee operational services, GMES will have to address the sustainability of relevant data collection infrastructures which at present are commonly based on transient research funding. It should also be emphasised that GMES services do not address the functions, tasks or systems related to the fulfilment of the reporting obligations under Community legislation.

2.3.1.5. Commission's Administrative Burden exercise

The Action Programme for Reducing Administrative Burdens[6] (as endorsed by the 2007 Spring Council) covers the full range of administrative requirements faced by industry, and seeks to reduce them. As part of the programme, the following pieces of legislation will be put through a measurement exercise and burdens will then be reduced. The target overall is a reduction in administrative burdens (as opposed to administrative costs) of 25%.

'Administrative costs are defined as the costs incurred by enterprises, the voluntary sector, public authorities and citizens in **meeting legal obligations to provide information** on their action or production, either to public authorities or to private parties. Information is to be construed in a broad sense, i.e. including costs of labelling, reporting, monitoring and assessment needed to provide the information and registration obligation)'. This includes:

(1) Notification of (specific) activities (e.g. for transportation of dangerous cargoes)

(2) Submission of (recurring) reports

(3) Information labelling for third parties (e.g. energy labelling of domestic appliances)

(4) Non labelling information for third parties (e.g. financial prospectus)

(5) Application for individual authorisation or exemption (i.e. authorisation required each time a particular task has to be carried out; e.g. building permits)

(6) Application for general authorisation or exemption (e.g. licence granting permission to engage in an activity such as banking or liquor selling)

(7) Registration (e.g. entry in a business register or a professional list)

(8) Certification of products or processes

(9) Inspection (e.g. monitoring the conditions for employees)

(10) Cooperation with audits

(11) Application for subsidy or grant

The initiative includes five pieces of environmental legislation:

(1) Regulation (EC) No 1013/2006 of the European Parliament and of the Council of 14 June 2006 on shipments of waste

(2) Council Directive 96/61/EC of 24 September 1996 concerning integrated pollution prevention and control

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[6] Commission's Communication COM(2007) 23 final of 24 January 2007 http://eur-lex.europa.eu/LexUriServ/site/en/com/2007/com2007_0023en01.pdf

(3) Waste Electrical and Electronic Equipment (WEEE) Directive 2002/96/EC

(4) Directive 2000/53/EC of the European Parliament and of the Council of 18 September 2000 on end-of life vehicles

(5) Directive 2003/105/EC of the European Parliament and of the Council of 16 December 2003 amending Council Directive 96/82/EC on the control of major-accident hazards involving dangerous substances

The aim of the exercise is not to reduce the quality of information i.e. it is only about getting rid of redundant or duplicated information. It will address monitoring and reporting and therefore help contribute to the streamlining efforts.

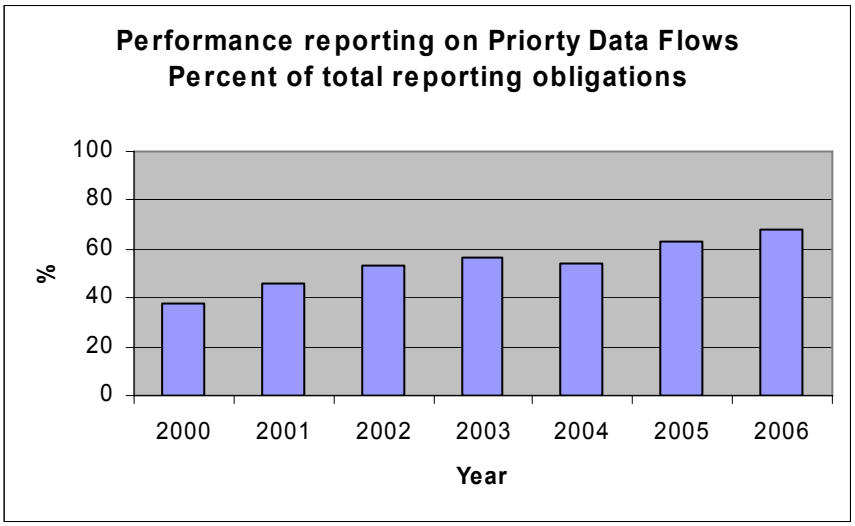
2.3.1.6. Provision of data and information: the European environment information and observation network (EIONET)

The European Environment Agency plays a crucial role in collecting and providing environmental information, with the help of its European environment information and observation network (EIONET). EIONET is a network of some 900 experts from over 300 national environment agencies and other bodies dealing with environmental information in 37 European countries, as well as five European Topic Centres (ETCs) working on specific environmental themes.

Reportnet is Eionet's infrastructure for supporting and improving data and information flows and has helped modernise the collection of information and reporting systems. The system integrates different web services and allows for distributed responsibilities.

Reportnet has initially been mainly used for reporting environmental data to EEA, but is now also hosting some of the Commission's environmental reporting information.

The open system also allows for deliveries to be made to other national and international organisations. As part of the "Reportnet", the EEA has created since 1998 a Reporting Obligations Database (ROD) and a Central Data Repository (CDR).



Based on input from the EIONET partners the EEA has identified a set of priority annual data flows. These data in the areas of air quality, air emissions, inland waters, marine and coastal

waters, contaminated soil, nature conservation and land cover, are used to update the core set of environmental indicators, which form the basis of EEA reports and assessments. In part they cover reporting required by EU environment legislation and international organisations: Ozone exceedences, National Emission Ceilings, Greenhouse Gas inventories – EU and Air Emission annual data reporting for the Convention on Long Range Air Pollution. The other data are requested by the EEA for the core indicators. Since 2000 a yearly progress report is produced by the EEA on country performance in delivering these data (EIONET Priority Data Flows Report). This exercise benchmarks country performances in order to encourage all countries to improve their performance. The graph above shows the improvement in reporting for this exercise since 2000 – the date reported has risen from 38% of the total requested to 68% for all the countries together.

However to date the information is often uploaded in the form of reports in word processing or spreadsheet format and not structured in connected databases. This makes it difficult to efficiently retrieve, integrate and analyse the information in order to efficiently inform policy and decision making. Reportnet will therefore need further development for it to be able to serve as an fully effective tool for a coherent simplified reporting system and provide timely availability of data, information and documents, and this will require agreement on its use by all Member States.

2.3.2. Some examples of national initiatives

In addition to these European initiatives, there are a large number of initiatives at national, regional and local level which are also helping to address some of the problems described in section 2.2 and to turn the SEIS concept into reality. Among these can be mentioned a few examples to illustrate the type of activities ongoing to develop modern environmental information, monitoring and reporting systems

2.3.2.1. National Information and e-Reporting Systems

Germany has developed an Environmental Information Portal – PortalU to support its environmental information network. This is a joint internet portal covering several hundred thousand web sites and data bases from public institutions operating at the Federal and Länder levels. The concept is based on the EU Access to Information directive and INSPIRE. It provides public access to government owned environmental data and information. The information can be obtained through a central search of browsing catalogues. Search results appear in a harmonised format leading to web pages, metadata catalogues, data bases and spatial data. An example of information that can be obtained is real-time ozone concentrations in the air. The information coverage is constantly expanding. The aim is for the portal to cover all public bodies dealing with environment. This includes some private bodies that are undertaking public environmental tasks (activities).

The Netherlands has launched in September 2007 the RIVM Portal for environmental professionals[7].

In Italy, since 1998 the Environmental Information and Monitoring System (EIMS)[8] is being developed by APAT (The Agency for Environmental Protection and Technical Services of

[7] RIVM Portal: http://www.rivm.nl/milieuportaal/contact/over-dit-portaal.jsp

[8] http://nfp-it.eionet.eu.int/NFP-IT/sinainfo.html; http://www.apat.gov.it/site/en-GB/Environmental_Services/Environmental_Services/default.html

Italy) and the Environmental Agencies Systems (involving the regions), with the following objectives: to improve the quality, relevance and timeliness of environmental data; to disseminate relevant data and information for supporting decision making processes; and to bridge the gap between scientific data and policy level. A particular focus is the integration of data from monitoring and inspections with other state of the environment information and the integration of environmental information from different territorial levels within Italy and also at the EU level.

Some examples of e-Reporting tools are:

- the Irish North South Share Risk Assessment Reporting Tool[9], has developed an interactive map and database system for use by the public and specialist users alike. The Reporting Tool provides point-and-click access from River Basin District maps to risk assessment data and results prepared under Article 5 of the EU Water Framework Directive.

- e-Reporting project[10] of the Statistical Office of the Republic of Slovenia, whose software testing is expected to take place in 2007.

2.3.2.2. Assessment of Monitoring

Various governmental bodies in the Netherlands jointly commissioned a review concerning monitoring and reporting obligations and efforts relative to the environment, nature and water in the Netherlands in terms of international, European, national and interprovincial regulation. This review (summarised in 2.2.1) considered to what degree monitoring is carried out excessively or insufficiently relative to the relevant legislation. In conclusion, it considered the actions required to arrive at a more efficient and effective method of data collection. One of the conclusions of this study was that, while European legislation often leaves room for individual interpretation, the high quality of information is in some cases undermined by inadequate quality safeguards and a lack of harmonisation of data from different monitoring programmes, which prevents the mutual comparison of data. The review also concluded that it is both possible and worthwhile to make the data more accessible so that greater use is made of available information. Only a limited number of reporting obligations were found to be duplicated. The review makes a number of recommendations for strengthening the cooperation between authorities in order to improve content-related coordination between the different monitoring programmes and to safeguard monitoring and reporting quality.

A second example is the UK Marine Monitoring and Assessment Strategy, adopted by the UK Marine Assessment Policy Committee in May 2006. This strategy aims to shape the UK's capability to provide and respond to the evidence required for sustainable development within a clean, healthy, safe, productive and biologically diverse marine ecosystem. It sets out a new structure to rationalise and simplify existing structures to meet new and emerging requirements, through the formation of a policy group and technical committee, monitoring clusters to ensure greater integration of evidence collection and to provide regular assessments demonstrating progress towards the vision of clean, safe, healthy, biologically diverse and productive seas, greater facilitation and sharing of knowledge and data,

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9 The North South Shared Aquatic Resource (NS Share) Project http://www.wfdireland.ie/; http://193.178.1.149/reportingtool/

10 http://www.stat.si/eng/e-report.asp, whose software testing is expected to take place in 2007

development of a manual to document best available science standards for collection analysis, storage and sharing of data and information, and partnership across government and devolved administrations and agencies to make best use of available expertise and resources. The strategy is based on the assumption that monitoring and assessment will be driven by operational requirements, objectives and appropriate indicators and be undertaken on a risk basis.

2.3.2.3. Streamlining and Modernising Reporting Systems

As part of the 'BEST' project the Commission has supported the preparation of a report on 'Streamlining and simplification of environment related regulatory requirements for companies (May 2006)'. It analysed both national and, where relevant regional, initiatives to streamline and simplify environment-related regulatory requirements and to improve their cost-effectiveness, their proportionality and coherence. The study identified several examples in Member States of the use of IT tools for delivery of information and to ease data processing. The reporting good practices identified include – Belgium - integrated reporting system in Flanders that benefits SME; Spain – Hercules hazardous waste management system that has replaced paper; Austria- EUDIN IT system for waste shipment notifications that also involves – Belgium, Netherlands and Germany.

The report argues that such IT systems should be built up gradually involving all levels of administration and stakeholders. The systems would require start up funding and routine additions to take account of technological changes. The overall main recommendation therefore is that investment in IT should be a priority to accompany reporting streamlining and Member States should move away from paper reporting wherever practicable. Furthermore reporting of emissions using web based tools could be adopted widely across Member States.

Another conclusion is that the Commission and Member States should examine the scope for harmonising monitoring and reporting requirements across different regulations focussing on what the monitoring is trying to deliver. In particular efforts should be made to avoid businesses having to give the same information more than once.

2.3.3. Conclusion

The initiatives and processes described above reflect the clear commitment of several players to update and modernise the way in which we collect, exchange and use data for the purpose of building an effective knowledge base for environmental policy. So far, however, these initiatives are not optimally co-ordinated and appear rather ad-hoc, fragmented, isolated, and not always following an overall coherent approach. They do not currently add up to something that can be described as an "integrated, common and shared system". This creates a risk of overlap, inconsistencies (both in substance and timing) and reduces the scope for synergies and economies of scale, while also funding priorities might suffer from isolation and lack of political commitment. In the event that no further political or legislative action at European level was taken, under the no change option, the revision and streamlining of compliance and statutory monitoring and reporting obligations would be left to the initiatives of the various thematic environmental policy sectors. The modernisation of reporting streams would continue to take place on an ad-hoc basis. The European Environment Agency, as the major recipient of statutory reported information, would continue to improve its Reportnet system, the use of which would remain voluntary.

Attention would be paid to ensure efficient and timely implementation of the INSPIRE directive together with *ad hoc*, INSPIRE-coherent data and sharing agreements under the emerging regulatory elements of the 6th Environmental Action Plan. EEA and its EIONET partners would continue working on more efficient data and information sharing arrangements. Under the impulse of the INSPIRE Directive and driven by the recommendations formulated by international platforms and conventions, such as the UNFCCC and GEO, various data providers, such as the meteorological community, the space observation community and others, would continue to develop ICT solutions while proposing more efficient data sharing arrangements.

Thematic environmental legislation at international, Community and national would continue to be the main driving forces behind the systematic operational collection of observational data directly related to the environment. The systematic collection of social and economic data required for integration in a DPSIR framework would, however, continue to be mostly driven by information requirements not related to the environment. The same applies to other vital DPSIR data such as for example meteorological observations and geographic/geological data. Similarly, the capacity to address the need for systematic archiving would continue to depend on ad-hoc processes which currently lack the funding or political commitment to guarantee sustainability and efficiency of the necessary observational infrastructures.

In conclusion: A major challenge in Europe and globally is to organise the vast array of already collected environmental data and information, to integrate these, where desirable, with existing data and information from the social and economic realms, to make them available together with tools that allow experts to do their own analyses, and to communicate them in ways which the public policy makers and the public can readily understand and use as a basis for their own actions. At the same time, MSs and EU institutions need an efficient and modern 'reporting system' to fulfil their legal obligations related to Community and international environmental policies and legislation, avoiding duplication of efforts, overlapping and redundancies.

2.4. Does the EU have the right to act?

The Community's right to act is based in the first place on Article 174 of the Treaty, which sets out the objectives of the Community's policy on the environment. In particular, Article 174(3) provides that when preparing its policy on the environment, the Community must take account of available scientific and technical data, environmental conditions in the various regions of the Community, the potential benefits and costs of action or lack of action, the economic and social development of the Community as a whole and the balanced development of its regions.

It is clear that this cannot be done unless measures are taken to ensure adequate provision of the relevant information. Regulation 1210/90 establishing the European Environment Agency is an example of Community legislation that has been adopted with this specific aim.

Public access to environmental information is governed by Directive 2003/4 (the Aarhus directive) giving citizens a right to environmental information owned, held or produced by public authorities. Furthermore, most Directives in the field of environment contain reporting and monitoring obligations designed to ensure adequate information provision. Finally, Directive 91/692/EEC standardizing and rationalizing reports on the implementation of certain Directives relating to the environment has the aim of harmonising the various reporting obligations to make them more consistent and more complete on a sectoral basis.

3. OBJECTIVES

3.1. General policy objectives

To resolve the issues described in the preceding chapter, the general policy objective is to establish a European Shared Environmental Information System that will provide the knowledge base required to design, implement and evaluate the environmental and other policies that are needed to achieve sustainable development and are underpinned by reliable, scientifically sound, up-to-date and generally 'fit-for-purpose', data and information covering all elements of the "DPSIR" framework mentioned in section 2.2.1. It will do this by:

– Improving the availability and quality of information needed to design and implement Community environment policy;

– reducing administrative burden on Member States and EU institutions & modernise reporting;

– fostering the development of information services and applications that all stakeholders can use and profit from.

3.2. Specific objectives

In order to reach the general policy objective several specific operational objectives will have to be pursued:

(1) to secure a clear political agreement around a set of principles on which the Shared Environmental Information System is to be based. Such a political agreement is the primary purpose of the Communication that this Impact Assessment accompanies, and will be sought through the usual channels (Council conclusions, Parliament resolution), in 2008;

(2) continue rationalising the 'knowledge base' through the assessment and streamlining of existing reporting requirements within environmental legislation while implementing information and communication technology solutions for electronic reporting. In particular, 2012 is considered as a realistic date for the replacement of reporting mechanisms with obligations to make the required data and available in accordance with the principles outlined in section 4.2;

(3) to establish and implement data and information sharing agreements in addition to an efficient information and communication technology (ICT) infrastructure to facilitate the discovery, assessment, access and sharing of DPSIR-related data and information. This is a necessary complement to the streamlining foreseen in objective 2, and progress towards achieving this objective will need to occur on a similar timescale;

(4) to reinforce and, where necessary, establish monitoring infrastructures and surveys for the collection and archiving of 'fit-for-purpose' DPSIR related data that are cost-effective and flexible but can be sustained over the long term. In the short term (i.e. during the coming one or two years) this will require further in-depth analysis of existing monitoring infrastructures to assess their efficiency and fitness for purpose;

In addition to the above specific objectives, it will also be necessary (in line with the third general objective above) to foster the development of information services that provide

relevant information on causal relationships and impacts for decision makers from local to global level and, to equip them with a capacity to base their actions on reliable "what-if" scenarios. However, no specific actions towards this objective are foreseen at this stage.

3.3. Consistency with Community policies

Lisbon Strategy and Better Regulation

The proposed SEIS Strategy is fully coherent with the objectives of the Lisbon Strategy on growth and employment: it will assist in the selection of cost-effective measures that optimise the economic, social, health and environmental impacts. Streamlining of reporting and monitoring obligations directly fits the Better Regulation agenda, and the increased availability of relevant information will enhance the quality of impact assessments relating to environmental and other policies.

Sustainable Development Strategy

In 2001, the European Council in Gothenburg adopted the Sustainable Development Strategy. The guiding principles and objectives of sustainable development – economic prosperity, social equity, environmental protection and international responsibilities – were reaffirmed by the European Council in June 2005 when they adopted guiding principles for sustainable development, and a renewed Sustainable Development Strategy was adopted in June 2006. Improvements in the knowledge base for relevant policies serving this overarching objective are clearly a prerequisite for the achievement of sustainable development.

Other Community Policies

The development of the SEIS will promote the EU agenda on Information and Communication Technologies by promoting a common and integrated infrastructure for environmental related data, information and documents sharing and pan-European e-Government services (see also § 2.2.3).

SEIS also aims to reflect and take on board needs on reporting and monitoring from emerging environmental policies but also policies in other sectors (e.g. maritime, fisheries, agriculture etc): It will thus offer an integrated framework that will help policies to a) better prioritise their new information needs while benefiting from what is already available in the SEIS b) prepare new information systems for interoperability with SEIS and c) connect virtually their structures with SEIS.

In the marine field the SEIS will benefit from the European Marine Observation and Data Network which aims to provide a common gateway for researchers and service providers of high quality marine data – geological, physical, chemical, biological – as well as of the human activity that has an impact on our seas and oceans. Therefore, the interoperability and hence ability to connect needs to be ensured.

SEIS will benefit also from the European Statistics System and structures at both the level of data availability and sharing and services provision e.g. seamlessly integration of information from various including indicators to perform integrated analysis in the context of a DPSIR framework. Likewise in the European Marine Observation and Data Network, the interoperability with and connection to SEIS and the European statistical structures needs to be ensured in order to both benefit for a wider availability and sharing of data and information and promote the development of intelligent data and information services.

4. POLICY OPTIONS

The Commission initiative being prepared is a Communication on SEIS presenting an overall strategic vision and approach for improving the 'knowledge base' for environmental policies. The policy options examined are strategic in nature and designed to better bind together existing and future specific initiatives to improve environmental information and reporting. The analysis, in line with the principle of proportionate analysis indicated in the Impact Assessment Guidelines, follows the suggested procedure for "Broad policy-defining documents"[11]. Some of the options set out below will be the subject of more detailed impact assessments at a later stage, accompanying specific legislative proposals. Many of these options can be combined, although some (e.g. option 2 *vs.* option 3) clearly have to be seen as alternatives.

4.1. Option 0: No Commission initiative

No specific further action at Community level to address the problems, other than a continuation of ongoing initiatives. Problems will evolve as described in section 2.3.

4.2. Option 1: a Communication setting out the concept and principles underlying a Shared Environmental Information System

Objective: to secure political agreement around a set of principles on which the Shared Environmental Information System is to be based (specific objective 1).

The problem analysis set out in section 2 demonstrates clearly the need for a political and conceptual framework that will help to guide existing processes in a common direction and foster new initiatives sharing the same goal. Option 1 is therefore the adoption of a Communication setting out such a framework.

In this context, the overall concept for the SEIS is to shift gradually from centralised reporting systems towards a more distributed but well-integrated "system of systems" based on access and interoperability. While the concept needs to leave a degree of flexibility in determining the technical details and scope of the system at this stage, it should be based on the similar principles to the INSPIRE directive as follows:

- information will be managed as close as possible to its source;
- information will be provided once, and shared with others for many purposes;
- information will be readily available to public authorities and enable them to easily fulfil their reporting obligations vis-à-vis Community environmental policies and legislation as well as multilateral environmental agreements to which the Community and its Member States are parties;
- information will be readily accessible to end-users, primarily public authorities at all levels from local to European, that need this information to enable them to assess in a timely fashion the state of the environment and the effectiveness of their policies, and to design new policy;

[11] SEC(2005) 791

- information will also be accessible to enable end-users, both public authorities and citizens, that need the information to make comparisons at the appropriate geographical scale (e.g. countries, cities, catchment areas) and to participate meaningfully in the development and implementation of environmental policy; and,

- information will be fully available to the general public, after due consideration of the appropriate level of aggregation, subject to appropriate confidentiality constraints, and at national level in the relevant national language(s).

These principles address various aspects of the problems described in section 2. Managing information as close to the source as possible and ensuring the "produce once, use many times" principle will help to address the need to modernise reporting and monitoring and reduce administrative burden, as well as shortcomings in timeliness, availability, reliability, relevance. The third principle relates most specifically to the modernisation of reporting, while the fourth and fifth address the need to improve Europe's capacity to turn data into information. The principle of public availability of and public access to data is the logical consequence of a commitment to open government. It could reduce the need for cumbersome reporting provisions and increase the usefulness of the data.

While some of these principles are increasingly enshrined in various pieces of legislation (e.g. INSPIRE, Aarhus), their wider application is not ensured and is currently patchy. In terms of the specific objectives, this option is designed primarily to meet specific objective 1 but could also help to ensure the required political momentum and holistic approach needed to address the other objectives in a cost-effective manner.

4.3. Option 2: Updating the Standardised Reporting Directive

Objective: to streamline reporting requirements and replace current reporting mechanisms with obligations to make the required information and data available in accordance with the principle set out in section 4.2 (specific objective 2). This option could also serve, at least indirectly, specific objective 3.

As noted in section 2.3.1.1, while the standardised reporting directive (91/692/EC) delivered a certain degree of streamlining the implementation record is relatively poor and its appropriateness in relation to current priorities and technological possibilities is questionable.

Under this option, this directive will be critically overhauled in the light of its shortcomings and the on-going evolutions in the directives under its scope. Such an update will allow new trends in environmental policy making to be reflected while ensuring a more coherent and aligned framework for reporting.

Since the standardised reporting directive (SRD) is a largely procedural directive, and many existing reporting requirements do not fall under its scope, much of the streamlining of the actual information requirements will have to be carried out in the context of the activities taking place within thematic areas, as outlined in section 2.3.1.1 and Annex I.

Revision of the SRD will nevertheless provide an opportunity to repeal a limited number of current obsolete reporting obligations. More fundamentally, current mechanisms for reporting information to the Commission and EEA will be replaced by obligations to make the data and information available in accordance with the principles outlined in section 4.2. This could be

achieved, for example, through turn-key systems linking distributed data centres could be introduced to support the flows of information and data.

Although the current standardised reporting directive (SRD) applies only to relatively small proportion of reporting obligations in environmental legislation, the envisaged provisions in the revised directive to modernise the way in which the information is made available could cover essentially all of the more than 100 existing environmental reporting obligations. Where reporting obligations are clearly obsolete, they can be repealed whether or not they are referred to in the existing directive.

Three different types of "leverage" effects can reasonably be anticipated.

(5) It will enable further streamlining in thematic areas by providing a coherent and up-to-date horizontal framework into which such streamlining efforts can fit.

(6) Bearing in mind that 70% of reporting obligations on Member States come from international obligations, modernisation and simplification at EU level could also be expected to trigger similar developments in the international conventions. The Community could also use its participation in such fora to push for such developments.

(7) Replacement paper reporting by obligations to designate competent authorities which will make the data/information available electronically can similarly be expected to trigger positive changes in the organisation of data collection and exchange within Member States.

4.4. Option 3: Expanding and/or harmonising the mandatory data collection and archiving under Community regulatory frameworks

Objective: to reinforce and, where necessary, establish monitoring infrastructures and surveys for the collection and archiving of 'fit-for-purpose' DPSIR related data that are cost-effective and flexible but can be sustained over the long term (specific objective 4).

At Community level, the mandatory collection of observational data, following agreed standards and methods, is already present in a number of elements of the environmental *acquis*. In a number of cases the observational data is part of a legal reporting obligation, in other cases, aggregated data or information in the form of indicators is reported. Data collection under the environmental *acquis* does not always cover all the types of data required in a DPSIR framework. The actual archiving of most of the observational data is left to the Member States, unless procedures are in place to archive them at Community level in the Commission services or at the European Environmental Agency.

Under this option, the current data collection and archiving approaches in the environmental *acquis* would be assessed in detail against the specific objective 4 and the overall aims of SEIS. Amendments to existing legislation would be proposed where appropriate and new regulatory proposals formulated to fill gaps identified in data or observational infrastructures.

4.5. Option 4: A new regulatory framework for SEIS covering compliance and former statutory reporting

Objective: full achievement of specific objectives 2, 3 and 4.

Beyond the adoption of a Communication and consideration of the other options presented above, a further possibility would be to adopt a new regulatory framework (Directive or Regulation) that would define detailed obligations for the achievement of the objectives set out in section 3. This would include provisions aiming to increase the quality and availability of the data required to develop and assess environmental policies in a DPSIR framework, together with further harmonisation in data collection and the regulated use of electronic reporting systems for all data relevant to the DPSIR framework, including both compliance and statutory data and information. A further aim of such a regulatory framework would be to fully streamline the various current approaches to data collection, monitoring and reporting in the environmental *acquis*.

5. ANALYSIS OF IMPACTS

5.1. Option 1: a Communication setting out the concept and principles underlying a Shared Environmental Information System

Rather than setting out specific measures at Community level at this stage, the primary purpose of this option, and the main rationale for issuing a Communication, is to secure an overall political commitment for the achievement of distributed but well-integrated Shared Environmental Information System (or "system of systems"), satisfying general principles relating to the management, sharing, availability, timeliness, relevance of data and information with the aim of informing both decision-makers and the general public. The cost and benefits of implementing such a system will obviously depend on the timescale over which it happens, and the precise measures that are taken to achieve it.

However, the potential benefits of such a system can be expected to be considerable. Since environmental data and information is of potential use to a great many players for many purposes, improving the mechanisms for collecting, exchanging and using the data can be expected to significantly increase the use that is made of such data, together with a significant reduction in cost for the users. There are also positive examples of such freely available data being successfully used on a commercial basis. Overall, use of data can be expected to extend from small thematic or geographic communities of policy makers to include policy makers in other themes or sectors, informed public and researchers. This will render monitoring investments made by Member States considerably more cost-effective.

Improvements in the access and interoperability of data systems will also reduce the need for reporting requirements, leading to a streamlining of data requirements and data flows, including the phasing out or repeal of outdated or redundant reporting requirements. There is already evidence that the debate on the SEIS concept and vision of the last couple of years has influenced policy making on reporting and monitoring. For example the 2005 Commission proposal on air quality and the forthcoming IPPC review both include ideas on improvements to reporting and information systems based on the SEIS vision. A reinforced political framework would give additional impetus to these and other initiatives.

Overall, the benefits of implementing a shared environmental information system based on the principles set out in section 4.1 can be categorised as follows:

- better legislation resulting from more consistent and integrated inputs from Member States;

- more efficient EU-level analyses leading to better-informed policy discussions, and better design, implementation and communication of policies.

- reduced redundancy in reporting and monitoring efforts, leading to a reduction in administrative burden;

- efficiency gains in relation to the achievement of international policy commitments and evaluation obligations by both Member States and the EU;

- empowerment of citizens through the widespread availability of information they desire to make choices and influence policy;

- increased availability of data for use by researchers, leading to an increase in the societal knowledge base;

- better profile for the EU in various global fora, such as international conventions relating to the environment and the Global Earth Observation System of Systems (GEOSS).

The Ozone web example described in 2.3.1.1 provides an example of what benefits could be possible for one pollutant. At the initial launch of the pilot project in 2006 22 countries were providing near real-time regular data, while five others were involved in the project by undertaking the set-up procedure. For the general public, the EEA near real-time ozone website displays measured ozone levels in a map interface and provides background information on wider air quality impacts. The information on the Agency website is as recent as two hours old in many instances. Comparison of air quality conditions across national and regional borders is facilitated.

The next steps with this project are to increase coverage and demonstrate that such a system could be used to provide information that is currently provided by each Member State to the Commission. Furthermore there are plans to demonstrate the feasibility of repeating the system for other pollutants such as particulate matter and NO_2.

If full EU coverage could be achieved therefore the system would improve information available to the public and researchers and could be used to replace a current reporting obligation.

On the cost side, it is expected that even relatively modest initial investments towards implementing the SEIS vision will, if designed properly, lead to economic, social and environmental benefits that can in turn be reinvested into further development of the system. The types of investments that will be necessary can be categorised as follows.

- Ongoing efforts to implement the INSPIRE directive will need to be given increased political and administrative attention, and be adequately resourced, at both European and national level. Implementation of INSPIRE has been estimated at €3.6 million - €5.4 million per Member State for ten years.

- Institutions, governmental or otherwise, involved in the collection and processing of environmentally-relevant data will have to review, and in some cases may have to change their organisational and business models.

- EU institutions and bodies will need to continue or reinforce efforts to update and streamline legislative requirements and centralised reporting systems.

- Further analysis, building on ongoing work within thematic environmental policy and supported by GMES, will be needed to clarify real data and information requirements and to develop the required legal and/or financial instruments.

- Further investment will certainly be needed to create new data that is not currently collected but is found to be essential to support policy, or to harmonise monitoring and data systems. Depending on the level of ambition and evolving priorities, this could be partially, fully or more than offset by savings on current monitoring, modelling and reporting investments.

The precise measures required to implement this vision will of course need to be themselves subject to a more detailed impact assessment. Apart form the specific options for Community action described above and assessed below, the main priorities would appear to be the following:

- carefully monitor implementation of the INSPIRE directive for improving respectively the sharing of environment-related data and information within Europe;

- mandate the European Environment Agency to use the SEIS principles as a foundation for its strategy;

- in order to ensure adequate funding of the necessary infrastructure, Community funds from the Research Framework programme, CIP, LIFE+ and structural funds need to be allocated for this purpose, and Member States need to ensure adequate allocation of funds from national and regional budgets.

Based on the above analysis, it appears that a political commitment to this overall approach would appear to provide a promising and potentially highly cost-effective way of making further progress towards the objectives set out in section 3.

5.2. Option 2: Updating the Standardised Reporting Directive

The overhaul of the standardised reporting directive described in section 4.3 will bring about immediate simplification benefits.

In thematic areas such as air, and climate where the provisions of this directive are not generally considered useful or have been duplicated by more frequent reporting cycles, the relevant reporting obligations can simply be repealed. In the water area, similarly obsolete reporting requirements could be replaced by provisions corresponding to the WISE system. By contrast, in areas such as waste where extensive use is still made of the reporting directive and the information gathered provides important information both for policy-makers and for the public, the corresponding information requirements would most likely be kept.

In terms of reporting mechanisms, as described in 4.3 these will be replaced by obligations requiring information and data to be made available in accordance with the principles outlined in section 4.2. Although the direct cost savings will be quite limited, and some further investment may be required to comply with the new provisions, such a system will have considerable advantages in terms of its flexibility, the further streamlining it is likely to

trigger within Member States, increased transparency and the increased use that can be made of the data. Citizens in particular stand to benefit from the increased transparency and availability of information that makes full use of the rapidly evolving information and communication technologies.

Clearly, the details of such an update will need to be the subject of a full impact assessment, with further quantification of the costs and benefits for public administrations, including any resulting need for reorganisation, as well as further clarification of the expected benefits in terms of citizens' right to have access to available information.

5.3. Option 3: Expand and/or harmonising the mandatory data collection and archiving under Community regulatory frameworks

Mandatory data collection and archiving within the context of Community law clearly provides a greater guarantee of ensuring that the information required for policy-making is available. While the scope for removing obsolete provisions appears very limited, the potential for improving the cost-effectiveness of national monitoring efforts through further harmonisation appears to be great.

More generally, given the generally low cost of current monitoring – around 5% of total implementation costs - (as well as reporting) activities, and provided that monitoring efforts are well designed and sufficiently harmonised and the required measures to improve sharing of data and interoperability of data systems are taken in line with the principles set out in option 1, the cost-benefit ratio environmental monitoring can be expected to be highly favourable.

For the above reasons, further harmonisation and even expansion of current monitoring obligations should not be ruled out at this stage. However, it is clear that more detailed analysis is necessary including possible pilot schemes involving Member States before specific legislative proposals can be considered.

5.4. Option 4: A new regulatory framework for SEIS covering compliance and former statutory reporting

A new regulatory framework defining detailed obligations for the achievement of the objectives set out in section 3 would go furthest in ensuring that the principles set out in option 1 are met. Such an approach would, however, have the drawback that it could be seen as over-prescriptive and could also lack the flexibility to allow more spontaneous adaptation to evolving political priorities and technological possibilities. It could also be seen as conflicting with the principle of subsidiarity, particularly if organisational arrangements within Member States were to be designed in detail by the Community.

6. COMPARING THE OPTIONS

In comparing the options it is important to consider the strength of each option with regard to tackling the problems outlined in section 2, and to assess to what extent they contribute towards achieving the overall and specific objectives set out in section 3. It should be noted that options 1, 2 and 3 are designed to address different specific objectives and can be applied in parallel. Option 4 can rather be seen as a more ambitious alternative to option 2, which also incorporates elements of the other options.

In addition to their effectiveness in delivering the objectives, the choice of options and the assessment provided in section 5 also takes account of (political) feasibility and cost-benefit (i.e. efficiency) aspects. In this context, costs also include qualitative, non-monetary aspects, such as lack of acceptability, complexity, obstacles, drawbacks, etc. The following table presents an overview of the relevance of the options for addressing the problems, along with a qualitative cost-benefit indication. It should be emphasised that, while the middle columns provide an assessment of the potential effectiveness of the options in addressing the specific problems concerned, the overall assessment also takes account of political and technical feasibility and likely costs. In particular, for the reasons outlined in section 5.4 the more ambitious regulatory framework envisaged in option 4 does not appear to be a sensible option to pursue currently, but its potential effectiveness in addressing the specific problems could provide an argument for continued consideration of this option during the coming years.

Problem addressed Option	Need to Modernise and Streamline Reporting and reduce administrative burden	Shortcomings in timeliness availability reliability and relevance environmental information	Shortcomings in capacity to turn data into information	Overall assessment (taking account of efficiency and effectiveness, including political feasibility)
1.Political agreement on SEIS concept and principles	+	+	+	+++
2. Update of reporting directive	+++	+	+	++
3. Harmonisation of monitoring	++	++	++	++?
4. Regulatory Framework for SEIS including reporting	- -	+++	++	- - -

From the impacts analysis in section 5 and the above table it appears that the adoption of a Communication describing the concept and principles of a Shared Environmental Information System as set out in option 1 provides a promising and potentially highly cost-effective way to make progress to address the issues presented in section 2. The other issues addressing

reporting streamlining and modernisation and action to improve environmental monitoring should be addressed in a series of subsequent stages.

An update of the standardised reporting directive (Option 2) will lead to streamlining and reduction in the administrative burden, both directly and indirectly, while increasing the use and public accessibility of currently reported information and data. This option will also provide an opportunity to enshrine the SEIS principles set out in Option 1 in Community legislation.

The assessment of option 3 also clearly demonstrates that further measures to improve the sustainability cost-effectiveness of data collection and archiving are justified, although any legislative proposals will need to be assessed in detail.

Finally, the new framework regulation envisaged in Option 4 would go furthest in ensuring that the objectives set out in section 3 are met, but could be seen as over-prescriptive and inflexible.

In conclusion, a combination of Options 1 and 2 appears to be the most promising approach to take at this stage, while Option 3 should be assessed in greater detail with a view to coming forward with appropriate proposals at a later stage. Option 2 will therefore be the subject of a detailed assessment starting straight away including close consultation with Member States. Meanwhile in 2008 the Commission will launch an assessment of the possible scope of harmonising monitoring in certain areas and a discussion on possible pilot actions. For the reasons given above option 4 is considered premature at this stage, although some elements could be incorporated into the update of the standardised reporting directive (option 2) provided that there is sufficient support among stakeholders and the impacts can be assessed in sufficient detail.

It must also be emphasised that success in achieving the objectives set out in section 3 will depend not only on new actions taken, but also the successful implementation of existing activities such as INSPIRE and GMES, and appropriate allocation of existing financial instruments such as Framework programme research funding, CIP and LIFE+.

7. MONITORING AND EVALUATION

As outlined in section 3, the general objectives of the Shared Environmental Information System are to:

– Improve the availability and quality of information needed to design and implement Community environment policy

– Reduce administrative burden on Member States and EU institutions and modernise reporting

– Foster the development of information services and applications that all stakeholders can use and profit from.

The essential indicators to monitoring and evaluating progress towards achieving these objectives should cover measurements of data quality and comparability, levels of availability and sharing of data, 'reductions' in administrative costs, use of modern reporting methods (including IT infrastructure), and development of distributed information services.

There are already a number of processes in place to monitor the implementation of the different SEIS priority actions involving EU bodies and the Member States both formal and informal. These include the INSPIRE regulatory Committee, which plays a major role in the approval of the implementing rules required to make the INSPIRE directive fully operational, the EEA Management Board and the GMES Advisory Council.

As far as the overall process is concerned, the Environment Policy Review Group (EPRG) has already played a role in discussing the overall concept and vision for the SEIS and would be an appropriate forum to take forward discussions on the SEIS as a whole and to monitor its implementation. More specifically the EPRG should consider establishing a Member State expert group for overall monitoring of SEIS implementation. This would be an informal group along the lines of similar groups created by the EPRG e.g. High Level Expert Group on the Environmental Technologies Action Plan.

SEIS Implementation Road Map

The table below sets out an outline roadmap for the implementation of the different SEIS priorities indicating the main proposed activities by year up to 2010. Most of the actions will of course run on into later years.

INSPIRE Implementation	Aarhus Implementation	Streamlining Reporting Legislation options assessment	Thematic Environmental Information Systems Development	GMES implementation	Monitoring Harmonization Assessment	Securing Community Financial support for SEIS development	Actions Proposed Date
Option 1	Option 1	Option 2	Option 1 and 2	Option 1 and 3	Option 3	Option 1 and 3	
		Launch detailed Impact Assessment and Consultation of Member States	Ozone web extension from 22-27(30?) countries depending on the interest of other countries				2007
INSPIRE Metadata, Monitoring and Reporting, Discovery and View service rules May08 INSPIRE Download, Data		June 08 Reporting Directive revision proposal *(REPORTNET adaptation depending on the scope of the Reporting*	Ozone web complete for demonstration of summer 2008 MS ozone reporting Ozone web Completion of feasibility test to	GMES Fastrack Land - CORINE Land 2006 Update dissemination GMES Fastrack Marine validation phase	Launch Study on Monitoring Harmonisation Possibilities (Life+) Possible Pilot Actions on Harmonisation	Guidance on use of LIFE+ to support SEIS	2008

Exchange, Coordinates Service rules Nov 08		*proposal)*	expand to cover PM and NO2 Industrial Emissions Reporting System - pilot? REACH IT online	GMES Fastrack Emergency Services validation phase GMES Atmosphere service GMES governance proposal			
INSPIRE Transposition deadline May 09 INSPIRE rules access rights for Community article 17.8, Annexe 1 data sets 9a May 09	Review of implementation and possible modification of the Arhus directives	*(REPORTNET adaptation depending on the scope of the Reporting proposal)*	Biodiversity web based system for Habitats art 17 reporting		Possible Pilot Actions on Harmonisation		2009
Metadata available for Annexe I and II themes Article 6(a) Discovery and view network services operational,			WISE - reporting for all water legislation				2010

article 16, Community level geo-portal article 15, 1st MS report to Commission article 21§ 2 May 10 Download services operational Nov 10							
The Inspire implementation timetable continues to 2019 and includes the first Commission report on implementation of the directive due in May 2014							

ANNEX 1

EU ENVIRONMENT LEGISLATION – REPORTING STREAMLINING AND INFORMATION SYSTEMS CONTRIBUTING TO THE IMPLEMENTATION OF THE SHARED ENVIRONMENTAL INFORMATION SYSTEM

ENVIRONMENTAL THEME and LEGISLATION plus Reporting Periodicity	REPORTING LEGISLATION REVISION	INFORMATION SYSTEMS CONTRIBUTING TO SEIS
Climate Change Decision 2004/280 Monitoring Mechanism – annual inventory,2 yearly projections Directive 2003/87 ETS -annual	GHG Monitoring Decision 2004/280 – review proposal by 2009 –project 2007-2008 includes administrative burden issues, compatibility with INSPIRE, SEIS principles	GHG web viewer (now on line) expansion planned by EEA
Industrial Emissions Directives 91/61 IPPC, 2000/76 Incineration, 1999/13 VOC solvents – 3 yearly Directive 2001/80 LCP 3 yearly Regulation 166/2006 E-PRTR 15 month intervals (Ist report after 18 months) **Ozone Depleting Substances** Regulation 2037/2000 ODS – annual Regulation 842/2006 Fluorinated GHG - annual	IPPC Review (including Incineration and VOC solvents, Large Combustion Plants and Titanium Dioxide directives) proposal end 2007 ODS proposal review end 2008 Fluorinated GHG 842/2006 proposal review 2011	European Pollutant Release and Transfer Register (E-PRTR) will contain information on releases of pollutants to air, water and land, as well as transfers of waste and pollutants, where emissions exceed certain threshold values and result from specific activities. The register will also cover releases of pollutants from diffuse sources (such as transport). Industrial Reporting Information System in preparation including all industrial emissions linked to EU legislation; being developed with EEA – and will be gradually integrated with E-PRTR
Air Quality Directive 96/62 Framework and 'daughters' + Decision 97/101 Exchange of Information – annual Directive 2001/81 National	Ambient Air Quality and Cleaner Air for Europe in co-decision – will remove overlaps and require all reporting to be electronic. National Emissions	Ozone web (on line) EEA plans to expand to cover particulate matter and other pollutants (2007-2009)

Emission Ceilings - annual	Ceilings – review underway to harmonise with GHG Monitoring mechanism system 2007/ 2008	
Water Directive 2000/60 WFD – 3 yearly after 2010 Directive 91/271 UWWT – 2 yearly Directive 76/160 – Annual Directive 98/83 Drinking - 3 yearly Directive 80/68 Groundwater – 3 yearly Directive 76/464 Dangerous Substances – 3 yearly Directive 91/676 Nitrates– 4 yearly Directive … Floods – aligned with WFD	Water Framework Directive will lead to repeal of old legislation on dangerous substances; 2007- 2010 reporting for all water legislation is being integrated into the Water Information System for Europe (WISE) Quality Standards in Co-decision COM(2006)397 aims to repeal 5 directives - 2nd reading first half 2008	WISE (on line) (including Nitrates) – further development of this water related component of the SEIS up to 2015
Nature and Biodiversity Directive 79/409 Wild Birds – 3 yearly Directive 92/43 Habitats – 6 yearly Biodiversity Action Plan - annual	Electronic reporting using the EEA's Reportnet tool by end 2007	Biodiversity Information System for Europe in preparation 2007-10 together with EEA ; First steps - EUNIS information system on species, habitats and sites collected in Natura 2000 framework (on line)
International Conventions on Biodiversity Regulation 338/97 CITES – annual trade data, 2 yearly MS Convention on Biological Diversity and Protocol on Biosafety – 4 yearly	Trade in Endangered Species and Biosafety convention – ongoing streamlining and removal of overlaps with international reporting	
Soils and Forests		Forest Fire Information

Draft Directive (COM(2006)232) Soils – 5 yearly		System (on line) run by JRC – priority for support under Life+
Biotechnology and Pesticides Directives 2001/18, 90/219, 98/8 and Regulation 1946/2003 - 3 yearly Regulation 204/2003 trade dangerous chemicals - annual	Pesticides new reporting proposed (COM(2006)327) – now in co-decision	
Chemicals REACH – 5 yearly	REACH to replace all previous reporting	REACH-IT online system for registration of chemical substances – by June 2008
Waste Directives 2006/12,Waste Framework 91/689 Hazardous Waste Framework, 75/439 Waste Oils, 86/278 Sewage Sludge, 94/62 Packaging, 1999/31 Landfill, 2002/96 Electronic Waste – 3 yearly – 2007-09 Directive 2000/53 End of Life Vehicles – 3 yearly 2002-04 Directive 2006/21 Mining 3 yearly 2008-10, Directive 2006/66 Batteries 3 yearly starting 2012 Directive 96/59 PCB/PCT report on plans and inventories Regulation 259/93 Shipment - annual Regulation 2150/02 Waste Statistics – 2 yearly	Overlaps with Waste Statistics Regulation removed; More streamlining once new Waste Framework Directive revision is complete (2nd Reading starting early 2008) Shipments of waste – streamlined with Basel – all reporting is now electronic	Waste Data Centre – being developed together with ESTAT
Civil Protection Directive 96/82 control of major-accident hazards involving dangerous	Review of reporting ongoing for Seveso review proposal in 2008	

substances (Seveso) 3 yearly		

Environmental Compliance Reporting by Member States
Indication of Commission streamlining actions planned or underway

Update September 2007

CLIMATE CHANGE

Current Reporting System:

- Decision 2004/280 and its implementing provisions Commission Decision 2005/166: annual Greenhouse gas inventory; every two years GHG projections and policies

- Emissions trading (Directive 2003/87/EC) annual reporting based on a questionnaire adopted by a Commission Decision and a Commission Decision on monitoring and reporting guidelines.

Streamlining:

- A project will start in September 2007 (total duration: 1 year, budget:380.000 euro) with the following objectives:

(8) identifying the inter-linkages between the monitoring and reporting requirements of the various pieces of legislation in the fields of air pollution and climate change;

(9) providing concrete suggestions of streamlining those at the EU level so as:

  - to guarantee timeliness, completeness, consistency, quality, and continuity

  - to reduce the associated burden and administrative costs to industry, Small Medium Enterprises (SMEs), MS and the EC, and

  - to ensure compatibility with the principles of the Infrastructure for Spatial Information in Europe (INSPIRE) and the Shared Environmental Information System (SEIS);

(10) providing concrete input into the upcoming revision of Decision 280/2004, its implementing provisions and the associated impact assessment, and to the extent possible - into the other pieces of EU-legislation mentioned above as well, taking into account international legally binding agreements like the United Nations Framework Convention on Climate Change (UNFCCC) or the Kyoto Protocol (KP);

(11) analyzing current practices of MS reporting and their efforts to ensure the coherence between different policy areas, and at providing suggestions for streamlining and improving of reporting at MS level, again with the aim to guarantee timeliness, completeness, quality, consistency and continuity.

- The revision of Decision 2004/280 is currently planned for the second half of 2009.

- One workshop has already taken place and another one is scheduled for September in an attempt to achieve data consistency between EU ETS and inventory reporting.

- A task force on streamlining has been established with C.1 in the lead and the participation of other colleagues from Directorate C and the EEA. The first meeting took place on July 9th and another meeting is scheduled for September.

- GHG reporting has greatly improved over the years and most MS now comply with the set deadlines. However, where we still face more problems is the bi-annual reporting on projections and policies and measures.

NATURE AND BIODIVERSITY

Natura 2000

Current Reporting System:

- Birds Directive (79/409/EEC): Implementation report every 3 years, Habitats Directive (92/43/EEC) report every 6 years.

- Communication from the Commission on "Halting the loss of Biodiversity by 2010 – and beyond" (COM(2006)216/final): Implementation report of the Action Plan, every year, starting with the period from adoption of this Communication.

Streamlining Plans:

Develop a Community concept for Improving the Knowledge Base for Biodiversity policy 2007-2013, which includes a Shared Environmental Information System for Nature and Biodiversity as a building block of SEIS, on the basis of the European Biodiversity Data Centre (hosted by EEA) and the SEBI 2010 process which links seamlessly the indicator based process to monitor progress with the European target of halting biodiversity loss by 2010 in the context of Europe's commitment under the Convention on Biological Diversity of reducing biodiversity loss by 2010.

The European Biodiversity data centre will support an integrated and streamlined information system to facilitate rational and comprehensive assessments for nature and biodiversity in Europe. This would imply more specifically the merge and migration in 2007 of the existing data on Natura 2000 sites (SPAs and pSCIs) from GIS database (KUL) and data forms (EEA/ETC/BD) to EEA Biodiversity Data Centre in accordance to Data Centre Server of Luxembourg.; modernise input of data – adoption of full suite of Reportnet IT tools.

AGRICULTURE, SOILS, FORESTS

Current Reporting System:

- Nitrates Directive (91/676): Reports every four years; Plans to include within WISE (see below)

- Forests – Forest Focus Regulation 2152/2003 ended 31.12.06 – as of 2007 LIFE+ to support Forest Focus actions and MS programmes

- Soils draft directive article 16– Member States to report for the first time eight years after transposition and then every five years

HUMAN HEALTH AND QUALITY OF LIFE

Current reporting requirements:

- Ambient Air Quality framework (96/62) and daughter directives (1999/30, 2000/69, 2002/3, 2004/107), with accompanying Council Decision on the Exchange of Information (97/101) – annual reporting

- National Emission Ceilings directive. (2001/81) – annual reporting of national emission inventories and projections for 2010

Streamlining Plans:

- Proposals on streamlining air quality reporting are included in Thematic Strategy; a new Implementing Provisions on Reporting are being designed under the revised Air Quality Directive with the input of an expert group on data exchange. Under this new scheme information will be reported exclusively by electronic means; streamlining is approached also through consistency with the INSPIRE principles, modularity of data for easier aggregation and improved quality of reporting to reduce resource use in post-report quality control and data use.

- The evaluation undertaken during the preparations of the Thematic Strategy revealed weaknesses in the current system, which is being corrected. These included: duplication of data; insufficient clarity as to what is needed; obsolete reporting; and overlap between the monthly and summer reporting of ozone concentrations.

- A revised national emission reporting scheme is focusing on the harmonized approach to reporting process, data and reporting formats with the GHG Monitoring mechanism, and to minimize potential duplication reporting efforts due to similar reporting under LRTAP convention will be implemented in two steps. The first step is a replacement of Annex III of the directive currently in force, using commitology. The second step is part of the revision of the NECD, currently scheduled early spring 2008.

INDUSTRIAL EMISSIONS AND PROTECTION OF THE OZONE LAYER

Current Reporting System:

- Directive 96/61/EC (IPPC): reporting by MS on implementation every three years on the basis of a questionnaire adopted in accordance with Directive 91/692/EEC.

- Directive 2000/76/EC (incineration of waste): reporting by MS on implementation every three years on the basis of a questionnaire adopted in accordance with Directive 91/692/EEC.

- Directive 1999/13/EC (use of solvents): reporting by MS on implementation every three years on the basis of a questionnaire adopted in accordance with Directive 91/692/EEC.

- Directive 2001/80/EC (large combustion plants): summary of annual inventories of emissions to be reported every three years. First report by MS by the end of 2007 (covering

the period 2004-2006) on the basis of guidance established by COM. Yearly plant-by-plant data shall be made available to COM upon request.

- Regulation 2037/2000 Ozone Depleting Substances – Producers, importers and exporters report data annually. Member States also report progress on implementation and related topics annually, e.g. data on waste ODS, halon use for critical uses and methyl bromide used for QPS.

- Regulation 842/2006 Fluorinated greenhouse gases – Producers, importers and exporters must report data annually, based on a report format to be established by Commission (first report due on 31 March 2008); Member States to establish reporting systems for relevant sectors with the objective of acquiring emission data.

Streamlining Plans:

- Directive 96/61/EC (IPPC): Streamlining of reporting requirements is an important element of the review of the IPPC Directive and other legislation on industrial emissions. The current reporting situation is not satisfactory with overlap between legislation, some unnecessary requirements and different timing for reporting under the various pieces. The outcome of the review process is expected end 2007.

- A database (IRIS – Industrial Reporting Information System) is being developed to present and assess the information submitted by Member States on the implementation of the IPPC Directive. The development of IRIS is based on the principles of the SEIS.

- E-PRTR (Regulation 166/2006) is to succeed EPER (three yearly reporting) at the beginning 2007. E-PRTR reporting from Member States will be at the following intervals: for the first reporting year, within 18 months after the end of the reporting year; for all reporting years thereafter, within 15 months after the end of the reporting year. The first reporting year shall be the year 2007. E-PRTR data will be directly included in future 'pressures' inventory under WISE

- Regulation (EC) N° 2037/2000 (Ozone Depleting Substances) – Streamlining of reporting requirements is one of the elements being considered as part of the forthcoming review of the Ozone Regulation. Surveys to identify areas for improvement are ongoing and the outcome of the review process is expected end 2008.

- Regulation (EC) N° 842/2006 (fluorinated greenhouse gases) –a review is scheduled by 2011, including on the reporting requirements. Some streamlining it could be envisaged, possibly earlier, if data collected shows sources are similar to those under the Ozone Regulation.

CHEMICALS

Current Reporting System

- Currently for Directive 67/548/EEC there is three yearly reporting from Member States using questionnaires.

- Streamlining

- REACH is to revise all reporting requirements and will introduce 5 yearly reports by Member States. The first report is due 3 years after entry into force of REACH.

WATER

Current Reporting System (for the main pieces of water legislation):

- Water Framework Directive (2000/60), River Basin Management Plans to be reported in 2010 and update every three years after; Urban Waste Water Treatment (91/271) – reports every two years; Bathing Water (76/160) – four years after notification and annual in accordance with Directive 91/692/EEC; Drinking water (98/83) – every three years; Dangerous Substances (76/464) and Groundwater (80/68) and others every three years in accordance with Directive 91/692/EEC. These Directives are being repealed by the WFD in 2007 or 2013 which was the first step in streamlining. The recently agreed Flood Risk Management Directive is introducing reporting requirements from 2011 onwards which is subsequently aligned with the WFD. The proposed Marine Strategy Directive is currently negotiated in 2nd reading with adoption not before 2008.

Streamlining Plans

- Has developed a common information system for water (WISE – http://water.euroap.eu) covering freshwater and later marine water. EEA is the data centre and some reporting is already channelled through WISE whereas other will be integrated step-by-step. The aim is that this incorporates all reporting for water directives by 2010.

- The new proposal on environmental quality standards in water COM(2006)397 provides for significant simplification by repealing five directives and making many of the related reporting requirements obsolete.

- Further streamlining of questionnaire 95/337/EEC envisaged but mostly dependent on amendment (or repeal) of Directive 91/692/EC because most of these reporting obligations are obsolete or duplicating the WFD reporting.

BIOTECHNOLOGY AND PESTICIDES

Current Reporting System:

- European Parliament and Council Directive 2001/18/EC on the deliberate release into the environment of genetically modified organisms

- Council Directive 90/219/EEC on the contained use of genetically modified micro-organisms

- Regulation (EC) No 1946/2003 on transboundary movements of genetically modified organisms

- Directive 98/8/EC concerning the placing of biocidal products on the market

For all four pieces of legislation Member States are required to report every three years.

- Regulation (EC) No 304/2003 concerning the export and import of dangerous chemicals:

  - - Member States shall regularly report on the operation of the procedures provided for in this Regulation, including customs controls, infringements, penalties, and remedial action.

  - - Member States shall each year report on trade with chemicals covered by this Regulation.

Proposal for a framework directive on the sustainable use of pesticides (discussions ongoing): Member States required to deliver statistical data on plant protection products to the Commission for the calculation of harmonised risk indicators

NATURAL RESOURCES

Waste

Current Reporting System:

- Most reporting obligations with regard to waste are organised on the basis of the standardised reporting directive (91/692/EEC) and have the same three-year timeframe (full calendar years, current period 2007-2009). This concerns Directives 2006/12; 91/689, 75/439, 86/278, 94/62, 1999/31, 2002/96). MSs can submit reports electronically provided they confirm which is the official version (since reports can later be modified on-line). On that basis the Commission draws up every 3 years a consolidated report on implementation.

- Exceptions to this are The ELV directive (2000/53/EC) also has a three year cycle but it is not harmonised with the others (21.4.2002 - 2004). The new directive on mining waste (adopted in 2006) has also a three year but not harmonised cycle (1.5.2008-1.5.2010). The batteries directive (91/157/EEC, replaced by 2006/66/EC) has also a three year cycle but not harmonised either (first report covering period until 26.9.2012, every 3 years thereafter). The PCB/PCT (96/59/EC) directive has separate reporting obligations and requires extensive information concerning plans and outlines.

Reporting under the Regulation on shipments of waste (No 259/93) is streamlined with that under the Basel Convention by means of a joint questionnaire. The new Regulation (1013/2006) includes additional annual reporting, which will be electronic.

In contrast to the compliance-based reporting the Waste Statistics Regulation (No 2150/2002) focuses on waste data. Reporting under this regulation started in 2006 based on 2004 data, and will follow every two years. The reporting obligations can be expanded via commitology.

Streamlining Plans:

- streamline coherence (including overlapping obligations) on waste data reporting obligations under the Waste Statistics Regulation and those under the different directives. An amendment of the questionnaires via commitology has been adopted in order to remove overlapping waste data reporting from the questionnaires.

- Will streamline Titanium Dioxide reporting as part of the revision of the Directive.

- Will propose more comprehensive changes once the revision of the WFD is complete and experience from implementation of the Waste Statistics Regulation is available.

CIVIL PROTECTION

Current Reporting System:

- Directive 96/82 on the control of major-accident hazards involving dangerous substances (Seveso) three yearly reporting in accordance with Directive 91/692/EEC.

- Will examine scope to streamline reporting as part of the 2008 review of the Seveso directive.

INTERNATIONAL AGREEMENTS AND TRADE

Convention on the International Trade in Endangered Species (CITES)

Current Reporting System:

- Council Regulation 338/97, Article 15 , Annual reports concerning trade data and Biennial reports concerning Member States' implementation and enforcement activities.

Streamlining Plans:

The reporting obligations as regards biennial reports were streamlined in 2005 thanks to a common reporting format (in the form of a questionnaire) agreed by CITES 13th CoP.

CONVENTION ON BIOLOGICAL DIVERSITY (CBD) AND CARTAGENA PROTOCOL ON BIOSAFETY

Current Reporting System:

- Every four years, parties to the CBD (including the European Community and all its Member States) are required to provide mandatory national reports to the CBD Secretariat on the implementation of the CBD according to Art. 26 of the Convention. The fourth national report is due in March 2009 (decision VIII/14). In addition, specific voluntary thematic reports are provided to the Secretariat. National reports are also required according to Article 33 of the Cartagena Protocol on Biosafety. The First National Report is due this year (Decision MOP BS-III/14).

Streamlining Plans:

There are ongoing efforts to streamline reporting to biodiversity-related MEAs (CBD, Ramsar, CITES, CMS, WHC), inter alia by developing common reporting modules for specific themes and by increasingly focusing reporting on more outcome-oriented information using the indicators included in the CBD framework for monitoring implementation of the CBD and achievement of the 2010 biodiversity target (Annex II of decision VIII/15). For the Biosafety Protocol, reporting is being streamlined by compiling Community and Member States reports within one single joint EU submission.