

European Environment Agency



**European Environment Agency  
Annual Management Plan 2009**

**Copenhagen January 2009**





## **EEA in brief**

The European Environment Agency (EEA) is a European public body dedicated to providing objective, reliable and comparable information on the environment. The aim of the EEA is to ensure that decision-makers and the general public are kept informed about the state and outlook of the environment. The EEA also provides the necessary independent scientific knowledge and technical support to enable the Community and member countries take appropriate measures to protect and improve the environment as laid down by the Treaty and by successive Community action programmes on the environment and sustainable development. The EEA works in partnership with government departments and agencies, international conventions and UN bodies, the scientific, technical and research communities, private sector and civil society.

The EEA undertakes a comprehensive range of integrated environmental and thematic assessments. These include a five-yearly state and outlook of the environment report, thematic and sectoral assessments, analyses of the effectiveness of policy measures, forward studies and the impacts of globalization on Europe's environment and resources. The EEA is an important source and custodian of timely environmental data and indicators, and a key provider of environmental knowledge and information services.

The European Environment Agency (EEA) and the European environment information and observation network (Eionet) were established by EEC Regulation 1210/90 on 7 May 1990 (as amended by EC Regulation 933/1999 of 29 April and EC Regulation 1641/2003 of the European Parliament and Council of 22 July 2003). The decision to locate the Agency in Copenhagen was taken in 1993 and the EEA became operational in 1994. The founding regulation sets out a number of tasks (article 2) and priority areas (article 3) for the EEA; these are addressed through its multi-annual and annual work programmes.

The EEA annual work programme 2009 outlined below is the first work programme of the EEA 2009-2013 strategy. It is based on six strategic areas; four covering the thematic work of the EEA, information services and communications, and two covering governance, partnerships and administration of the EEA, as follows:

1. Environmental themes
2. Cross-cutting themes
3. Integrated environmental assessments
4. Information services and communications
5. EEA governance and partnerships
6. EEA internal management and administration

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## **1. EEA mission statement and vision**

The European Environment Agency is the EU body dedicated to providing sound, independent information on the environment. We are a main information source for those involved in developing, adopting, implementing and evaluating environmental policy, and also the general public.

Our vision is to become recognised as the world's leading body for the provision of timely, relevant and accessible European environmental data, information, knowledge and assessments.

## **2. Objectives and key actions for 2009**

The annual management plan 2009 covers the first year of the multi annual work programme 2009-2013. It is based on an overall budget of 39.627mEuro (see Section 5) and 159 staff.

The core objective of the EEA multi-annual work programme for 2009 -2013 is to produce European, pan-European and regional environment –related data and indicator sets, integrated environmental assessments and thematic analyses in order to provide a sound decision basis for the EU and Member countries' environmental policies.

We will continue to work intensively with Eionet, co-operating countries and a wide range of partner institutions, including the European Commission's Directorate Generals, government departments and agencies, international conventions and UN bodies, the scientific technical and research communities, private sector and civil society, in order to quality assure relevance and quality of the data, information and analyses that we provide.

### **Our key actions for 2009 will be to:**

- launch information services in the areas of the five Environmental Data Centres in air quality, climate change, biodiversity, freshwater, (including indicators on water balances via WISE and JRC information on flood and drought risk), marine and land use, and establish data needs for vulnerability and adaptation, disaster prevention and management;
- establish the EEA's supporting infrastructure for the European shared environmental information system (SEIS) and Inspire, improving online data availability and web services;
- coordinate the provision of in-situ data for GMES services and link them to Inspire and the Global Earth Observation System of Systems;
- support the Baltic macro-region environmental assessments under the Swedish Presidency;
- support the development of a comprehensive aggregated environmental index as part of the EU Beyond GDP initiative;
- produce two key-EEA early warning publications - Signals and Late Lessons;
- support climate change deliberations leading up to the UNFCCC COP15 meeting in Copenhagen;
- report on progress on halting the loss of biodiversity using the Streamlining European Biodiversity Indicators 2010.

### **Throughout 2009-2013 we will:**

- sustain and expand the EEA environmental data flows and information services through Reportnet and the five EEA Environmental Data Centres;
- cooperate with Eurostat, JRC and DG Environment, focusing on indicators, streamlining and timeliness of data within the Group of Four agreement;
- work with DG RTD and EU funded research projects to better use the outputs and results;

- undertake thematic assessments, early warning studies, strategic futures analyses and information assessments relating to policy needs for a range of evolving complex and serious environmental challenges;
- support Eurostat's work on the Sustainable Development Indicators;
- monitor progress towards policy targets, effectiveness of environment and related policies and indicators on policy responses;
- undertake regular effectiveness evaluations of the EEA;
- expand the EEA's communications to the public, policy makers and experts via multi-media, user-friendly, multilingual information particularly in the areas of climate change, biodiversity, ecosystems and the greening of the economy.

### **3. Strategic indicators of EEA performance**

EEA performance will be measured through its environmental management and audit scheme (EMAS) and internal management systems using objectives and measures in four inter-related perspectives: financial, client, business, and learning and growth (a balanced scorecard).

#### **EMAS perspective**

EMAS comprises five main parts: 1) management, 2) environment, 3) communications and human resource management, 4) building operation and 5) common environmental activities. The EEA published its annual environmental statement in 2008 documenting the EEA's absolute consumption figures in key priority areas (procurement, recycling, travel and accommodation), EEA performance against chosen benchmarks (electricity consumption, paper consumption) and the potential for performance improvement (travel and accommodation, procurement, electricity consumption, recycling).

#### **Financial perspective**

Budget  
Sound financial management

#### **Client perspective**

Relevance  
Effectiveness  
Quality/transparency  
Image

#### **Business process**

Data supply chain  
Knowledge sharing  
Data handling  
Publications - timeliness  
Internal support - timeliness  
Impact of publications

#### **Learning and growth**

Work force  
Capability  
Motivation

## **4. Annual work programme 2009**

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## 1. Environmental themes

### *The issues in perspective*

One of the fundamental roles of the EEA is to support EU environmental policy by tracking and reporting on the outcomes of the implementation of EU environmental legislation and similar across all EEA member countries. This involves establishing and maintaining reporting mechanisms, developing the Shared Environmental Information System (SEIS), implementing Inspire, quality assurance procedures, analytical frameworks and standardised outputs in terms of data sets, indicators and thematic integrated assessments for a number of environmental themes such as air quality and pollutant emissions, biodiversity, greenhouse gas emissions, freshwater and marine environments. The work includes, *inter alia*, analyses of the costs of action/inaction, effectiveness evaluations of existing policies and measures, distance-to-target assessments in relation to agreed policy targets and long term reference values, and outlooks for the future in the 2020-2030 perspective.

The demand for work of this type is expected to continue and develop over the next five years as EU environmental policies and legislation develop. Highlights in the period will be: a global agreement in Copenhagen in autumn 2009 on cuts in greenhouse gas emissions (GHG) after 2012; implementation of a revised EU emission trading scheme for 2008-2012; agreed national targets by 2020, for EU greenhouse gas emissions reductions; revision of the Directive on National Emissions Ceilings and Integrated Pollution Prevention and Control Directives in 2009, implementation of the new Clean Air for Europe (CAFE) directive, progress on meeting the target of halting biodiversity loss by 2010, the first round of River Basin Management Plans and related programmes of measures under the Water Framework Directive in 2009, and implementation of the recently adopted Marine strategy directive. The EEA will build on and adapt its existing data flows, indicators and assessments to meet these changing needs.

Work in this area will also contribute to and support cross-cutting thematic assessments in Strategic Area 2 and integrated environmental assessments in Strategic Area 3.

Much of the work to further develop and implement the Environmental Data Centres for which the EEA is responsible will fall in this area. The data centres will be developed as European-level services within SEIS, ensuring access to relevant data, tools and information services. In the scope of SEIS, all data centres will be developed as distributed systems, ensuring synergies with GMES activities and compatibility with the Inspire directive.

### *General objectives for 2009-2013*

To support policy development and evaluation within the environmental themes covered by the *acquis communautaire* and related areas by:

- ensuring full access, via SEIS and the EEA Environmental Data Centres, to the quality-assured data needed to support European-level work on indicators and integrated assessments;
- maintaining and developing relevant EEA indicators within the Indicator Management System;
- providing thematic analyses, assessments and methodologies to support the various thematic policy agendas; and
- carrying out evaluations of the existing effectiveness of policies and outlooks for the future in the 2020-2030 perspective.

*In 2009, the specific objectives will be:*

- To ensure that the EEA Environmental Data Centres function within a common Group of Four (EEA, DG ENV, JRC and Eurostat) portal and common architecture;
- To ensure regular quality assured priority data flows, and/or access to the data in accordance with approaches proposed for SEIS;
- To help deliver compatibility and added-value across the development of GMES services;
- To maintain, develop and integrate the core indicators and other relevant indicators into the EEA Indicator Management System; and
- To deliver integrated thematic assessments and outlooks, in close connection with the work in Strategic Area 2, *inter alia* as contributions to SOER 2010.

## **1.1 Air quality**

*The issues in perspective*

Air quality has been improving over the past three decades. However, there are still substantial impacts on human health, ecosystems and crops due to the presence of particles, ozone, toxic and other hazardous pollutants in ambient air and the deposition of eutrophying and acidifying substances. Long-term targets for protection of human health and the environment are still some way off.

There are important challenges ahead. The Air Thematic Strategy will be reviewed in 2010, the new Clean Air for Europe Directive that entered into force in May 2008 will have to be implemented while in 2013 it will be reviewed leading most likely to its revision.

EEA will contribute in the coming years to these important developments by providing assessments of air pollution and its impacts on human health and the environment. This will also include tracking progress towards and providing outlooks for, the achievement of short and long term air quality targets (*inter alia* as defined in EU legislation). EEA will also provide up-to-date (and where possible near-real-time) quality assured data and indicators and specific support to EU policy making (e.g. in connection with the design and implementation of the reporting requirements of the new Clean Air for Europe Directive).

EEA will deliver all these with the support of the European Topic Centre on Air and Climate Change and in cooperation with both Eionet (in particular the air quality national reference centres) and the UNECE Long Range Transboundary Air Pollution Convention (in particular the relevant programmes, centres and task forces under this Convention) as well as with the European Commission services (including JRC and Eurostat), the GMES atmospheric services, the network of national reference laboratories on harmonisation of quality control/quality assurance of air quality monitoring, WHO and a host of scientific, research and societal institutes.

*Main lines of work in 2009*

To maintain and continue the development of the air quality components of the Air Data Centre focusing on collection, management, quality assurance and web presentation of up-to-date (and where possible near-real time) ambient air quality data and maps; to report with the help of indicators and targeted assessments (including forward looking) trends in ambient air quality and their impact to people's and ecosystems' health; to network and communicate the results of these assessments to relevant audiences; to implement relevant building blocks for SOER 2010.

More specifically we will have activities on:

- Improving the quality of, access to and tools to analyse ambient air quality and related data;
- Maintaining the near real time ozone data website and further extending services towards other key air quality parameters, in particular particulate matter;
- Updating air quality maps; this will be done with the help of advanced spatial mapping techniques and methods in order to improve the presentation of information to the public, the policy makers and the experts
- Updating and further developing relevant indicators
- Contributing to the GMES Atmosphere service
- Making greater use of (also supporting air quality national reference centres to make greater use of) modelling techniques to examine causal processes;
- Assessing some interactions between air pollution and key environmental themes;
- Assessing future changes in air quality in Europe taking into account effects of European air pollutant reduction measures as well as other possible parameters such as meteorology and hemispheric transport of air pollutants;
- Assessing (in accordance with the ozone in ambient air directive) the 2009 summer ozone levels (also where possible by using near real time data);
- Assessing (in accordance with the Air Quality Framework directive) the air quality in zones and agglomerations;
- Analysing urban air quality in relation to transport;
- Supporting European policy making through participation to the Data Exchange Group, to relevant committee meetings and to meetings relating to the review of the new Clean Air For Europe (CAFE) directive and through supporting DG ENV with the implementing provisions of the Clean Air For Europe directive.

## **1.2 Air pollutant emissions**

### *The issues in perspective*

Although emissions of key air pollutants have decreased in recent years, air pollution still causes substantial adverse impacts on human health, ecosystems and crops. Polluting emissions in general arising from large and small installations and diffuse sources such as from transport, agriculture and households continue to cause concern.

In 2009 the UNECE LRTAP Gothenburg Protocol to abate acidification, eutrophication and ground-level ozone as well as both the National Emissions Ceilings (NEC) and the Integrated Pollution Prevention and Control (IPPC) Directives will still be under revision. In addition, towards the end of 2009 the European Pollutant Release and Transfer Register (E-PRTR) will be introduced, replacing the present European Pollutant Emissions Register (EPER).

EEA will contribute in the coming years to these important developments by providing assessments related to emissions of pollutants, including toxic and hazardous pollutants, to air (and other media where relevant). This will also include tracking progress towards, and providing outlooks for, the achievement of targets *inter alia* as defined in relevant EU and international legislation and

evaluating the effectiveness of European policies and measures to reduce emissions. EEA will also provide up-to-date quality assured data, indicators, emission inventory and data review reports and relevant web sites, via SEIS, Inspire and the EEA Environmental Data Centre on air. EEA will also continue to support the project of the European Commission on streamlining air pollutant emissions and greenhouse gas data collection and reporting under various existing legislation, including the NEC Directive and the greenhouse gas Monitoring Mechanism.

EEA will deliver all these with the support of the European Topic Centre on Air and Climate Change and in cooperation with both Eionet (namely the air emissions national reference centres) and the UNECE Long Range Transboundary Air Pollution Convention (especially the EMEP programme, its centre on emissions inventories and projections and its task force on emission inventories and projections) as well as with the European Commission services (including the JRC).

#### *Main lines of work in 2009*

To maintain and continue the development of the air pollutant emissions components of the Air Data Centre focusing on collection, management, quality assurance and web presentation of up-to-date air pollutant emissions data; to report trends in air pollutant emissions with the help of indicators, inventory reports and targeted assessments (including policy effectiveness analysis); to publish the E-PRTR website; to network and communicate the results of all these to relevant audiences; and to implement relevant building blocks for Signals and for SOER 2010. All work will be done in close collaboration with the work area climate change mitigation.

More specifically we will have activities on:

- Improving the quality of, access to and tools to analyse data on air pollutant emissions and related data (such as industrial emissions and emissions from diffuse sources);
- Supporting streamlining of air pollutant emissions and greenhouse gas data collection, management and dissemination activities in collaboration with the EEA Climate Change Data Centre;
- Contributing to the maintenance and further development of the European Pollutant Release and Transfer Register (E-PRTR) and IRIS web applications;
- Hosting the European Commission websites of the European Pollutant Emissions Register (EPER), the Industrial Reporting Information System (IRIS) and the E-PRTR;
- Preparation and publication of the European Community CLRTAP and NEC annual emission inventory reports and of the review of national air pollutant emission inventory data report (jointly with UNECE EMEP);
- Regularly updated EMEP/EEA emission inventory guidebook published on the web (in cooperation with UNECE);
- Developing and maintaining relevant air pollutant emission indicators;
- Assessment of synergies and trade-offs between air pollutant emission and greenhouse gas emission reduction policies;
- Assessments of the effectiveness of selected policies to reduce key air pollutant emissions and subsequent effects on air quality; and
- Exploring and applying methodologies to assess the costs of externalities associated with releases of air pollutant emissions from industrial facilities.

### 1.3 Biodiversity

#### *The issues in perspective*

The next 5 years will see an expansion of the biodiversity policy area, due to an increased awareness of its significance for human well being and the future of the planet. In Europe, species and habitats conservation, the existing legislation and the establishment of the Natura2000 network of protected areas will be analysed to understand their full ecological consequences and implications, using the fruits of increased data availability that will result from reporting under the EU Directives, the implementation of the SEBI2010 indicators and SEIS developments.

Furthermore recent discussions at COP9 of the convention on Biological Diversity stressed the importance of the ecosystems approach in achieving the CBD targets and objectives and required guidelines for the application of this approach, based on a set of indicators and the further use of instruments for the valuation of biodiversity, and biodiversity loss. This biodiversity policy focus will increase, considering the need to revisit the 2010 target on halting the loss of Biodiversity, the expected effectiveness evaluation of the 20 years of the Rio Conventions in 2012, and that 2012-2013 will coincide with the end of the current EU policy cycle (6<sup>th</sup> Environment Action Programme and Biodiversity Action Plan). Furthermore, biodiversity policy will increasingly demand knowledge that delineates the local, regional and global scales as well as integration with agriculture, forests, energy, health, marine and water management and climate change adaptation policies and actions.

Biodiversity policies, both global, national and at EU-level, have generally, and with varying levels of success, followed a three-track approach: a) protection of species, b) establishment of a core network of protected areas and c) influencing sectors and the wider society to reduce their negative impact. The EU Habitats and Birds Directives have been the key tools for a) and b); the 2010 target, the Biodiversity Action Plan (BAP) and the SEBI2010 indicators the primary tools to support c).

The objectives for this area will be to support the European Union's policy aims by providing continued support to implementation of the nature directives, by delivering regular progress reports on the 2010 target and BAP through the SEBI2010 indicators framework, and by ensuring through SEIS that a wide range of information from research programmes, NGOs and other players is fully utilised. Doing all of this will in turn pave the way for making effective use of the same information for the European ecosystem assessment (EURECA) through to 2012 and the Millennium Ecosystem Assessment follow-up scheduled for 2015.

#### *Main lines of work in 2009*

To provide continued support to the European Commission and Member States on implementation of the EU Habitats and Birds Directive. To build further the Biodiversity data centre and other information systems for biodiversity based on SEIS principles. To promote results from SEBI2010 and strengthen its focus on ecosystem services. To implement relevant building blocks for SOER 2010 assessment and Eureka 2012 developments.

More specifically we will have activities on:

- Finalising the European assessment of reporting by Member States under Article 17 of the Habitats Directive and disseminating through the Biodiversity Data Centre in line with SEIS approaches;
- Developing technical guidelines and reporting tools for the European Commission and Member States to undertake efficient assessments under the Birds Directive;
- Analysing and present quality assured data and indicators on biodiversity and ecosystems through the data centre using appropriate analytical tools;
- Agreeing and implementing where possible, access via the data centre to relevant outputs from major international, EU and national research programs on biodiversity, making full use of established dissemination tools;
- Disseminating first indicator-based assessments from the SEBI 2010 process; refine the indicators on the basis of new knowledge (e.g. ecosystem services) and user feedback;
- Promoting further the use of SEBI indicators in other EU indicator processes – SD Indicators, Structural indicators, proposed Environmental Index for EU (under Beyond GDP);
- Preparing a dissemination and communication plan for SEBI 2010 targeted at the year 2010 and more specifically EU and global events in that year (e.g. COP10);
- Reinforcing the EC Biodiversity Clearinghouse Mechanism, developing its role at Global, regional, national and in a cooperation and development perspective making full use of its potential as a scientific gathering and sharing platform;
- Actively contributing, based on the above activities, to the implementation of the SOER 2010 and Eureka 2012 projects.
- Actively communicating to policy makers, citizens and the media on state and trends in relation to individual species and habits and aggregates into indicators.

#### **1.4 Greenhouse gas emissions**

##### *The issues in perspective*

Global warming is unequivocal and will have far reaching consequences. Action to address global climate change is both technically feasible and affordable compared to the high costs of unabated climate change (IPCC). The Kyoto Protocol targets are a first step to be met by 2012. Substantial further greenhouse gas emission reductions are needed globally to achieve the target proposed by the EU for a maximum temperature increase of +2°C above pre-industrial level. Within UNFCCC a global post-Kyoto regime is being developed with agreement planned for end of 2009 (Copenhagen).

The EU has independently committed to reduce emissions by 20% by 2020 (30% reduction if there is an international agreement). The main EU climate mitigation policies needed to reach the EU policy targets are outlined in the proposed Climate change and energy package, which is under negotiation in 2008. The key existing relevant legislation is the emission effort sharing amongst member states to achieve the Kyoto target, the EU emission trading scheme (ETS), targeting power generation and energy intensive industry, and the EU GHG monitoring mechanism, all being revised in 2008-2009 in the light of the proposed Climate and energy package.

EEA will monitor and assess progress towards achieving EU greenhouse gas emission policy targets (Kyoto and 2020), evaluate the effectiveness of EU

climate change mitigation policies and measures, and support the development of long term climate change mitigation strategies. To that end EEA will use data, information and indicators collected from countries under relevant EU legislation on climate mitigation. EEA will also continue to support the project of the European Commission on streamlining air emission and GHG emission data collection and reporting under various existing legislation, including the NEC Directive and the GHG Monitoring Mechanism, and its revision.

#### *Main lines of work in 2009*

To continue its work under the current EU GHG monitoring mechanism, the EC GHG inventory system and the current EU ETS; to support new data and information needs from the climate and energy package; and to further develop the mitigation related elements and structure of the Climate Change Data Centre in a SEIS context. All work will be done in close collaboration with the work areas, air emissions; energy and transport.

More specifically we will have activities on:

- The EC greenhouse gas inventory, EU ETS and non EU ETS sectors emissions, SEIS and more up-to-date EU GHG estimates (Year-1); accounting of emission credits in line with Kyoto, and EU legislation; GHG emissions indicators;
- Analysis of data needs for the new climate change and energy package, including methods and estimates for the split between ETS and non-ETS;
- The assessment of projections and effectiveness of policies and measures to achieve the Kyoto targets 2008-2012 and the targets foreseen in the EU climate change and energy package up to 2020. Analysis of good practices in the main policy areas;
- The analysis of the application of the EU ETS second phase (first year 2008), the global carbon market (Kyoto mechanisms, in particular the Clean Development Mechanism);
- Supporting streamlining of air emission and GHG emission data collection, the revision of the EU GHG Monitoring mechanism, management and dissemination activities in collaboration with the EEA Air Centre;
- Providing assistance in the revision of the Monitoring mechanism decision;
- Providing assistance in the preparation of the 5<sup>th</sup> National communication;
- Support to the analysis of possible UNFCCC post-2012 greenhouse gas reporting requirements and to the UNFCCC review process of greenhouse gas inventories;
- Contribution to the integrated mitigation and adaptation outlooks, linking socio-economic developments, emissions including changes in carbon absorption arising from land use changes, deforestation and afforestation and ocean acidification, impacts (e.g. water quantity) and co-benefits (e.g. air quality) as building block for SOER2010 (link to area climate change impacts/adaptation; and
- Contribution to the EEA communication activities during 2009 in the context of the UNFCCC COP15 in Copenhagen (Dec. 2009).

## **1.5 Freshwater**

### *The issues in perspective*

Despite improvements in recent years many water ecosystems in Europe are still at risk due to continuing emissions to water, in particular from agriculture, growing demands for water for irrigation and other uses, physical modifications to water bodies to aid e.g. navigation or hydropower. Extreme events causing either

floods or droughts are expected to increase as a result of climate change. Their impacts are exacerbated by unsustainable management and use of water bodies.

In 2009 the first River Basin Management Plans and relevant program of measures are the corner stone in the implementation of the Water Framework Directive. Their implementation requires continued integration across sectoral activities (agriculture, rural development, economy, energy, transport, water infrastructure), and needs to be supported by intense information exchange between relevant actors on good practice examples and suitable and efficient measures. The Water Information System for Europe (WISE) is expected to provide the necessary data and information to facilitate their integration with the other water related directives, (Urban Waste Water, Nitrate, Bathing Water and Drinking Water Directive).

EEA will support these policy needs by delivering targeted information and integrated assessments on water quality, and quantity, water pollution and water use and their trends in the form of timely data and indicators, also under the SEEAW framework. This information will also support the cross-cutting activities to relate trends to the foreseen impact of climate change, sectoral policies and changing sociality impacts. A key aim is the analysis of the achievement of policy targets and the review of the status of surface water and groundwater in the Community e.g. in support of the WFD Art.18 by 2012.

#### *Main lines of work in 2009*

To further develop the Water Information System for Europe (WISE) as a decentralised system and the main entry point for water data and information exchange and continue integrating other water related directives and processes; to develop indicator based assessment for the area water scarcity and droughts; to improve the existing indicators further in compatibility with the requirements of the water Framework Directive and as concise input for the SOER 2010; to help finding adequate evaluation and suitable measures to cope with climate change impacts in the water area; and to support ecosystem based assessment in the water field.

More specifically we will have activities on:

- For the development and maintenance of user-friendly access to relevant and targeted data and information (including indicators and reports) through the Water Data Centre under WISE, continue the development towards a decentralised system ensuring the integration of other relevant water data (from Urban Waste Water Treatment, Bathing Water, Nitrate and Drinking Water and data on water scarcity and droughts into WISE. Prepare the analysis of this information in the context of other water information and cross-cutting assessments. Regarding flood risk mapping and drought risk observations, as developed at JRC, a suitable modular link to WISE will be started to be set up to ensure the long term maintenance of this information in the context of the further needs under the floods directive and the water scarcity and drought policy process;
- Developing suitable indicators and data collection for water use, abstraction, and availability on water shed Level to enable assessments of water scarcity, "broad-brush" regional water balances and sustainability of water management;
- Developing indicators on water and water ecosystem quality, with focus on eutrophication, towards type specific assessments as required under the

WFD taking into account experience gathered from the WFD intercalibration process;

- Collecting information and foster the information exchange on best practice examples for water measures in River Basin Planning beyond basic measures towards climate change adaptation, water saving, water pricing and hydromorphology as contribution to the development of an adaptation clearinghouse mechanism and for publication of a first overview in 2009 as reference for member states River basin planning;
- Develop and assess relevant information for the evaluation of goods and services for freshwater ecosystems, biological elements and their ecological status, also with regards to the fragmentation of river systems and small water bodies; and
- Outline for a freshwater assessment as part of the SOER 2010.

## 1.6 Marine

### *The issues in perspective*

The general state of the marine environment is under increasing pressure from land-based and maritime activities such as agriculture, aquaculture, fishing, shipping, energy and resource exploration and exploitation. Climate change is adding to the pressures leading to impacts such as higher temperatures and acidification, which could in turn decrease the ability of the seas to absorb greenhouse gases from the atmosphere.

The Marine Strategy Framework Directive, in place since 2008 as the environmental pillar of the EU's Integrated Maritime Policy, provides the framework for implementing an ecosystem-based approach to the management of human activities on the marine environment. By providing comparable marine/maritime data and information (indicators), past trends and outlooks, the EEA will contribute to the successful implementation of this directive and the further integration of environmental aspects into maritime affairs. EEA integrated assessments of the marine environment and the effectiveness of EU policies, including environment, fisheries and maritime issues – also developed directly by EEA work on the maritime policy (see 2.5), will be supported by data and information on socio-economic drivers and pressures.

Work will start towards providing user-friendly access to reports, data and indicators, including GMES products, as well as related analytical tools via a fully operational Marine/Maritime Information System as a component of the Water Data Centre/Water Information System for Europe (WISE). A vital element will be developing an entry point for the environmental elements of the Maritime Policy's European Marine Observation and Data Network (EMODNET).

### *Main lines of work in 2009*

To further improve the data, information and indicator-based assessments for marine and maritime issues, in cooperation with e.g. the regional sea conventions and sectoral actors on the seas and oceans; to start working towards a marine/maritime information system as a module of WISE and integrating GMES Marine Core Service information, previous work by the European Commission's Joint Research Centre on a European Marine Information System and elements of EMODNET; to support the coordination of GMES-relevant in situ-monitoring data and the integration between operational oceanographic information monitoring under the different policy processes; and to develop first elements for a marine ecosystem assessment.

More specifically we will have activities on:

- Providing the first implementation steps in the development of a marine module of WISE to give access to marine, and via EMODNET, maritime data and information, including products from the GMES Marine Core Service and operational oceanography. Support the coordination of GMES-relevant in-situ monitoring data;
- Improving and regularly updating marine/maritime core set indicators and other relevant indicators, including by increasing the current data flow for nutrients and hazardous substances in biota, in first instance for transitional and coastal waters, and setting up a mechanism to access data on Water Framework Directive biological parameters;
- Further supporting and integrating indicator developments for maritime assessments, including fisheries, aquaculture, and energy;
- Developing further indicators, including on climate change impacts and adaptation in support of the EU White Paper on climate change adaptation, biodiversity indicators in support of the SEBI 2010 process, and hazardous substances in biota as well as others in support of the Marine Strategy Framework Directive;
- All indicator development will build on Member States reporting to the regional marine conventions (OSPAR, HELCOM, UNEP-MAP/MEDPOL and the Black Sea Commission) and the reporting to the Water Information System for Europe (WISE) as required under the Water Framework Directive, and be carried out in close coordination with joint efforts for the implementation of the Marine Strategy Framework Directive, once a strategy is set up by the European Commission;
- All marine/maritime assessments will provide the basis for relevant sections of the SoER 2010 and a contribution to regional assessments, e.g. of the Arctic (see 3.2), Baltic (Baltic Sea Region Strategy under the Swedish Presidency – see 2.5) and Mediterranean (Horizon 2020, see 3.2) seas; and
- Preparing the assessment of the state and value of selected marine ecosystem goods and services under different policy-relevant scenarios as a contribution to the Eureka 2012 initiative.

## 2. Cross-cutting themes

### *The issues in perspective*

Demand for cross-cutting integrated analyses is growing in recognition of rapidly changing realities. Europe's consumption and production patterns, their influence on climate change and biodiversity, how they are served by ecosystems around the world, and how these patterns might be adapted in the face of change, are clearly in focus. The requirement for connected information on all these processes is growing as a result. In a globalised economy where individuals, businesses and governments can exert a global reach, many different types of policy can affect the resilience of the natural environment and the resources it provides whether on land or at sea.

From transport to energy, agriculture to trade, tourism to people's well-being, all human activities can manifest themselves in a way that can have cascading sets of unintended consequences, leading us potentially to rapid non-linear changes and tipping points for the natural environment. Many uncertainties underlie these realities and how they may play out. But it is clear that environment and economy have not been equal partners in this relationship.

Over the next five years, the EEA will focus on three main threads of activity: building on the achievements of the 2004–2008 strategy with respect to the methods and analyses needed to generate cross-cutting assessments such as spatial analysis, impact indicators, outlooks and scenarios, policy effectiveness evaluations, economics; putting these methods to work more explicitly across a range of cross-cutting themes in this strategic area; and paying special attention to issues that are priorities for the SOER 2010 and Eureka 2012.

### *General objectives for 2009-2013*

- To build on the achievements of the 2004–2008 strategy with respect to the methods and analyses needed to generate cross-cutting assessments such as spatial analysis, impact indicators, outlooks and scenarios, policy effectiveness evaluations, economics;
- To put these methods to work more explicitly across a range of cross-cutting themes in this strategic area such as sectoral integration, climate change, sustainable consumption and production and maritime, territorial and cohesion policies;
- To pay special attention to issues that are priorities for the SOER 2010, Eureka 2012 and IPCC 2013; and
- To build alliances and capacities within our networks to undertake such cross-cutting analyses and assessments within the context of SEIS.

## 2.1 Climate change impacts

### *The issues in perspective*

Climate change impacts on natural resources and human activities are expected to continue despite strong mitigation action to reduce greenhouse gas emissions, because even achieving the EU target of limiting temperature increase to not more than +2 °C still means there will be many impacts. Climate change is an additional pressure on natural and human systems, which are already under increasing pressure from e.g. globalization and rising consumption patterns across the world.

In 2008, the EEA in partnership with the Joint Research Centre and World Health Organisation Europe produced its climate impacts report based on more than 40

indicators covering physical, biological and health impacts. The conclusions were that in every aspect, the changes associated with climate change were widespread and increasing. Data from the various global observing and *in situ* measurement programmes underlines is also showing that we are also experiencing conditions outside the most conservative estimates from the IPCC 2007 report.

EEA will continue to contribute directly to EU policy developments on climate change impacts by refining relevant indicators, producing assessments, combined with socio-economic factors in Europe, using past trends, now-casting, spatial analysis, forward looking assessments, and policy effectiveness analysis including economic aspects and developing with the Joint Research Centre analyses on the status of climate related global "tipping points".

#### *Main lines of work in 2009*

To further develop and maintain the climate change data centre (on impacts), linking to related resources (e.g. data centres water, biodiversity and land use); to promote and update the 2008 indicator based assessment; and to link to wider strategies on environment and sustainability in Europe and beyond; to implement relevant building blocks for the SOER2010 assessment and EURECA.

More specifically we will have activities on:

- Updating some key indicators on climate change impacts, observed and projected, using results from major international, EU and national research programmes (e.g. on climate related global tipping points) and inputs from the relevant EEA work areas (e.g. water, biodiversity);
- Developing models and data in partnership with ECMWF for hindcasting Europe's climate;
- Integrated mitigation and adaptation outlooks, linking socio-economic developments, emissions including changes in carbon absorption arising from land use changes, deforestation and afforestation and ocean acidification, impacts (e.g. water quantity) and co-benefits (e.g. air quality) as building block for SOER2010;
- Specific assessments of climate change vulnerability and adaptation options in thematic areas, sectors and/or regions, which still are to be selected. This activity requires coordination with other work areas, in particular water, biodiversity, agriculture, transport, energy, SCP, economic instruments and strategic futures.

## **2.2. Vulnerability and adaptation**

### *The issues in perspective*

Natural and manmade disasters pose considerable challenges to sustainable development in Europe today. EU's green paper on adapting to climate change stresses the increased risk of damage to people, infrastructure and environment in the EU and draws the attention to the need for early action and policy response in Europe. Vulnerability to natural and technological disasters is also increasing as a consequence of intensified land use, industrial development, urban expansion and infrastructure construction. Within UNFCCC a 5-year work programme on impacts, vulnerability and adaptation is being implemented and a global post-2012 regime covering also adaptation to climate change is being developed with an agreement planned for end of 2009 (Copenhagen). The European Commission is preparing a White Paper on adaptation which is expected to propose options for integrating adaptation into EU policies across the most vulnerable regions (e.g. mountains, coastal areas and southern Europe and the high north) and key sectors.

Several initiatives have recently been taken within the European Community to improve disaster risk assessment, forecast, prevention, preparedness and mitigation of disasters, bringing together the different policies and instruments on reinforcing the Union's disaster response capacity. The Commission is planning to publish a Communication later in 2008 on a Community initiative in the field of disaster prevention. So far, EEA multi-annual work programmes did not specifically address disaster management. A first EEA report on mapping the impacts of natural disasters and technological accidents was published in 2004. EEA has since published a report on climate change adaptation in the water sector and on costs of climate change impacts (both in 2007).

Starting from the predominant natural hazards in Europe, i.e. floods, wind storms, extreme temperatures, droughts (all expected to be intensified due to climate change), earthquakes and forest fires, Member States have established performing tools to pick up potentially disastrous events caused by those hazards and procedures for early warnings to their populations and measures to avoid exacerbation of those events by human activities. Nevertheless, information is scattered or unstructured in terms of existing and planned prevention and risk management at EU level.

Much progress has been made in recent years to provide and share available information at European level related to information on the economic loss and social impacts of disasters. However, information on environmental impacts and risk management of these events as well as the possible economic benefits of prevention and prior management for mitigation or reduction of impacts remains scarce, especially for trans-boundary disasters. Sharing such information is essential for better risk prevention, disaster management and quick and effective assistance for instance in the context of the EU civil protection mechanism. SEIS has recently been identified as a potential platform to share data and methodologies for risk assessment and disaster management. The GMES (Global Monitoring for Environment and Security) initiative is developing observation data services required for rapid mapping, models and risk mapping, focusing on the main areas of concern and supporting the Member States obligations for risk assessment and disaster management.

Many European countries have also recently started to prepare national climate change impact assessments and a number of countries have now adopted national adaptation plans or frameworks. Sharing of good practices on climate change adaptation actions is so far limited, but is essential to improve such plans, at national, sub-national and local level where much of the adaptation action is already taking place and will be expanding in future, also involving the business community.

#### *Main lines of work in 2009*

The main scope of this strategic action is to support new EU and European policy development on climate change vulnerability and adaptation actions and disaster management with online access to relevant environmental information. EEA's contribution on vulnerability, adaptation, disaster prevention and management in Europe will be organised with others along a number of specific objectives:

- To collect, manage and assess environmental policy relevant data on a European scale for cross-border mapping in EU and neighbouring countries in close collaboration with other European organisations (i.e. DG ENV, JRC, EMSA, ESA);
- To develop environmental information networks with relevant actors, including EU partners, to support disaster prevention and management and exchange of best-practice across Europe;

- To ensure synergies with work on climate change impacts, vulnerability and adaptation, such as water balance including related GMES activities and services;
- Developing a proposal for a "European Clearinghouse on Climate Change Impacts, Vulnerability and Adaptation", in collaboration with the Commission, providing access to e.g. European climate change data and scenarios; information on actions/good practice, including economic costs (e.g. national adaptation plans and actions from thematic EU policy areas such as Water Framework Directive; Natura2000; EU Maritime policy, EU regional policy), linked to the Climate Change Data centre and consistent with an EU Community clearing house on disaster prevention and management, with JRC and other European institutions;
- To provide access to risk maps related to cross-border hazards;
- To map and assess the environmental impacts in case of major natural disasters and technological accidents in Europe to complement the information on economic loss and social impact collected by other organisations;
- To provide guidance and support for information exchange on regional prevention, management and adaptation strategies, also in the context of climate change (link to 2.1);
- To inform the public as well as decision makers on the impact of these disasters and climate change on Europe's environment;
- To develop and promote SEIS as platform for environmental data and information sharing to support climate change adaptation and disaster management and impact assessment, including links to GMES services and GEOSS.

More specifically we will have activities on:

- Finalising and publishing the assessment of climate change vulnerability and adaptation actions in the Alps (started in 2008)
- Scoping EEA's role in climate change adaptation and disaster prevention and management at European level amongst the many existing players at international and national level;
- Identifying the European data and information services that should be included in the implementation of SEIS as platform for climate change adaptation and disaster management and prevention, including the use of Inspire as spatial data infrastructure for disaster management;
- Evaluating the potential and use of new GMES services for climate change adaptation and disaster prevention and management, including near-real time data provision; and
- Starting in 2009 reporting on impacts of natural disasters and technological accidents on Europe's environment and existing measures for their management and prevention. This is to be done in close cooperation with other thematic areas providing further information on environmental impacts and risk management i.e. water, land use, biodiversity, climate change adaptation.

### **2.3. Ecosystem Services**

#### *The issues in perspective*

Ecosystems services are the benefits that people obtain from ecosystems. If societies let these natural assets decline, so will the benefits. The next 5 years will very likely see an expansion of policy interest in this area following the Millennium Ecosystem Assessment (MA) from 2005. Its conceptual framework divides ecosystems services into: a) Provisioning services – products obtained

from ecosystems, including for example, genetic resources, food and fibre, fresh-water; b) Regulating services – benefits from the regulation of ecosystems processes, including flood and disease control, climate, water and human health; c) cultural services – including non-tangible benefits as recreation, aesthetic values and spiritual enrichment; d) Supporting services – those that are necessary for the production of all other ecosystems services, including biomass production, clear air, nutrient cycling, water cycling, etc.

The MA framework will be used by EEA in guiding its activities within the next five years especially to produce the first European ecosystem assessment (Eureca) by 2012, which will also serve as a contribution to the next MA, as foreseen for 2015, and also support the global Rio+20 agenda in 2012. The work on Eureca 2012 will also contribute to The Economics of Ecosystems and Biodiversity (TEEB) global initiative that seeks to put economic values on ecosystem services and for which first results are foreseen by 2010. The main contributions by EEA to TEEB will focus on producing ecosystem accounts, physical and monetary, for key services, developing operational guidelines for actors – policy makers, business, and individuals – to produce their own accounts at all scales – global, national, and local – and documenting the resilience of ecosystems.

A strong usage of the ecosystem services concept can *add strong economic arguments* that could help both *change policy priorities, action and financing within the environment policy arena (e.g. Natura 2000), as well as capture the attention of other stakeholders* by increasing awareness of the economic significance of change. The policy framework in Europe relevant to ecosystem services – e.g. Nature Directives, Common Agricultural Policy, Common Fisheries Policy, Territorial Cohesion – will have a strong influence on the focus of Eureca activities.

The overall objective will be to embed an ecosystem services perspective into relevant EEA and other indicator frameworks (e.g. SEBI 2010, SD indicators), as well as into key EEA reporting exercises and broader integrated and cross-cutting assessments – SOER 2010, thematic assessments, and regional assessments. Eureca 2012 will be the umbrella under which all such activities will be integrated. It will have strong policy relevance through evaluating and supporting present and future policy set-ups and respective policy tools and mechanisms, namely future outlooks and scenarios, and policy effectiveness analysis, including the economics of different paths and alternatives.

#### *Main lines of work in 2009*

To begin full implementation of Eureca assessments around European policy priorities; to start producing Europe-wide physical status and trends analysis for ecosystem services using accounting techniques. Produce ecosystem accounts (physical and monetary) for case studies/pilot areas; to develop capacities in Eionet for analysing ecosystem services through the development of an ecosystem assessment guidelines manual; to build alliances with ecosystem resilience networks in Europe and elsewhere in order to improve access to best available science for Eureca and TEEB; to promote and update EEA, SEBI and SD indicator frameworks based on ecosystems services approach and steer their integration to broader EEA assessments; and to design a framework for integrated assessments of ecosystem services considering Europe's global dependencies and responsibilities – e.g. Europe's footprint. Support the implementation of relevant building blocks for SOER2010, and other assessments.

More specifically we will have activities on:

- Producing story-line based assessments around ecosystem services and Natura 2000, agrofuels, fisheries, CO2 capture and storage;

- Beginning production of Europe-wide physical accounts for ecosystem services for completion by 2010
- Producing (physical and monetary) ecosystem accounts for selected services based on a road map to be developed with DG ENV under the Beyond GDP initiative;
- Producing guidelines for ecosystem accounting as part of the 2010 revision of the System of Economic and Environmental Accounting of the UN
- Producing guidelines for Eionet in one or two areas of most interest building on the global handbook to be published at the end of 2008 by UNEP/WCMC under the umbrella of the MA follow-up.
- Promoting the understanding of ecosystems resilience with respect to Europe's adaptation to climate change and other challenges, and with special focus on epidemiological evidence;
- Revising and updating EEA indicators frameworks to an ecosystems and ecosystems services perspectives and test its interdependences using appropriate analytical tools such as ecosystem accounts;
- Actively promoting ecosystem services approach into EU thematic policies (Climate Change Adaptation, Water Framework Directive, EU Maritime policy, EU regional policy) Territorial Agenda as well sector developments (Agriculture, Forest, Energy, Health), and international – regional policy arenas (European Neighbourhood Policy, Horizon 2020, Arctic Council);
- Actively contributing to SOER2010, through Eureca, with a special focus on Europe-global interdependencies and responsibilities;
- Reinforcing the EC Biodiversity Clearinghouse Mechanism with an ecosystems service perspective; and
- Promoting the active integration of outlooks and development of future scenarios in support of strategic policy developments within the ecosystems services framework;

## 2.4 Environment and health

### *The issues in perspective*

Environmental quality and the link to human health is recognized as one of the priorities of the 6<sup>th</sup> Environment Action Programme, it is also reflected in a new Community action program in the field of health 2008-2013; EU E&H Action Plan, 2004-2010; the renewed EU Sustainable Development Strategy; as well as in main chemical policies (SDS/IOMC, GHS/SAICM; REACH). There are two European processes focused on E&H, that is the EU E&H Action Plan (2004-2010) and the WHO, pan-European process (CEHAPE). All these policies recently underwent their mid-term evaluations, which recognized the progress made but indicated strongly a need for further intense work.

Integration of environment and health concerns into the EU strategic policies and programs was highlighted in the recent Council conclusions<sup>1</sup>. The document underlines also a need for early action on E&H problems and the benefits of preventive and precautionary measures, and development of tools for anticipating, preventing and responding to potential threats from emerging and re-emerging issues (e.g. nanotechnology), and to strengthen the involvement of relevant stakeholders through partnerships across sectors at all levels. It also calls for gathering information on environmental determinants with positive health impacts, such as biodiverse environments, non-motorized means of transport and housing conditions.

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<sup>1</sup> Council Conclusions on Environment and health, 2842nd Environmental Council meeting Brussels, 20/12/07

Assessments, including spatial dimension, which address complex E&H interactions in various settings (e.g. urban) provide support to policies aiming at reducing adverse impacts on human health, including environment and health risks from chemicals. There is a growing need for support to early actions, awareness initiatives that stress the benefits of preventive and precautionary measures, and communication on E&H issues with various partners.

Due to the nature of E&H theme, work will be strongly linked with integrated assessments (area 3), other cross-cutting themes (area 2, e.g. CC impacts and adaptation, SCP, spatial planning and mobility, ecosystem services), as well as the thematic areas (area 1, e.g. air, freshwater, biodiversity) of the AWP 2009. Work in partnership and cooperation with many stakeholders (area 5) is crucial for gathering/exchanging data, information, and knowledge to produce better quality E&H assessments. Working both within and beyond the EEA geographical coverage is particularly relevant due to transboundary nature of many environmental threats to human health, as well impacts of globalization (e.g. of global trade, movement of chemicals, vectors for infectious diseases, etc) on human health and well-being.

#### *Main lines of work in 2009*

To further improve accessibility of information on E&H and chemicals, including further development of E&H indicators, spatial dimension, and link to SEIS; to explore applicability of various methodological approaches to estimate impacts (both adverse and beneficial) of the environment and ecosystems on human health and wellbeing and environmental burden of chemicals, in the context of SOER 2010 and regional reports; to produce a report on causality in E&H based on Bradford-Hill work on causality criteria; to continue work in partnership with WHO towards the Ministerial Conference (autumn 2009, Italy); and to cooperate with the European Public Health Association towards the conference (Nov 2009, Poland) on 'Human ecology and public health'.

More specifically we will have activities on:

- Continuing work on WHO/DG SANCO EHIS process;
- Strengthening inter-institutional cooperation, e.g. with ECDC on developing environmental/epidemiological information system for infectious diseases and the environment;
- Mapping relevant indicator activities linked to SEIS;
- Mapping and further develop relevant E&H methods and data for spatial analyses;
- Exploring possibilities of more effective use of biomonitoring data for E&H information and assessments;
- Continuing work in partnership (with JRC, WHO, research groups, etc) on environmental burden of disease;
- Disseminating report on EBD for selected childhood diseases;
- Exploring applicability of ecosystem approach and benefits of ecosystem services to human health and wellbeing (e.g. work with the Academic Centre on Environment and Health, UK);
- Participating in high level preparatory meetings and contribute to the development of the Conference agenda; and
- Identifying issues of mutual interest (EEA/WHO) in E&H and provide contribution to the Conference (e.g. report on EBD for selected childhood diseases in Europe; health focused Late Lessons Vol. 2 (thematic area 3.4), possibly update of the selected E&H indicators) and disseminating relevant EEA work to this network – prior and during the conference.

## 2.5 Maritime

### *The issues in perspective*

The EU Maritime policy and its environmental pillar – the Marine Strategy Framework Directive - place an ecosystem-based approach at the centre of what should be regarded as an integrated policy response to oceans, seas and coastal issues. This approach, conversely, takes into account the high environmental potentials of European seas and coastal systems through the delivery of indispensable ecological services in face of the high pressures arising from maritime activities. Climate change will add further pressure on the natural systems and will effect on human management as well.

The rapid intensification of diverse and resource-competing economic activities (*inter alia* shipping, fishing, energy, resource exploitation) over the European maritime space generates indeed a set of pressures on the environmental status of the seas and coastal areas. In combination with understanding better the effects of climate change, it thus requires further and new monitoring and analytical methods for integrated assessments. Related intensive technological and information developments are on the way, which help to connect source organizations and to provide online and shared access to the necessary data. Those developments serve the needs for integrated responses, such as marine spatial planning, and hence adapted forms of state-of-environment reporting.

Therefore, through targeted assessments and information services as well as result-oriented partnerships at the European and global levels, the Agency will continue support actively these important policy developments and their implementation. EEA will contribute directly to the activities towards a geographic information system for Europe's maritime areas, articulated around the EU Atlas of the seas, and the specific support to the European Marine Observation and Data network (EMODNET – see 1.5 Marine) and its links to WISE-marine and SEIS. EEA has accumulated knowledge on integrated coastal zone management (EU Recommendation), which will serve for designing spatial analysis tools and information products on environmental issues stemming from the exploitation of the maritime space.

### *Main lines of work in 2009*

To enhance cooperation initiated in 2008 with other EU bodies (Commission services and Agencies) and national/regional organizations with the view to contributing to the EU Atlas of the seas process and the related information systems, in particular EMODNET (see theme 'Marine'); to identify, exploit and review economic data on maritime activities and cooperate with source organisations to integrate environmental relevance; to document, appraise and communicate on marine spatial planning policies and practices relevant to the European scene; to develop mapping projects that will help extend European spatial data infrastructure (SDI under Inspire) to cover marine/maritime geo-spatial features; to link to GMES marine services; to contribute, in the context of the Horizon 2020 process (see 3.2.) and to the EEA/UNEP-MAP 2009 biennial synthesis progress Report; and to implement relevant building blocks for SOER2010 assessment 'see 3.1) and EURECA (see 2.3).

More specifically we will have activities on:

- Developing a common methodology for multi-dimensional (e.g. benthic marine landscape) and functional (e.g. energy potentials, refuge zones) mapping of European seas, contributing to the European Atlas of the seas, providing spatially relevant assessments and the marine module of the Water Information System for Europe (WISE) – see 1.5;

- Producing harmonised characterisation of seabeds, sediments and their habitats (EUNIS compatible broad scale mapping & classification) – support study commissioned by DG Maritime;
- Pilot studies on marine ecosystems accounting – will include review of economic data and support the marine/maritime part of Eureka assessment (see 2.3);
- Contributing to the implementation of a spatial information platform (the marine module of WISE, see 1.5) for data discovery, viewing and commenting that draws from the European Marine Observation and Data Network (EMODNET);
- Providing the maritime part and support for the integrated approach in the annotated outline for Marine/Maritime issues in SOER2010 (see 3.1), with a focus on evaluation of effectiveness of marine spatial planning policies and practices; and
- Contributing to assess the relevant maritime policy as input to related issues (e.g. Tourism, Transport, coastal development including erosion and sediment loss) as well as other regional aspects for the biennial synthesis progress report Horizon 2020 – see 3.2 and the Baltic Sea Region Strategy under the Swedish Presidency in 2009.

## **2.6 Sustainable consumption and production and waste**

### *The issues in perspective*

It is increasingly recognised that EEA member countries have a moral and political obligation to take responsibility not only for the environmental impacts from production within Europe, but also for changing our consumption and its life-cycle environmental impacts in other regions of the world. Sustainable management of material resources and waste is an integrated part of this obligation.

The importance of sustainable consumption and production (SCP) including waste and resources is reflected in policy priorities and plans, including the UNCSO 2010-11 review of SCP, the new EU Action Plan on Sustainable Consumption and Production and Sustainable Industrial Policy, the 2010 review of the EU thematic strategies on sustainable use of natural resources and on waste prevention and recycling, the implementation of the Waste Framework Directive and national policies on SCP, resources and waste. It is also reflected in the increased business focus on corporate social responsibility, efficiency in resource use and environmental management systems, and in increased focus on sustainable lifestyles across Europe.

In 2009, we will reinforce our efforts to support global, EU and national policy processes on sustainable consumption and production (SCP), as well as on resource and waste management, by strengthening the analytical basis through the development and use of SCP indicators, environmental accounts, integrated assessments, outlooks and scenarios, focusing particularly on housing, food, mobility and tourism/recreation. Sustainable consumption and production is a challenge that requires cross-cutting and integrated analyses of the environmental pressures and impacts from the full life-cycle of activities related to consumption - including from resource extraction, production, transportation, consumption and waste management.

Work will be undertaken in close coordination with work in other areas, including on transport and the environment, energy and the environment, agriculture and the environment, climate change, air pollution, spatial analysis, scenarios etc.

### *Main lines of work in 2009*

EEA will contribute directly to policy processes at the global, regional, EU and national levels, including the ones described above, as well as to processes lead by business and consumers.

More specifically we will have activities on:

#### *Indicators of sustainable consumption and production and support to Eurostat data centres:*

- Strengthening efforts to further develop, identify and use of indicators on sustainable consumption and production, including indicators of resource productivity, taking into account indicators from other EEA work areas such as energy and transport. The indicators are to be developed in consultation with the Group of 4 and used in EEA reporting and assessments and can also support activities at the national level, in other regions of the world and at the global level as needed. This activity also comprises the review and update of indicators on waste and resources, including those in the EEA core set; and
- Continuing to supporting Eurostat, in cooperation with DG Environment and the JRC, in establishing and running data centres on waste, resources and products, including by providing information on policies and their effectiveness.

#### *Environmental pressures and impacts from production and consumption, including waste and resources:*

- Supporting the implementation of the EU Action Plan on SCP, the 2010 review of the EU thematic strategy on sustainable use of natural resources, national SCP policies and the UNCSO review of SCP in 2010-11 by deepening analyses and integrated assessments of environmental impacts in Europe and other regions of the world from European consumption categories with high life-cycle environmental impacts including housing, food and drink, mobility/transport and tourism. This will be done in coordination with other relevant EEA work areas such as climate change mitigation, air emissions, water, energy and transport. Among others, the results of this work could be communicated to the UNCSO in 2010-11;
- Strengthening efforts, in close cooperation with Eurostat, to further develop integrated economic and environmental accounts with a specific focus on National Accounting Matrices including Environmental Accounts (NAMEAs), in coordination with other relevant EEA work areas such as climate change mitigation, air emissions, water;
- Continuing to analyse private and public consumption in Europe and its environmental effects worldwide (elements to include a few of the following: environmental impacts, consumption behaviour, replacing goods with services, unsustainable use of sustainable products, rebound effects, consumption and equity, sustainability tradeoffs and effectiveness of policies), in coordination with other relevant EEA work areas such as transport and energy. As part of this work, the options for organizing an EEA conference on sustainable consumption in 2009 are being explored;
- Start scoping the Sustainable Consumption and OUTlook and scenarios for Europe (SCOUT);
- Supporting the implementation of the Waste framework Directive (and other relevant waste directives) and the 2010 review of the Thematic Strategy on Waste Prevention and Recycling by analysing and assessing waste prevention and management across various waste streams. This will include analysing transboundary movements of waste and preparing projections of future waste generation and management;
- Working with companies and their organisations on sharing experiences and good practices on sustainable business strategies, corporate social responsibility, EMAS, role of retailers and strengthen work on sustainable

production and eco-innovation, in cooperation with the OECD, and support the eco-innovation observatory network;

- Supporting neighbouring countries on SCP and waste, especially the Mediterranean countries within the Horizon 2020 project as well as EEA collaborating West Balkan countries;
- Preparing contributions on sustainable consumption and production, including waste and resources, to the EEA 2010 State and Outlook report;
- Continuing efforts to “green” the EEA canteen through development of a sustainable approach to menus and operations; and
- Communicating to consumers of Europe (on how to limit environmental impacts from their consumption), to policy makers (on key trends, policy effectiveness and policy options), and to business (on options for more sustainable products and production).

*Providing policy information and evaluations of the effectiveness of policies:*

- Updating and making available through EIONET and SEIS country fact sheets on waste policies and separately on SCP policies (including to the extent possible material resource policies) in EEA member countries; and
- Scoping and initiating a process for ex-post evaluation of the effectiveness of SCP and/or waste policies in selected member countries, taking into accounts all aspects of the life-cycle.

## **2.7 Land use**

*The issues in perspective*

The inclusion of the territorial cohesion in the new EU Lisbon treaty underlines the fact that a policy tool for coordination, coherence and synergies of sectoral policies is indispensable for the sustainable spatial development and multi-level governance system of the European continent. The first Action Programme for the implementation of the EU Territorial Agenda seeks in particular to develop a robust platform of knowledge and assessments of the state, perspectives, trends and policy impacts over the diverse European territories.

Over the past decade the Agency has analysed tensions over the use of land in Europe and observed that they will be exacerbated by urbanization, transport growth, shifts in agricultural priorities, new forms of tourism, evolving societal aspirations around mobility and housing, demography and the continuous changes to the territorial landscape from climate change putting at risk ecological and social resilience.

*Main lines of work in 2009*

To fully exploit the completed 2006 Corine land cover inventory and related data bases, in particular the high-resolution soil sealing information and build further blocks (such as interactive tools, nowcasting spatial modelling and, GMES services) in the Land Use data centre linking to related resources (e.g. data centres biodiversity, water, and climate change around vulnerabilities and territorial adaptation); to participate in the definition and testing phase by ESPON2013 of a set of territorial indicators; to enhance/foster the spatial mapping of specific thematic areas including: (water management issues (see 1.4), biodiversity (fragmentation, connectivity see 1.3), environment & health (see 2.4), noise exposure and impacts (EU Environmental Noise Directive), transport & mobility (see 2.10) and disaster management (see 2.2); to support selected regional assessments (see 3.2 on urban, mountain and rural areas) and assessment of adverse trends in land use; to implement relevant building blocks for SOER2010 assessment and EURECA. To reinforce cooperation with JRC (land use modelling) and Eurostat (land use data, urban audit, environmental accounting).

More specifically we will have activities on:

- Reinforcing methodologies for implementing advanced spatial analysis methods; , the design and run of scenarios will gain in focus and importance, in particular for informing systems fragmentation and identifying vulnerable areas (e.g. impacts of climate change and other natural disasters, transport infrastructure) as well as potentials to adaptation (see also 2.3 Ecosystems);
- Constructing and assimilating long time series of geo-spatial data sets to this effect, as part of modelling tools - building blocks for SEIS (6.2 SEIS) and scenario building (3.6);
- Finalisation, evaluation and dissemination of SEIS project 5 on land-biodiversity/water;
- Comparative studies on spatial planning tools and policies, including new studies (e.g. renewable / bio energy – see 2.9; market-based instruments – see 3.5) to support effectiveness analysis of regional and territorial cohesion policies (follow up cooperation with ENEA);
- Updating regional spatial assessments on urban, coastal, rural and mountain areas to support related EU environment, territorial cohesion policies and important economic sectors (see 3.2), based on analysis of 2006 data from CLC and the 1990-2000-2006 changes assessment;
- Spatially relevant analysis of tourism and transport/mobility sectors (see 2.10) and specific land use dimensions of agriculture (see 2.8);
- Economic valuation of land ecosystems, in their spatial distribution, will be researched actively; a study on land pricing/taxes as an instrument to help shape land use in Europe will be initiated;
- Maintaining country spatial sketches on land and new territorial indicators with respect to Eionet capacity building (within 3.1), based on CLC2006;
- Contributing to the Eureka 2012 and SOER 2010 projects of the Agency through completion of land, water & ecosystem accounts (UN framework compatible) – see 2.3 Ecosystems services);
- Interactive and upgraded information services, including soil erosion and efficiency of terrestrial ecosystems to absorb carbon by Land Use Data Centre and related thematic data centres; and
- Producing operational data base on noise maps and data as part of ReportNet implementation for Environmental Noise Directive data flows.

## **2.8 Agriculture and forestry**

### *The issues in perspective*

The use of agricultural and forestry land in Europe for producing primary material (food, feed, biomass for energy and material purposes) will become more intensive in the coming decades. This derives from new demands (e.g. bioenergy, trends in world agricultural markets), advances in technology (e.g. enzymatic digestion of cellulosic material, engineering of food properties, crop breeding including GMOs etc) and changes in farming practices. Forestry and agriculture increasingly deliver into shared end use streams (buildings, energy and biomaterials), which leads to higher demands on the available land area. The expected impacts of climate change and land conversion for the urban and service sectors will increase resulting pressures on water and soil resources as well as affect biodiversity, landscapes and air quality.

In the past years, the EEA has worked on agri-environment indicators, developed the concept of high nature value farmland and investigated policy integration, e.g. with regard to bioenergy production. Future work will aim to provide an

integrated analysis of land use trends in the primary sectors through assessing their current and future impact on environmental resources in Europe (water, soils, air quality, biodiversity and landscapes). This will help to assess the impact of new societal demands, demographic and technological trends on the natural environment as a basis for policy evaluation and feedback into related sectoral and environmental policies. Such an approach requires deepening and advancing the analytical tools to be utilised.

In view of connecting the many dimensions embedded in agricultural issues, the related ambitions for 2009 and beyond can be defined as:

- Integrating economic and biophysical models for assessing the driving forces behind environmental impacts of socio-economic trends in order to inform sector policy debates, especially agriculture, bio-energy and rural development policies;
- Contributing to the further development of methods in spatial analysis (see 2.7) as well as scenario tools (see 3.5);
- To develop capacity and knowledge for engaging on key cross-cutting issues, such as sustainable consumption and production (see 2.5) or adaptation to climate change (see 2.1);
- Further developing sector-related indicator sets for reflecting new land use trends, e.g. the combined impact of food, feed and biomass production on water resources.

#### *Main lines of work in 2009*

The analytical focus in 2009 will lie on the impact of sectoral land use trends on environmental resources, in particular water quality and quantity (see 1.5 Freshwater), biodiversity (see 1.3) and landscapes (see 2.3 Ecosystem services and 2.7 Land use) . This includes nowcasting and development of more timely data and agri-environment indicators including information on agriculture and forestry. The carbon balance associated with land use change, both within Europe and globally, will be another important aspect to be explored (see 1.4 Climate change mitigation). This work requires methodological development that will support efforts to develop environmental and ecosystem accounts at the EEA as well as inform analysis of adaptation to and mitigation of climate change. Close partnership with other work areas of the EEA (including water, energy, biodiversity) as well as research teams at other organisations (in particular JRC and Eurostat) will therefore be essential for the work to succeed.

More specifically we will have activities on:

- Further exploring the opportunities and limits for biomass production, taking into account likely impacts on European ecosystem services, as part of 2.9 Energy-Bioenergy;
- Helping to update and revise the EU agri-environment indicator data set developed under the IRENA operation (revised partnership agreement with Commission services);
- Exploring the interactions between Europe's biomass demand (for food, energetic and material use) as well as global markets and environmental impacts;
- Providing a sectoral input to cross-cutting activities at the EEA, such as environmental accounts, spatial analysis (see 2.7) or sustainable consumption and production (see 2.6); and
- Linking up the above activities to form an approach to the agriculture contributions to the Eureca 2012 project (see 2.3 Ecosystems services) and the SOER2010 report (see 3.1).

## 2.9 Energy

### *The issues in perspective*

Energy policy must play a central role in combating climate change while at the same time ensuring a secure supply of energy in Europe. Energy production and consumption (including renewable energy such as bioenergy) has also substantial impacts on human health and the environment (including emissions of air pollutants, waste generation, oil spills). The Commission is developing further the legislative package on energy and climate change policies proposed in Jan. 2008 to implement the initiatives agreed at the European Council (8-9 March 2007), including actions towards the achievement of the targets by 2020 (20% share of renewable energy in final energy consumption, 10 % renewable fuels in road transport and 20% improvement in energy efficiency) and the establishment of a framework for carbon capture storage and stimulating the establishment of demonstration plants. Further efforts are also being made to advance the establishment of a true internal energy market, to stimulate energy research and technology development and to enhance international cooperation on energy issues.

EEA will contribute by providing integrated assessments of how changes in the energy sector contribute to mitigate climate change and have effects on human health and the environment; analyses of costs and benefits and tracking progress towards meeting policy targets for the energy sector and their environmental effectiveness, all supported by up-to-date data and indicators.

### *Main lines of work in 2009*

To develop and maintain energy and environment indicators based on country' data and information submitted to Eurostat, and other Commission services, EEA, IEA and UNEP; and to use energy and environment modelling tools to assess the environmental constraints and benefits of renewable energy, other technologies and energy efficiency

More specifically we will have activities on:

- Annual reporting on energy and environment indicators. In 2009 a specific focus will be on energy subsidies (update of 2004 work);
- Assessment of the environmental constraints and benefits of the deployment of new energy technologies, in co-operation with the Commission, UNEP, and the research and business communities. It is proposed to focus analysis in 2009 on the renewable energy technologies wind, wave, solar and hydropower and on the new abatement technology of carbon capture and storage. Regarding bioenergy the focus will be on further work on Life Cycle Analysis greenhouse gas emissions (building on 2008 work) and on low GHG emission pathways for use of bioenergy and contributing to the work on biomass in the project area 'agriculture/biomass and forestry'; and
- Assessments of the pressures from energy production and consumption on the environment depending on the choice of climate change mitigation/energy security pathway and costs and benefits of these pathways (closely linked to the SOER2010 work on climate change impacts/adaptation and mitigation).

## 2.10 Transport

### *The issues in perspective*

Transport is an integral element in most of the activities that together form the gross domestic product. Transport volumes grow more or less in parallel with the economy. The transport sector influences a number of environmental issues and is for some of those a main contributor to the impacts. Climate change and air pollution are the most prominent. Even if the growth in emissions of greenhouse gases from the transport sector has slowed recently, projections for the future foresee a notable growth if no additional mitigating measures are implemented. The EU is therefore considering a range of policies and measures such as inclusion of aviation in the EU emission trading system; reducing CO<sub>2</sub> emissions from cars; infrastructure charging schemes.

In addition to greenhouse gas mitigating measures EU and its Member States must also implement further measures to meet the air quality standards and manage environmental noise. A large share of the population is expected to be exposed to noise levels that are above the target values recommended by WHO.

Furthermore transport growth increases the pressure for infrastructure expansion creating or augmenting the intrusion in landscape and is a potential risk to biodiversity.

In the years to come climate change will be the overarching issue when talking about transport and environment and it will be a challenging task for policy makers to avoid a "single issue discussion" and try to implement mitigation programs that create ancillary benefits in addition to improvements on climate change. EEA can contribute to this. It will be a major task for EEA to see to that transport and environment is not becoming a pure climate change and transport issue.

Much policy development in the transport sector is guided by the aim of creating a more 'sustainable transport system'. Recently the EU Council adopted the renewed EU Sustainable Development Strategy which identified sustainable transport as one key challenge matched with a number of environmental objectives. This framework needs however to be further enhanced to be fully operational and facilitate environmental improvements. In response to the increasingly ambitious greenhouse gas emission targets there is a need to develop sector specific targets. To ensure the ancillary benefits these targets should cover all the main aspects of a 'sustainable transport system' and its use. EEA is already contributing to this debate and should continue to do so. All work will be done in close collaboration with the work areas climate change mitigation, air quality, noise, energy, land use, scenarios and sustainable consumption and production.

### *Main lines of work in 2009*

To develop, maintain and streamline transport and environment indicators as basis for assessments of the impacts of transport on human health and the environment and tracking of progress towards environmentally related policy targets for transport. Transport and environment indicators are based on country information submitted to Eurostat, ITF/OECD and the European Commission supplemented with limited own data collection via EIONET partners. This include in particular improvements in the areas of transport noise assessments, land-use and patterns of goods transport.

More specifically we will have activities on:

- Maintaining, developing and streamlining transport and environment indicators;
- Producing TERM indicators on the transport sector's progress in integrating environmental considerations into its policies;
- Arranging a workshop on sectoral targets where the simplified targets used in the TERM 2007 report can be elaborated into a more complete set of target ranges.
- Supporting the process of improving the environmental performance of international aviation and maritime transport through the provision of relevant information focusing mainly on the emissions of air pollutants and of greenhouse gases; similarly support the process of including them into a post Kyoto regime on climate change;
- Analysing traffic's contribution to air quality and noise in cities, neighbourhoods and districts;
- Building geographically specific transport emission inventories; and
- Contributing to scenarios study on trajectory towards a sustainable transport system with emphasis on energy efficiency and sustainable mobility and access. The work includes the identification and characterization of different possible measures - technology options, demand management options and user behaviour options, in collaboration with other EEA SOER2010 outlook projects as well as with the transport industry, JRC and other European Commission services. Initially a technical workshop on possibilities to develop demand management will be arranged, in collaboration with the sustainable consumption and production EEA work area.

### 3. Integrated environmental assessment

#### *The issues in perspective*

The EEA is increasingly being asked to carry out or contribute to Integrated Assessments across different geographical entities or ecological units in Europe and globally. First among these is the EEA's 5-year report which is mandated in the Agency's establishing regulation: "...to publish a report on the state of, trends in and the prospects for the environment every five years, supplemented by indicator reports focusing upon specific Issues" (Article 2 of EEA establishing Regulation). EEA has responded to this mandate three times: in 1995, 1999 & 2005. The next State of the Environment and Outlook report is due in 2010. These reports have become a main driver and reference for integrated assessments in Europe, and for supporting policy developments including strategic processes such as the 6<sup>th</sup> Environment Action Programme and the EU Sustainable Development Strategy.

A main challenge now faced by the EEA is how to deliver the 5-year mandate and at the same time contribute to other regional, pan-European and global assessments. The increasing number of integrated assessments being requested to support different processes can often be overlapping and compete for the same resources. Common geographical and environmental patterns characterize specific areas in Europe, such as coastal regions or mountain ranges. They correspond on the one hand to the reality of Europe's landscape diversity and, on the other hand, to some form of targeted processes, such as the Barcelona EuroMed process, or territorial cohesion policies. Analyzing the environmental status of these diverse areas is thus rooted in the particular socio-economic characteristics of the different areas as defined (coastal, urban, rural, mountain) and the current and historical land uses of their specific geographical patterns. There really is no clear line between these areas but this has important consequences since many policies and decision-making scenarios need to consider numerous interactions such as between rural and urban situations, the growing urbanization in coastal areas and mountain agriculture and high-value nature farmland.

A second challenge is how to improve the relevance, usefulness and effectiveness of these assessments for decision and policy making. Three elements are identified to focus on. First, a better understanding of what it to make decisions under risk, uncertainty, complexity and ignorance: to support this, the work under the heading "Late Lessons from Early Warnings" will continue. Second, providing economic analyses to help put environment into the heart of economic decision making. And thirdly, an increased emphasis on providing forward looking information and strategic futures.

#### *General objectives for 2009-2013*

Over the five year strategy the first objective is to deliver in support of EU policy objectives a 5-year report in 2010 and to consolidate the foundations (especially through SEIS and a long term integrated assessment strategy) for delivering more efficiently future assessments including those for different geographical units. For this, a long-term integrated assessment strategy will be developed covering the ongoing 5-year reporting cycle and other geographical and issue orientated assessment needs. This will support improved planning and linkage of the different assessments, help and turn potential overlaps into synergies and enable them to be used as building blocks for the 5-year reporting process delivering in 2010, 2015 etc.

The second objective is to improve the effectiveness of the assessments by developing knowledge on decision making under risk, uncertainty, complexity and ignorance, making economic evaluations and developing strategic futures.

In 2009, the specific objectives will be:

- to develop a strategy for producing integrated assessments, the 2010 State and Outlook report and related strategic futures work;
- to respond to the Mediterranean Horizon 2020 process;
- to respond to the request to produce the 5<sup>th</sup> pan-European assessment for the next environment ministers' meeting to be held in Astana, Kazakhstan in 2011; and
- to publish of Volume 2 of "Late Lessons from Early Warnings".

### **3.1. Integrated environmental assessment**

#### *The issues in perspective*

The next State of the Environment and Outlook report is due in 2010. Consequently, most of the production work has to be carried out in 2009. Content-wise the report will cover key environmental issues, packaged in three major cross-cutting thematic areas: ecosystem services, climate change and sustainable consumption and production. The assessment will be complemented by indicators and country profiles ensuring a proper balance between the European perspective and the country specificity and performance. In general the structure of the report will follow the one applied for the SOER2005. In terms of the geographical coverage, the report will focus on EU Member States and also cover the other EEA member and cooperating countries (27+5 + 7 maybe 8 if Kosovo is also to be partially covered).

Due to the cross-cutting nature of the report, many elements coming from the thematic areas in 1 and 2 of the AWP 2009 will feed into it and therefore are embedded under the respective headings (e.g. 2.1....). Under this heading only activities of an integrative nature or management and coordination of the work will be reflected.

These are:

- define the table of content of the report and produce the outline for each section
- identify the indicators needed and update the supporting data and assessments related to each indicator
- identify the key parameters to be assembled in the scorecard and agree on them with the countries
- develop a common methodology and understanding for the production of the scorecard
- ensure an open dialogue and consultation with all stakeholders at various stages in the preparation process using the SOER2010 portal
- overall coordination of the draft report.

### **3.2 Regional and global assessment**

#### *The issues in perspective*

Common geographical and environmental patterns characterize specific areas in Europe, such as coastal regions or mountain ranges. They correspond on the one hand to the reality of Europe's landscape diversity and, on the other, to some form of targeted processes and policies such as the Barcelona EuroMed process or more generally territorial cohesion. Analyzing the environmental status of these diverse areas is thus rooted in the particular socio-economic characteristics of the different areas as defined (coastal, urban, rural, mountain) and the current and

historical land uses of their specific geographical patterns. There are really no clear lines between these areas but this has important consequences since many policies and decision-making scenarios need to consider numerous interactions: what is happening with rural-urban situations, such as urban sprawl; is the growing urbanization in coastal areas an impediment to maintaining natural services; is mountain agriculture to maintain high-value nature farmland; etc?

In this context, the specific objective of this work is to plan, prepare, contribute to and deliver regional assessments in support to various policies and political processes.

One concrete demand relates to the pan-European process “Environment for Europe” and the European Neighbourhood Policy. In this framework EEA has been asked to consider producing the next pan-European assessment report as input to the ministerial meeting to be held in Astana, Kazakhstan in 2011.

A further example, which also falls under the EU Neighbourhood Policy, is the Mediterranean Horizon 2020 process. In this context EEA has been asked to coordinate, together with relevant partners, the production of a scorecard to measure progress on the basis of an agreed set of indicators. These will be used to produce five-yearly reports on the state of the Mediterranean environment and biennial synthesis progress reports focusing on country profiles. Other assessments are expected for the Arctic and for other ecological or territorial units.

#### *Main lines of work in 2009*

The activities to be carried out under this heading can be structured in four main activity areas, as follows:

- Pan-European assessments: focusing on planning and start preparing the fifth pan-European assessment report for the Astana ministerial conference. This work will imply consultation with key stakeholders for the scope and geographical focus of the report as well as agreeing on the outline of the report.
- Mediterranean environment: responding to EC mandate by building up a regular reporting process under the Horizon 2020 initiative. More specifically the work will cover the identification of relevant indicators monitoring progress in the key priority areas covered by Horizon 2020 initiative as well as the agreement on the content and methodology for the production of the scorecard through a regular consultation process using the H2020 portal.
- Arctic environment: focusing on preparing and delivering specific tailor-made assessments on the state of the Arctic as input to the various assessment and thematic reports (such as SOER2010, the fifth pan-European assessment report, or thematic reports for marine environment, biodiversity or climate change impacts etc.).
- Territorial assessments: developing relevant assessments in support to Cohesion policies, spatial planning and areas defined by their ecological relatedness. The work will consist in the interpretation of Corine land cover 2006 and GMES Land services data.

### **3.3 Decision support**

#### *The issues in perspective*

There is growing scientific awareness that environmental, ecological and health issues are more complex, multi-causal and inter-connected than was previously understood. Systems science, non-linear dynamics and threshold phenomena are characteristics of most environmental and health issues, such as climate change; ecosystems health; biodiversity loss; and the priorities of the EU Action

Plan on Environment and Health (cancer, respiratory, neurological, and endocrine mediated diseases). Timely responses by governments, and increasingly by civil society, to perturbations in such complex ecological and biological systems involve taking action on lower strengths, and sometimes different types, of evidence, (e.g. relevant knowledge rather than precise data), if the precautionary prevention of harm is the goal.

Such decisions need to be taken in light of a broader knowledge base, in part derived from public participation, supported by increased awareness of the effectiveness and consequences of previous actions, or inactions, on emerging issues and early warnings.

Public and stakeholder participation is increasingly recognized as a component of effective decision making on issues that arise from complex ecological, biological and social systems e.g. river basin management; strategic impact assessment; climate change adaptation; land management; nature protection; spatial planning; strategic futures development; the demand-side management of transport, water, energy and resource use; and the lay monitoring of environmental change.

#### *Main lines of work in 2009*

We will use the following projects to promote better and more widely accepted understanding of the implications of systems science, multi-causality and uncertainty in order to support timely, participatory, robust and adaptive decision-making.

More specifically we will have activities on:

- Publishing volumes 2 and 3 of "Late Lessons from Early Warnings";
- Resuming work on threshold and target values, bringing politically and scientifically based threshold and target values into a public data base
- Organising a Workshop and produce a report on "The use of Lay and Local Knowledge in integrated assessments";
- Organising a Workshop and produce a report on "Long term Monitoring of "surprise sensitive" parameters";
- Organising a Workshop and produce of draft of Vol.4 of Late Lessons from Early Warnings on "Reliable Knowledge";
- Organising a Workshop on disseminating Research Results with European Environmental Advisory Committees network (EEAC);
- Organising a Workshop and produce a report on "Evaluating Scientific Evidence on Environment and Health: Towards Transparency and Clear Communication";
- Organising a project on Uncertainty Management at the EEA: internal workshop and draft guidelines; and
- Initiating a Futures project on Nanotechnology, with EEA Scenarios colleagues.

### **3.4 Economics**

#### *The issues in perspective*

There is an increasing focus on economic damage and welfare loss in the case of inadequate action or inaction. At the same time policies and measures must induce effective and least-cost solutions. Moreover, there is increasing recognition that environmental protection can go hand-in-hand with the pursuit of social goals and economic prosperity. For example in the field of energy and climate change several actions are profitable even from a business perspective. The economic component of environmental analysis and evaluations is getting

stronger as reflected in the further development of methods such as ex-ante-type cost of policy inaction, impact assessments and integrated analysis, and ex-post evaluations. Market-based instruments are increasingly recognised as potentially cost-saving tools, and environmental tax reform aims to reconcile environmental, fiscal and social objectives.

#### *Main lines of work in 2009*

The EEA will support and deliver integrated economic analysis including modelling across themes (biodiversity, climate change, marine, spatial planning, environment and health) and driving forces (agriculture, transport, (bio)energy) with the focus on cost of policy inaction, cost of measures, benefits of improved environmental quality and ecosystems services, and the role and impact of market-based instruments and environmental tax reform. Central to these activities will be the maintenance of data repositories.

More specifically we will have activities on:

- Further development of data gathering and assessments of the economic consequences of action and of lack of action;
- Integrated analysis of economic drivers and environmental problems and policy tools;
- Inventories and assessments of the role of market-based solutions and environmental tax reforms;
- Cost of inaction related valuation of market and non-market damage to ecosystem services and human welfare as input into European eco-assessment programmes;
- Integrated analysis of environmental consequences and resources efficiency of main driving forces and of solutions with focus on market-based approaches (carbon markets, environmental taxation);
- Analysis of environmental tax reform as response to long-term sustainable reconciliation of environmental, economic/fiscal and social objectives; and
- Further development of methodologies including benefit transfer for scaling up of non-market valuation case study results, and valuation in land and ecosystem accounting.

### **3.5 Strategic futures**

#### *The issues in perspective*

In its first years of operation the EEA concentrated its effort on integrating the forward look into its main assessments covering the EU (SOER) and looking into the implementation of the *Acquis* through distance-to-target analysis. Following the analysis presented in the SOER 1999, and the amended regulation, the EEA was requested to integrate a forward-looking component into its assessments. It then started to expand its focus beyond the SOER reports and into the thematic areas, as well as beyond the existing legislation and recently beyond the borders of the EU. During the last strategy the main bulk of work consisted of the wide assessment process as the SOER 2005, and the Belgrade Conference. Furthermore, through PRELUDE, the potential of scenarios for framing issues in the early stages of the policy cycle, and a way of inducing strategic thinking in policy making was widely demonstrated.

As knowledge, experience information and data were gathered, the conditions were there to start designing and developing a (shared) information system and for the forward looking information, so far absent from all the data and information system of the EEA network.

Reviews of relevant scenario studies, models and outlook indicators were undertaken. The potential of the Indicators management system for outlook indicators has been tested to be used for the improvement of the existing EEA Core set of indicators and information systems.

During the next 5 years, work in this area will focus on support for strategic decision-making by expanding on the issues above, and further develop some specific areas: the forward looking component of major EEA assessments and of the environmental information systems; the use of scenarios and other forward looking methods for decision making in conditions of complexity, increased risk and uncertainty; the expansion of the Environmental Information Systems through the incorporation of a forward looking component, applying SEIS principles; the development of adequate methodological approaches that allow for a better integration of uncertainty, complexity risk, and stakeholder participation in forward looking assessments; the cooperation links with Knowledge centres or networks of excellence in the area and partnerships with relevant Institutions, regions and countries. We will make better use of existing processes, information and available methods and approaches to provide user tailored options for the future.

#### *Main lines of work in 2009*

To continue supporting on-going EEA assessment processes; to build on information and experience to foster the use of scenario in strategic decision-making; to initiate new forward looking/scenario assessments in new areas/regions; to continue working for the improvement of the Information systems; and to strengthen cooperation and capacity building actions.

More specifically we will have activities on:

- supporting the future analysis for the SOER 2010, for the Ecosystem Assessment (Eureca) and undertaking activities that could support eventually the Pan-European Astana report 2010, in cooperation with area 3;
- undertaking forward-looking assessment(s) in specific regions and/or topics (e.g. SEE, nanotechnology, neighbourhood countries, in cooperation with area 3);
- further exploring the use impacts and effectiveness of scenarios in strategic decision making, including analysis of institutional good- practice and guidelines;
- further developing information systems for forward looking information in cooperation with EIONET, applying SEIS principles (i.e. improving access to information, sharing the information with countries and developing better tailored tools to manage forward-looking information);
- continuing cooperation with countries and other major players in the field, in coordination with area 5; and
- strengthening strategic partnership with relevant Knowledge centres and Research programmes in order to improve methodological approaches to the area, and extend it to business and NGO's when relevant.

## 4. Information Services and Communications

### *The issues in perspective*

The demand for easy to understand up-to-date information has grown significantly even during the course of the 2004-08 strategy. This demand comes from both political decision makers and from European citizens, who increasingly request full transparency on information from public bodies. On the other side, researchers, policy analysts, experts of NGOs, and also informed citizens, request more and more also detailed in-depth data and information. Alongside this development, the rapid evolution in new information technologies provides us with tools to communicate more effectively. Work in this area will focus on building the Shared Environmental Information System (SEIS); shaping strategic messages; communicating effectively with target groups and evaluating our impact.

### *General Objectives for 2009-2013*

To reach as broad an audience as possible, EEA will work closer with our institutional networks throughout Europe and with international and national media. The aim is to build a shared environmental information system for Europe to support sustainable development and the achievement of significant and measurable improvement in the environment, and to promote EEA strategic messages in a pro-active, responsive way and contribute to political and public agendas. This depends on effective two-way communication, engaging in dialogue with target groups to understand their information needs and to give the right information at the right time, so it has most impact.

### 4.1 Shared Environmental Information System

#### *The issues in perspective*

In January 2008, the European Commission adopted a Communication proposing to improve, modernise and streamline current environmental information systems by establishing a European Shared Environmental Information System (SEIS). This system will tie in better all existing data flows and information related to EU environmental policies and legislation as well as other data and real time observations related to emerging environmental priorities. The overall objective is to provide easily accessible information to both policy makers and citizens.

SEIS will be a distributed, integrated, web-enabled information system based on a network of public information providers sharing environmental data and information. It will be built on existing e-infrastructure, systems and services in the Member States and EU institutions. The implementation of an infrastructure for spatial information in Europe (Inspire) will be a major building block for SEIS. EEA is supporting the preparation of the implementing rules for Inspire.

EEA has over more than 10 years period been building its information system for collecting, managing and disseminating environmental data and information. Under the 2004-08 strategy the work was reinforced as one of the main strategic actions, focusing on applications supporting collection of environmental data under the umbrella of Reportnet, an Indicator Management Systems, the Geographic Information System and portals providing user access to environmental data *"in their neighbourhood"*. The IT infrastructure and the generic publications and web services were also strengthened considerably, resulting in a seamless, high-quality information system. Nevertheless, new tools and user needs enable and request a continuous process of improvement.

The European Commission is planning to publish a new Communication by end 2008 on "GMES, a European programme for the global monitoring for environment and security". The Commission will propose that the EEA contributes to the supervision of operational GMES services, and to the coordination of the corresponding user communities. The long-term availability of the in-situ component of GMES needs to be ensured by means of an improved coordination of product and data supply to GMES services, in compliance with the Inspire Directive. This function should be ensured by the EEA on behalf of the Commission.

Regarding the in-situ component, the Commission will propose to grant EEA a coordination function for the provision of in situ data for GMES services and for research and development activities. It is proposed that the EEA should evaluate these (in-situ) funding needs.

#### *Main lines of work in 2009*

A key objective of SEIS will be to modernise the current reporting systems towards a network of decentralised system providing online access to data that are managed as close to the source as possible. EEA and Eionet will work closely together with the European Commission and other stakeholders to implement the system. EEA will achieve this by building further on the systems and services developed under the 2004-08 strategy.

The Reportnet applications will be progressively adapted to more distributed management and the web services will have to be built to increasingly serve a multilingual user community. A major challenge will also be to develop SEIS as a platform that also can be used for two-way communication on the environment, enabling users to upload and share their information with others from the local to the global level.

More specifically there will be work across seven areas:

European data management: focusing on streamlining data flows within Eionet, collection of other data needed for EEA assessments, and the management of the five thematic Environmental Data Centres (climate change, biodiversity, water, air, land) that EEA has responsibility for under the agreement of the Group of Four.

European spatial data infrastructure: building the infrastructure, based on the Inspire initiative, to serve as a backbone for SEIS, recognising that at least 80 % of all environmental data and information used by EEA has a spatial dimension; supporting the European Commission with the preparation of Inspire implementing rules for annex I, II and III spatial data and related services.

Applications and service development: including the Reportnet tools, data services, Geo-portals, the indicator management systems (IMS+) and GMES services to improve integration of in situ and space based monitoring.

GMES in situ coordination: providing support to the in situ working group of GMES, and establishing for each fast track service the inter-linkages between data providers and users and a testbed for initial core services where needed.

System integration, maintenance and management: providing high quality, continuous (24/7) data and information services based on internal and external user demands. We will work closely together with the member countries, partly through NESIS, and participating in the overall development of the system of systems within the GEO/GEOSS initiative.

The EEA website and publications: as the main portal for providing timely and relevant environmental data and information on the state and outlook of Europe's

environment. The objective is to develop the web site into the primary channel for EEA outputs at all levels of aggregation and detail, streamlined with production of paper publications as secondary, derived products.

Editing and translations: providing products and services with high readability, usability and message consistency for a multilingual user community. The objective is to use better the potential of primary products by producing derivatives for different, multilingual, target groups and for different communication channels.

## **Communications**

Our overall communications goals are:

- To give Europe's decision makers and citizens the independent information they need to make informed choices about the environment;
- To support research and policy analysis by publishing data and indicators online while minimising the delay in an easy accessible format;
- To raise awareness on the environment by communicating our messages in a transparent, understandable way to as broad an audience as possible;
- To raise the profile of the Agency and its network as being the key providers of relevant, reliable information on Europe's environment.

### **4.2 Shaping strategic messages**

#### *The issues in perspective*

Our overall communications objectives are to provide Europe's decision makers and citizens with the independent information they need to make informed choices about the environment; raise awareness on the environment by communicating our messages in a transparent, understandable way to as broad an audience as possible; and raise the profile of the Agency and its network as being the key providers of timely, targeted, relevant and reliable information on Europe's environment.

#### *Main lines of work in 2009*

2009 will be a crucial year in relations with key clients as a new European Parliament will be elected in June 2009 and a new college of European Commissioners takes office in autumn 2009. At the same time, EEA will be shaping its SOER 2010 and consolidating the re-launch of the Signals Report.

More specifically we will have activities on:

#### Communications planning

EEA will ensure that the communication strategy is based on the shaping of strategic messages across key policy areas and that these are delivered to the target groups via the appropriate channels. Communication is not an "end-of-pipe" service so EEA will work to bring communications planning upstream in the production process. We will work closely with our networks in this planning.

#### Developing Signals

As the environment debate becomes both more current and more complex, the role of the Agency as a provider of structure becomes more important. EEA will select the key elements from all the products that we produce and highlight them effectively. In this context, Signals represent both a process of shaping strategic messages and an annual output. Work will continue throughout 2009 to plan and deliver the January 2010 Signals Report.

### 4.3 Communicating with target groups

#### *The issues in perspective*

EEA aims to best serve our primary target groups of Europe's decision makers and influencers while also reaching as broad an audience as possible. EEA will work closer with our institutional networks throughout Europe and with international and national media. EEA strategic messages will be promoted in a pro-active, responsive way in order to contribute to political and public agendas. This will require effective two-way communication, engaging in dialogue with target groups to understand their information needs and giving the right information at the right time, so it has most impact.

#### *Main lines of work in 2009*

The election of a new European Parliament in June 2009 and the appointment of a new college of European Commissioners in autumn 2009 will present significant challenges for EEA communications in 2009. At the same time, EEA will be shaping its SOER 2010 and consolidating the re-launch of the Signals Report. Moreover, the COP15 meeting under the UNFCCC in Copenhagen in late 2009 presents an important communications opportunity for EEA, but one that will require careful identification of priorities.

EEA will continue to strengthen and widen our media network and use it to multiply the effect of our messages and increase the visibility of the Agency as a key provider of environmental information. A more targeted media approach will be pursued – meaning that we will select the media we wish to work with depending on the messages we want to get across and the target group we aim to reach. Furthermore, we will continue to use other communication tools such as exhibitions and events and printed and audiovisual communication products to reach in particular key clients. Investing in the multi-media content of our website should ensure that it becomes a world-recognised portal for providing timely and relevant environmental information on the state and outlook of Europe's environment.

More specifically we will have activities on:

#### EU institutions

EEA will integrate our communication initiatives with the environmental agendas of the European Commission and the European Parliament, the Presidency-in-office of the Council of Ministers and the public interests in different regions of Europe. We will expand our outreach to cover more sectors engaged in environmental policy making and meet their needs for environmental information when possible.

#### Media and launches

EEA will maintain and develop a core network of journalists across Europe, update the media database, organise the effective dissemination of EEA outputs, organise media briefings with selected journalists and ensure visibility of the Agency at environmental exhibitions and events in line with the activities and projects as described in the AMP across the EEA.

#### Public outreach

EEA will continue efforts to raise environmental awareness and the profile of the Agency through direct interaction with the public; as well as, through collaboration with various players and networks. We will ensure interaction with EU citizens by participating in international, national and local events, including events related to the rotating EU presidencies, and by creating EEA events (out-of-house, in-house or on the web). EEA will assure that our public awareness raising activities are strategically profiled to underline the role of the Agency as a key provider of environmental information in the run-up to and during COP 15 in Copenhagen in 2009.

#### Public enquiry service

In line with the Communication Strategy, we will continue working to ensure that the Information Centre further establishes itself as a key place for European citizens requiring information on the environment. EEA will network with information centres from other international organisations and ministries/EPAs in EEA member countries to explore ways to work together and promote each others' information products, including educational material.

#### Web content and multimedia

The website is our key communication channel, but will only be an effective channel if it is used by our target groups. In 2009, we will continue to work on improving its identity and ensuring that it is continuously updated and easy to navigate. In addition, the focus will among others be on enhancing the content and communication aspects of the EEA thematic websites, in particular with a view to SOER 2010 needs. The use of multimedia will be enhanced to maximise outreach and impact of EEA messages. The Agency will develop a consistent multi-media production series, including short and snappy videos, web animation and audio products, to be issued with a regular frequency.

#### Education

Communication with younger audiences will be strengthened by leveraging the EEA's main messages for various outputs suitable for children and for broader education purposes. A consistent production series of videos and animated presentations will be developed. Eco Agents will continue to be developed as our educational 'flagship', targeted at kids. In addition to outreach to schools, efforts will also be made to link up better with broader educational and training (life long learning) networks. EEA will link up information to relevant educational processes (e.g. UN Decade for Education on Sustainable Development, UNECE ESD strategy, the EU Education & Training 2010 work programme).

### **4.4 Evaluating our impact**

#### *The issues in perspective*

To learn how to maximise the effect from different communication initiatives, the Agency must regularly and systematically carry out short-term and long-term effectiveness evaluations on the quality, relevance and impacts of its products and services. It should regularly test the Agency's image amongst its key target groups. This is the basis for effective two-way communication, engaging in dialogue with target groups to understand their information needs and giving the right information at the right time, so it has most impact.

#### *Main lines of work in 2009*

Following the large-scale, five-yearly independent evaluation completed by external evaluators in 2008, work will continue to ensure that appropriate recommendations are implemented from the outset of the new strategy in 2009. In between these five-yearly evaluations, EEA will continue to evaluate the impacts of its products and services on an ongoing basis.

More specifically we will have activities on:

#### Effectiveness evaluation

EEA will evaluate whether the information and key messages set out in our products and services have reached our target groups, assess their added value to the target groups and provide feedback to the Agency.

#### Media monitoring

EEA will regularly monitor the media, policy documents and reports, and scientific publications for quotes and other references and use this knowledge to improve outreach and impact.

## 5. EEA governance and partnerships

### *The issues in perspective*

This area of work addresses the formal governance activities with the EEA management board, scientific committee and Eionet partners as well as the coordination of relations with the various partners and networks with whom we work to help develop our work programme and achieve our Mission. Many of the activities and relationships are laid down in the EEA founding regulation; others are being developed as our work programme evolves and the needs for networking and partnerships with a broader range of actors relevant to the development of environmental policy and its implementation become clear.

### *General objectives for 2009 – 2013*

The Agency aims to provide efficient and effective support to its management board, bureau and scientific committee to ensure that they are well informed for their decision making and advisory duties. The Agency also aims to further develop its relationships with Eionet and other partners/networks to ensure the economic, efficient and effective delivery and use of policy relevant information on Europe's environment and Europe's impact on the global environment.

### 5.1 Governance and country network support

#### *The issues in perspective*

The growing recognition of the Agency as a key provider of timely, targeted, reliable and relevant environmental data in Europe requires an increased attention to its governance and network support. We will need to sustain and strengthen the cooperation with our main clients and partners in the countries which are part of Eionet and beyond.

#### *Main lines of work in 2009*

The increasing number of partnerships and international activities the Agency will be involved in will necessitate consolidating further the close relations with the members of the EEA Management Board, the Scientific Committee and the NFP/Eionet group. To facilitate this, we will need to continue to strengthen the smooth administration of the stakeholders meetings and regular contacts with them, as well as to ensure their involvement in the provision of advice and decision-making in respectively the strategic scientific and operational development of the EEA work programme.

With a major transformation in the EEA Scientific Committee at the start of 2009, the Agency will be looking (*beyond the established support to the regular meetings*) to establish closer links to research communities across Europe and into better utilisation of RTD project results.

With regard to the cooperation with the countries from the West Balkan region, the Agency will be seeking to strengthen the national networks and harmonising their work with the Agency's processes in order to prepare the grounds for their future EEA membership. This work is not covered by the core EU subsidy to the Agency and hence will require additional funding from the relevant EU programmes. We will also need to be ready to respond to countries beyond the current Eionet seeking participation in the EEA work programme, possibly as a first step towards membership.

To meet the demands and expectations of all countries participating in Eionet, support SEIS implementation within the countries and improve mutual understanding of EEA and national activities, EEA will also build up its networking and contacts with the national Eionet partners through further development of

EEA country desk officer activities, reinforced by an enhanced network coordination group and increased networking activities by all staff across the Agency.

With regards to the cooperation the European neighbourhood countries, the Agency will be promoting through the development of contacts and networking the use of tools, concepts, experience and knowledge developed within EU and EEA to improve the quality and availability of data, information, assessments and reporting from and about countries covered by the EU Neighbourhood Policy. This work is not covered by the core EU subsidy to the Agency and hence will require additional funding from the relevant EU programmes.

More specifically we will have activities on:

- Secretariat support for (at least) three Management Board meetings, three Bureau meetings and an annual MB seminar;
- Secretariat support for three Scientific Committees and Scientific Committee member participation in other meetings and events;
- Secretariat support for three NFP/Eionet meetings and other ad hoc NFP meetings;
- Support/coordination of EEA activities with countries, NFPs and ETCs including the EEA Country Desk Officer network; and
- Delivery of the work programme with European neighbourhood countries.

## **5.2. European and international cooperation and networks**

### *The issues in perspective*

The Agency works through an increasing number of partnerships and networks to improve its own capacities and capabilities and to support others in their endeavours. These range from European to International and across the science-policy bridge.

### *Main lines of work in 2009*

At the European level, the Agency will work for mutual benefit with networks such as the network of Heads of the European Environmental Protection Agencies (EPA Network) and Heads of European Nature Conservation Agencies (ENCA Network) as well as the Directors' Meeting for Environment Statistics and Accounts (DIMESA) coordinated by Eurostat. The Agency will also continue to provide the secretariat for EPA Network as requested.

EEA has the mandate to be active in the dissemination of information on the results of relevant environmental research and to do this in a form which can best assist policy development. In doing so, EEA is to "actively seek the cooperation of other Community bodies and programmes, and notably the Joint Research Centre, the Statistical Office and the Community's environmental research and development programmes."<sup>2</sup>

Together with Eionet and the Scientific Committee, efforts will be made to establish a networking structure in order to be able to disseminate and utilise the results (information and data) of research activities, both at European and national level, in a more systematic way.

In addition, efforts will be made to maintain links to the research and scientific community in order to ensure that work and research relevant to the EEA

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<sup>2</sup> From EEA Regulation

Strategy is being carried out to strengthen the science-policy interface of the Agency's work.

In order to better perform its mandate EEA is working with a wide range of international organisations and countries beyond its geographical remit. Working with regions outside EEA area helps the Agency to raise the quality of its products and to assess better the main environment threats in a transboundary context and in an increasingly globalised world. Working beyond EU and EEA borders also helps when assessing the future trends as well as Europe's impact at the global level.

Of particular importance remains the partnership EEA has built over the years with UNEP and other relevant UN bodies and structures (UN GA, UNDP, UNECE, etc). At the same time, EEA intends to consolidate its cooperation with other key international players such as OECD, OSCE as well as with regional structures and bodies (Arctic Council, UNEP/MAP, Caspian Sea Secretariat, etc.).

In addition, EEA can support the EU orientation towards key emerging markets by building on previous contacts and strengthening dialogue with, for example, Asia, in particular China and India. With the support of Eionet partners, EEA will also continue systematically promoting to other countries in Europe and beyond its networking model and tools as well as standards and methodologies applied in the EU and EEA area. This will also be done through the EcoInformatics network which now involves Canadian and Chinese experts as well as USEPA and European experts.

Specific attention will be also given to regional networking in the light of a deeper understanding of the various ecosystems with transboundary character and implying both a wide geographical and thematic cooperation. Of particular interest in this context are the Arctic and Mediterranean regions for which partnerships with key players and countries in the EEA and outside will be strongly enhanced and better coordinated.

More specifically we will have activities on:

- Contributing to the EPA Network meetings and interest groups as member agency and supporting the EPA secretariat hosted at the EEA;
- Contributing to ENCA Network meetings and relevant interest groups;
- Partnerships and cooperation with international bodies, in particular UNEP, UNECE, WHO;
- Cooperation with organisations and networks beyond Europe, such as, ASEF (Asia-Europe Environment Forum of Asia-Europe Foundation), the Central Asia Conference and EcoInformatics (including collaboration with US EPA);
- Cooperation with regional bodies, such as UNEP/MAP (Mediterranean Action Plan). Arctic Council and Caspian Sea Secretariat; and
- Exchange of information and experiences with countries beyond Europe, for example, Russia, China, Canada, India.

## **6. EEA internal management and administration**

### *The issues in perspective*

EEA activities on managing the Agency, staff and the quality of processes, products and services as well as on providing administrative and building services are being brought together into one strategic area for the new Strategy. This is to help ensure that these core horizontal activities are planned, implemented, monitored and reported upon more coherently and consistently and hence provide the necessary infrastructure to deliver for the economic, efficient and effective delivery of our operational work programme as expected of a modern organisation and required of a Community body as part of sound financial management.

The Agency will develop and use advanced management tools to provide this infrastructure, monitor the execution of our budget, ensure the quality of our internal activities as well as products and services, and provide the necessary information on progress required by staff, management board, auditors, budgetary authority and other stakeholders, including the use of the EEA Balanced Scorecard. This will ensure that we are increasingly economic, efficient and effective in our work as expected of a modern organisation and required of a Community body as part of sound financial management.

The Agency will ensure that it has the necessary skills and expertise to provide this infrastructure and deliver our operational work programme through the recruitment of appropriately qualified staff and the tailored training and development of all staff. Expertise in multi-disciplinary working and management as well as in communication will become increasingly important over the next five years. The EEA Personnel Policy developed in 2008 will provide the basis for our staff development over these five years in continuous dialogue with staff.

The Agency will also ensure that its premises and telematics infrastructure in Copenhagen are maintained and developed so that staff can work and meetings can be run effectively and comfortably as we reach full capacity within the buildings.

Finally the Agency will ensure that it manages its physical resources and reflects closely on the value and need for travelling prior to organising meetings and missions so that we minimise our negative impacts on the environment and increasingly set an example for other organisations to follow.

### *General objectives for 2009-2013*

The Agency aims to provide economic, efficient and effective management and administration of its work programme and resources, financial and human, through a total quality management approach to planning, execution, monitoring, control and reporting of activities based on a balanced scorecard, and through the recruitment, skills training and competency development of staff

## **6.1 EEA operations**

### *The issues in perspective*

This includes general management activities from preparation of the five-year strategies and annual management plans through the management of the Agency by the senior management team to deliver on the current Strategy, line management using the EEA Career Development Cycle, management of operational and horizontal activities and general support to these activities to the training and development of staff. All staff are involved to some extent in this

work area, which requires intense coordination and communication to improve the quality, efficiency and effectiveness of what we do. Internal communications with staff through the Staff Committee and staff meetings are therefore also included here.

The Information Centre will continue to refine its role in internal communication activities as a "Centre for Information" for Agency staff by organising communication activities enabling staff to work together and engage in activities across their usual working areas. The Centre will also continue providing information surveillance and library services supporting EEA staff and effectiveness evaluations supporting EEA management.

## **6.2 Quality management and control**

### *The issues in perspective*

The Agency is developing a Total Quality Management approach to its work from management and administration through operational data handling, information development, assessments and delivery of products and services to engagement with our various clients in the Community institutions and countries as well as other stakeholders and partners.

This requires the attention of all staff and is underpinned by:

- the systematic documentation of our various processes and activities, including monitoring of the timeliness and publication of data and indicators, in line with ISO9000:2000, a process that is underway and will be completed and maintained up-to-date over the coming years, and
- close internal audit and control of these processes and activities in line with the EEA Internal Control Standards, an activity led by our internal audit capacity but also involving an increasing range of managers and support staff.

Finally as an environmental agency with EMAS registration we have a continual environmental improvement programme in place and updated annually to minimise our negative impacts of the environment as well as an advisory service to other Community institutions, agencies and other public bodies.

## **6.3 Administrative and building services**

### *The issues in perspective*

This provides a range of services from human resource management through budget planning, implementation and reporting/accounting to internal administrative and telematics systems and logistics/building support.

To provide many of these services in line with the staff and financial regulations, the Agency has adopted a range of systems either provided by the Commission (where relevant and effective for EEA) or developed in-house to meet our specific needs. These include systems for management planning, budget and financial control, accounting, inventory control human resource management, mail registration, document management and time registration. In addition we have developed and maintain up-to-date an advanced Intranet providing online access to most of the information required for the internal management and administration of the Agency. All these systems are kept under review and adapted or replaced as appropriate. In 2009 the remaining implementing provisions under the Staff Regulation will be put forward for Management Board adoption and links between measures, resources and results made more explicit.

## 5. EEA 2009 budget outline

|   |       |
|---|-------|
| Environmental issues                                    |       |
| Air quality 1.1   | 1510  |
| Air pollutant emissions 1.2                             | 1000  |
| Biodiversity 1.3  | 2210  |
| Greenhouse gas emissions 1.4                            | 1610  |
| Freshwater 1.5  | 1270  |
| Marine 1.6  | 1000  |
| Cross-cutting themes                                    |       |
| Climate change impacts 2.1                              | 910   |
| Adaptation and vulnerability 2.2                        | 800   |
| Ecosystems 2.3  | 830   |
| Environment and health 2.4                              | 100   |
| Maritime 2.5  | 150   |
| SCP and waste 2.6                                       | 2240  |
| Land use 1.7  | 2570  |
| Agriculture and forestry 2.8                            | 690   |
| Energy 2.9  | 510   |
| Transport 2.10  | 530   |
| Integrated environmental assessment                     |       |
| Integrated environmental assessment 3.1                 | 1460  |
| Regional and global assessment 3.2                      | 430   |
| Decision support 3.3                                    | 300   |
| Economics 3.4   | 200   |
| Strategic futures 3.5                                   | 1210  |
| Information services and communications                 |       |
| Shared environmental information system 4.1             | 5560  |
| Communications 4.2                                      | 2170  |
| EEA governance and partnerships                         |       |
| Governance and country network support 5.1              | 1140  |
| European and international cooperation and networks 5.2 | 200   |
| EEA internal management and administrations             |       |
| EEA operations 6.1                                      | 2377  |
| Quality management and control 6.2                      | 200   |
| Administrative and building services 6.3                | 6450  |
| Total:  | 39627 |

## 6. List of acronyms and abbreviations

|                |   |
|----------------|---|
| ASEF           | Asia-Europe Foundation  |
| BAP            | Biodiversity Action Plan  |
| CAFE           | Clean Air for Europe  |
| CBD            | Convention on Biological Diversity  |
| CEHAPE         | Children's Environment and Health Action Plan for Europe                          |
| CLRTAP         | Convention on Long-range Transboundary Air Pollution                              |
| COP            | conference of the parties   |
| CORINE         | Coordination of Information on the Environment                                    |
| DG             | Directorate General   |
| DG ENV         | Directorate General for Environment of the European Commission                    |
| DG SANCO       | Directorate General for Health and Consumer Protection of the European Commission |
| DIMESA         | Directors' meeting for environmental statistics and accounts                      |
| E&H            | Environment and health  |
| EAP            | Environment Action Programme  |
| EBD            | environmental burden of disease   |
| EC             | European Commission   |
| ECDC           | European Centre for Disease Prevention and Control                                |
| ECMWF          | European Centre for Medium-Range Weather Forecasts                                |
| EEA            | European Environment Agency   |
| EEAC           | European Environment Advisory Committee   |
| EEC            | European Economic Community   |
| EFTA           | European Free Trade Association   |
| EHIS           | Environmental Health Information Services   |
| EIONET         | European environment information and observation network                          |
| EMAS           | Eco-Management and Audit Scheme   |
| EMEP           | European Monitoring and Evaluation Programme                                      |
| EMODNET        | European Marine Observation and Data Network                                      |
| ENEA           | European Network of Environmental Authorities                                     |
| EPA            | Environmental Protection Agency   |
| EPER           | European pollutant emission register  |
| E-PRTR         | European Pollutants Release and Transfer Register                                 |
| ESD            | Education for sustainable development   |
| ESPON2013      | European observation network for territorial development                          |
| ETC/ACC        | European Topic Centre on Air and Climate Change                                   |
| ETC/BD         | European Topic Centre on Biological Diversity                                     |
| ETC/RWM        | European Topic Centre on Resource and Waste Management                            |
| ETC/WTR        | European Topic Centre on Water  |
| ETR            | environmental tax reform  |
| ETS            | Emissions Trading Scheme  |
| EU             | European Union  |
| EUCC           | European Union Coastal Conservation   |
| EUNIS          | European Nature Information System  |
| EURECA         | European Ecosystem Assessment   |
| Eurostat/ESTAT | Statistical Office of the European Communities                                    |
| GDP            | gross domestic product  |
| GEO            | Global Environment Outlook  |
| GEOSS          | Global Earth Observation System of Systems  |
| GHG            | greenhouse gas  |
| GHS            | Globally Harmonized System  |
| GMES           | Global Monitoring for Environment and Security                                    |
| GMOs           | genetically modified organisms  |
| HELCOM         | Helsinki Commission - Baltic Marine Environment Protection Commission             |

|         |   |
|---------|---|
| IEA     | International Energy Agency   |
| IHPA    | International HCH and Pesticides Association  |
| IMS     | Indicator Management Systems  |
| INSPIRE | Infrastructure for Spatial Information in Europe                                      |
| IOMC    | Inter-Organization Programme for the Sound Management of Chemicals                    |
| IPCC    | Intergovernmental Panel on Climate Change   |
| IPPC    | Integrated Pollution Prevention and Control   |
| IRENA   | International Renewable Energy Agency   |
| JRC     | Joint Research Centre (European Commission)   |
| LIFE    | EU Financial Instrument for the Environment   |
| LRTAP   | Long-range Transboundary Air Pollution  |
| MA      | Millennium ecosystem Assessment   |
| MAP     | Mediterranean Action Plan   |
| MED POL | pollution monitoring and assessment programme - Mediterranean region                  |
| NAMEA   | National Accounting Matrices including Environmental accounts                         |
| NEC     | National Emission Ceilings  |
| NESIS   | Network to enhance a European Environment Shared and Interoperable Information System |
| NFP     | National Focal Point  |
| NGO     | Non-governmental organization   |
| OECD    | Organisation for Economic Cooperation and Development                                 |
| OSCE    | Organisation for Security and Co-operation in Europe                                  |
| OSPAR   | Convention for the Protection of the Marine Environment of the North-East Atlantic    |
| PRELUDE | PRospective Environmental analysis of Land Use Development in Europe                  |
| PRTR    | Pollutant Release and Transfer Register   |
| REACH   | Registration, Evaluation, Authorisation and Restriction of Chemicals                  |
| RTD     | Research and Technological Development  |
| SAICM   | Strategic Approach to International Chemicals Management                              |
| SCOUT   | Sustainable Consumption and OUTlook and scenarios for Europe                          |
| SCP     | sustainable consumption and production  |
| SD      | sustainable development   |
| SDS     | safety data sheets  |
| SEBI    | Streamlining European Biodiversity Indicators   |
| SEEAW   | System of Environmental-Economic Accounting for Water                                 |
| SEIS    | Shared Environmental Information System for Europe                                    |
| SOER    | The European Environment – State and outlook  |
| TEEB    | The Economics of Ecosystems and Biodiversity  |
| TERM    | Transport and environment reporting mechanism   |
| UN      | United Nations  |
| UNCSD   | United Nations Commission on Sustainable Development                                  |
| UNDP    | United Nations Development Programme  |
| UNECE   | United Nations Economic Commission for Europe   |
| UNEP    | United Nations Environment Programme  |
| UNFCCC  | United Nations Framework Convention on Climate Change                                 |
| USEPA   | The US Environmental Protection Agency  |
| WCMC    | World Conservation Monitoring Centre  |
| WFD     | Water Framework Directive   |
| WHO     | World Health Organisation   |
| WISE    | Water Information System for Europe   |
| WTO     | World Trade Organisation  |