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European Strategy for Environmental Accounts
Work Programme Objective 2.21

EXECUTIVE SUMMARY

1. RECOMMENDATION FOR ACTION

The ESS Committee is invited to endorse the revised European Strategy for Environmental Accounts (the ESEA 2014) which covers the period 2014-2018.

2. BACKGROUND AND BRIEF HISTORY

The first European Strategy for Environmental Accounts (ESEA) was approved by the Statistical Programme Committee in 2003; it was then revised in 2008. ESEA 2008 gave a detailed structural analysis of policy needs and statistical possibilities for environmental accounts and proposed a series of areas for development. Since 2008 much has changed and much has been achieved so it is now time for a strategic and forward-looking review.

In 2011 the first Regulation on European environmental accounts (EU) No 691/2011 was adopted. It covers three modules (air emission accounts, environmental taxes and material flow accounts). Article 10 of the Regulation requires us to consider further developments of European environmental accounting and gives a list of possible areas (inspired by ESEA 2008).

The ESSC in February 2013 approved an amending Regulation adding another three modules (environmental protection expenditure, environmental goods and services sector and energy flow accounts). The amending Regulation is close to formal adoption.

The new ESEA 2014 is the result of consultations with users and of discussions by the working groups on environmental accounts and environmental expenditure statistics in 2013 and 2014. The DIMESA discussed the ESEA 2014 at its meetings on 25 April 2013 and 10-11 April 2014.

3. POLICY CONTEXT

Regulation (EU) No 99/2013 on the European statistical programme 2013-17 foresees the development of satellite accounts for new areas (objective 2.2.1); the development of a coherent system of environmental accounts as ‘satellite accounts’ to the main national accounts in several areas including air emissions, energy consumption, natural resources and water (objective 2.2.1); and the implementation of integrated environmental and economic accounting for forestry (objective 3.3.4).

Environmental accounts have been developing fast in recent years and so has the policy need for data on the mutual interactions between the economy and the environment. Specific examples at EU level include the Europe 2020 strategy, the resource efficiency flagship initiative and the 7th Environment Action Programme to 2020.

Within the Europe 2020 strategy, the flagship initiative for a resource-efficient Europe supports the shift towards a resource-efficient, low-carbon economy to achieve sustainable growth.

Progress towards the five EU-level targets under the Europe 2020 strategy is reviewed each spring under the European Semester, together with an assessment of the overall macroeconomic situation in Member States and progress towards the flagship initiatives.

The EU 7th Environment Action Programme to 2020 came into force in January 2014. It focuses on nine priority objectives. The first three are thematic objectives which are inter-related and should be pursued in parallel: to protect, conserve and enhance the Union's natural capital; to turn the Union into a resource-efficient, green and competitive low-carbon economy; and to safeguard the Union's citizens from environment-related pressures and risks to health and well-being. Achieving these objectives requires an enabling framework which supports effective action – they are thus complemented by related priority objectives, including to improve the knowledge and evidence base for Union environment policy (objective 5) and to improve environmental integration and policy coherence (objective 7), with environmental accounting playing a key role.

Outside the EU the environmental accounts are in demand as an integrating framework for the new UN sustainable development goals post 2015, for the OECD, UNEP and ILO initiatives towards green growth, green economy, green jobs, etc.

It is clear that environmental accounting can contribute significantly to analysis and policy formulation in many of these areas. Transforming the basic data in these various areas to align with the ESA concepts and classifications significantly enhances the possibilities for analysis of the mutual interactions between the economy and the environment. The role of environmental accounting is expected to increase substantially in future, both directly as a provider of data and as an organising framework.

The ESEA 2014 is consistent with the proposals of the ESSC Sponsorship on Measuring Progress Well-Being and Sustainable Development in 2011 which followed the Stiglitz-Sen-Fitoussi report.

Work on environmental accounting also progressed at international level, with the System of Environmental-Economic Accounts (SEEA central framework) adopted by the UNSC in March 2012 as a statistical standard. The new ESEA 2014 will be the EU plan for SEEA implementation.

4. CONSEQUENCES FOR NATIONAL STATISTICAL INSTITUTES

The new strategy is to ensure the environmental accounts data from all European countries are harmonised, timely and of adequate quality.

A key element is to assist Member States in improving the quality and usability of the data and in the implementation work of the three new modules.

Resource requirements for environmental accounting are quite small. The three first environmental accounting modules are now established in most countries and data delivery began in 2013 for all countries not having a derogation. Date delivery for the three new modules will become obligatory in 2017. This will require some further investment for some countries independently of the new strategy. In others, a large part of the initial investment has been made and human resources are already in place.

Primary data for environmental accounting, alongside the national accounts, are environment, energy, transport, forestry and other statistics as well as other data held by ministries, specialised institutions and environmental agencies. Environmental accounts do not generally require new data collection but create additional uses for national accounts data (e.g. supply-use and input-output tables), for environment statistics and other areas of statistics. The new strategy will improve the integration of environmental accounts aspects into these other statistical areas thus making production more efficient.

5. OUTSTANDING ISSUES

The strategy focuses in the years 2014-2016 on implementing the three new modules and consolidating the three existing modules under Regulation (EU) No 691/2011 by improving data quality and timeliness, providing early estimates and advancing the uses of these data. This includes investing in statistical infrastructure and compiling parts of the environmental accounts integrating into statistical production in the national accounts and in other statistical areas.

New areas proposed for development are relatively few, and development work is mainly planned for the period 2016-2018, reflecting current concerns of Member States with regard to available resources. Eurostat will of course consult the ESSC separately on any new modules that would be proposed for inclusion under Regulation 691/2011.

6. RISK ASSESSMENT

The lack of a coherent EU-wide statistical strategy would make it more expensive to advance for the ESS, both regarding the soon six modules under Regulation 691/2011 and regarding new development areas.

Lack of a credible outlook confirming the further improvement and development of environmental accounts would favour work outside the ESS in ad-hoc ways, less well co-ordinated with socio-economic statistics, without the use of agreed standards, and delivering less reliable and less comparable results. The benefits from a European approach (common standards, sharing of best practices, comparable data, common tools etc.) would not fully materialise. The substantial investment in environmental accounting would not be utilised fully.

7. NEXT STEPS

Once approved by the ESSC, the ESEA 2014 will be implemented by Eurostat together with the DIMESA and the working groups on environmental accounts and environmental expenditure statistics.

EUROPEAN STRATEGY FOR ENVIRONMENTAL ACCOUNTS (ESEA 2014)

Executive summary

Taking into account the interactions between economic activities and the environment is increasingly important for key policies, e.g. the Europe 2020 strategy, resource efficiency, sustainable development and green growth. The environmental economic accounts provide an integrated framework for data, indicators and analysis. Integrating environment-related data with the national accounts framework makes the resulting indicators more consistent among themselves and permits aligning also with the social aspects of sustainable development and the employment aspects of green growth.

Environmental accounts are designed as satellite accounts to the national accounts. They assemble data from a wide range of sources, e.g. statistics on energy, transport, agriculture, government expenditure and taxation and other non-statistical sources. Then they adjust the data to align it with the concepts of national accounts. By re-using existing data, the additional response burden on enterprises and households is very small. Within the National Statistical Institutes (NSIs) the number of staff required to regularly compile these accounts is also relatively small, but they add considerable value to the basic data and enhance the possibilities to analyse the mutual interactions between the economy and the environment.

From a start as modest experimental activities two decades ago[1], environmental accounts have developed rapidly in the last few years. A first EU Regulation No 691/2011 was adopted in 2011 containing a first set of three modules. An amending Regulation to add three more modules is close to formal adoption.

The ESEA 2014 proposes a programme of further work for the period 2014-2018 focusing on:

- Consolidating the quality of the first set of accounts (air emissions, environmental taxes and material flows), according to Regulation (EU) No 691/2011
- promoting the use of existing environmental economic accounts,
- improving timeliness, including the development of early estimates, to bring environmental policy aspects more into economic planning
- implementing the second set of accounts (environmental protection expenditure, environmental goods and services sector, physical energy flow accounts)
- investing in statistical infrastructure elements, to improve the availability, quality and usefulness of the environmental accounts
- developing methodologies and implementing voluntary data collection for a few additional areas (water and forests, environmental subsidies and similar transfers and resource management expenditure).

To develop the three new modules and to maintain and further enhance the quality of the existing environmental accounts it is essential that the NSIs ensure sufficient staff resources are made available for this small but important area. Eurostat will continue to assist Member States and also to ensure that the data are harmonised and internationally comparable.

[1] Following from the Communication from the Commission to the Council and the European Parliament "Directions for the EU on Environmental Indicators and Green National Accounting. The Integration of Environmental and Economic Information Systems", COM(94) 670 of 21.12.1994

The work under the ESEA is fully consistent with the European System of National and Regional Accounts (ESA) which offers an integrated and consistent framework for all economic statistics. Environmental accounts complement the main national accounts with additional data sets and indicators in order to provide more comprehensive information for policy- and decision-making.

The EU work under the ESEA is also entirely consistent with the world-wide System of Environmental-Economic Accounts (SEEA Central framework) which was adopted by the United Nations Statistical Commission (UNSC) as a statistical standard in March 2012. The ESEA 2014 will be the EU plan for SEEA implementation.

Introduction

The first ESEA was presented in 2003 and approved by the then Statistical Programme Committee (SPC); ESEA was then revised in 2008 and approved by the SPC. ESEA 2008 gave a detailed structural analysis of policy needs and statistical possibilities for environmental accounts and proposed a series of areas for development as short-term, medium-term and long-term priorities. The document is available on Eurostat's web site here. Since 2008 much progress has been made and there are new emerging policy needs. Therefore the new ESEA 2014 proposes a strategic and forward-looking review of future directions of work. The proposals here are fully consistent with the proposals of the ESSC Sponsorship group on Measuring Progress Well-Being and Sustainable Development in 2011 which followed the Stiglitz-Sen-Fitoussi report.

The ESEA 2014 is also fully in line with Regulation (EU) No 99/2013 on the European statistical programme 2013-17 which foresees the development of satellite accounts for new areas (objective 2.2.1); the development of a coherent system of environmental accounts as 'satellite accounts' to the main national accounts in several areas including air emissions, energy consumption, natural resources and water (objective 2.2.1); and the implementation of integrated environmental and economic accounting for forestry (objective 3.3.4).

This document first presents the value added of environmental accounting and the progress achieved since 2008. It then reviews the policy needs in section 2. Finally it proposes a programme of future work in sections 3 and 4**.**

Section 1. Value added of environmental accounting and progress so far

The value added of environmental-economic accounting

Environmental accounts are cost-effective tools that:

- allow to integrate and make good use of otherwise scattered primary data, help structure existing data, improve consistency and provide the basis for estimates (e.g. when primary data are not available annually);
- are integrated with other data sets (especially with economic accounts and hence also aspects of the social dimension of sustainable development) thereby linking environmental information to economic actors;
- allow to derive coherent sets of indicators that are linked to one another;
- are therefore a key basis for integrated economic and environmental analysis and modelling, including cost-effectiveness analyses, scenario modelling and economic and environmental forecasts;
- through an integrative framework, allow to put sectoral policies and indicators in a comprehensive economic and environmental context;
- ensure international comparability of results through common frameworks, concepts and methods;
- play a role within the statistical system where environmental accounts frameworks can help guide and develop environmental statistics so as to ensure greater coherence with economic and social statistics, provide input, extra uses and positive feedback for other areas of statistics.

Various kinds of analyses can be made with environmental accounts. A minimum of analytical applications already as part of the compilation and dissemination process is useful, for example the allocation of emissions or resource use to final demand categories using input-output techniques. Other applications include decomposition analysis or estimates of emissions associated to imports and exports of goods and services.

Over time, the accounts will have to play a greater role for direct derivation of sustainable development and environmental indicators and for ensuring relevance of concepts, linkability and consistency across areas of statistics and indicators. An accounting approach will support analytical uses of indicator sets and will help to ensure coherence among indicators which are not always identical in coverage or concepts. An accounting approach also enhances efficiency by helping to meet user demands quickly using existing data sets, reduce data collection needs, integrate imperfect primary data and link diverse data sets. This organising role of environmental accounts will develop naturally but at a slow pace. To achieve the faster and deeper progress that is needed a strong statistical policy in favour of a systems approach is essential in Eurostat and in NSIs.

This is particularly relevant given the challenges outlined in the recently adopted 7th Environment Action Programme to 2020 – Living well, within the limits of our planet. The 7th EAP highlights the need to identify synergies across policy areas and how meeting priority objectives requires an enabling framework that includes improving the knowledge and evidence base for environment policy (priority objective 5) with environmental accounting playing a key role in the future.

Progress achieved since 2008

The first European environmental accounts Regulation was adopted by EP and Council on 6 July 2011 (Regulation (EU) No 691/2011). It includes three modules covering air emission accounts, environmental taxes and material flow accounts

The first data delivery under this Regulation took place in September 2013 for air emissions and environmental taxes, and in December 2013 for the material flow accounts.

The 2011 Regulation requires the Commission to make a report on the implementation of the Regulation, for the first time on 31 December 2013 (this first report is here) and then every three years thereafter. The European Parliament stressed that the first three modules were only the beginning of environmental accounts and wrote into the Regulation in Article 10:

> *"The report shall, if appropriate and taking into account the findings referred to in Article 4(2), be accompanied by proposals:*
>
> *- for introducing new environmental economic account modules, such as Environmental Protection Expenditure and Revenues (EPER)/Environmental Protection Expenditure Accounts (EPEA), Environmental Goods and Services Sector (EGSS), Energy Accounts, Environmentally Related Transfers (subsidies), Resource Use and Management Expenditure Accounts (RUMEA), Water Accounts (quantitative and qualitative), Waste Accounts, Forest Accounts, Ecosystem services Accounts, Economy-Wide Material Stock Accounts (EW-MSA) and the measurement of unused excavated earthen materials (including soil),"*

During 2011-2012 Eurostat and the Member States intensified work to develop three new modules:

- environmental protection expenditure (EPE)
- environmental goods and services sector (EGSS)
- physical energy flow accounts (PEFA)

The new draft amending Regulation containing these three new modules is now close to formal adoption by the Council and European Parliament.

Work on environmental accounting also progressed at international level, with the System of Environmental-Economic Accounts (SEEA-Central Framework) adopted by the UNSC in March 2012 as a statistical standard. EU countries contributed greatly to the developments of SEEA-CF. The UNSC in February 2013 approved an implementation strategy for SEEA-CF which recommends a flexible and modular approach to reflect different policy needs and data availability. The ESEA 2014 will be the EU plan for SEEA implementation. Of course this does not prevent individual countries or groups of countries from doing more depending on their national circumstances, policy needs and financial possibilities.

The work foreseen in ESEA 2014 will also contribute to initiatives related to the green economy, green growth, green jobs, natural capital and sustainable development goals at the OECD, UNEP, ILO, World Bank and UN.

Section 2. Policy needs

Environmental accounts have been developing fast in recent years and so has the policy need for data on the mutual interactions between the economy and the environment. Specific examples at EU level include the Europe 2020 strategy, the resource efficiency flagship initiative and 7th Environment Action Programme to 2020.

The Europe 2020 strategy fixes targets in five areas: employment levels, R&D, climate change and energy sustainability, education and fighting poverty. In particular the targets for climate change and energy sustainability are:

- greenhouse gas emissions 20% lower than 1990 (or even 30%, if the conditions are right)
- 20% of energy from renewables
- 20% increase in energy efficiency

Progress towards the five EU-level targets is reviewed each spring under the European Semester, together with an assessment of the overall macroeconomic situation in Member States and progress towards the flagship initiatives.

Within the Europe 2020 strategy, the flagship initiative for a resource-efficient Europe supports the shift towards a resource-efficient, low-carbon economy to achieve sustainable growth.

The resource efficiency initiative stresses that natural resources underpin our economy and our quality of life. Continuing our current patterns of resource use is not an option. Increasing resource efficiency is key to securing growth and jobs for Europe. It will bring major economic opportunities, improve productivity, drive down costs and boost competitiveness. The flagship initiative for a resource-efficient Europe provides a long-term framework for actions in many policy areas, supporting policy agendas for climate change, energy, transport, industry, raw materials, agriculture, fisheries, biodiversity and regional development. This framework is to increase certainty for investment and innovation and to ensure that all relevant policies factor in resource efficiency in a balanced manner.

It is clear that the environmental-economic accounting modules the European Statistical System is developing could contribute significantly to analysis and policy formulation in many of these areas: air emissions by industry, environmental taxes as a policy instrument to reduce emissions, material flow accounts, environmental protection expenditure broken down into different domains, environmental employment and energy accounts. Transforming the basic data in these various areas

to align with the SNA/ESA concepts and classifications significantly enhances the possibilities for analysis of the mutual interactions between the economy and the environment.

The EU 7th Environment Action Programme to 2020 came into force in January 2014 and includes the resource efficiency and low-carbon dimensions and stresses also the maintenance of natural capital and biodiversity. The 7th EAP focuses on nine priority objectives. The first three of these are thematic objectives which are inter-related and should be pursued in parallel: to protect, conserve and enhance the Union's natural capital; to turn the Union into a resource-efficient, green and competitive low-carbon economy; and to safeguard the Union's citizens from environment-related pressures and risks to health and well-being. Achieving these priority thematic objectives requires an enabling framework which supports effective action – they are thus complemented by related priority objectives, including to improve the knowledge and evidence base for Union environment policy (objective 5) and to improve environmental integration and policy coherence (objective 7).

As discussed below, it is expected that work on ecosystems and biodiversity will in the first instance at least be driven by the EEA with Eurostat and NSIs mainly providing basic data (on environment and other key areas such as agriculture and forestry land use) and statistical advice.

Outside the EU the environmental accounts are in demand as an integrating framework for the new UN sustainable development goals post 2015, for the OECD, UNEP and ILO initiatives towards green growth, green economy, green jobs, etc.

Because of this demand the role of environmental accounts is expected to increase over time.

Section 3. Future work 2014-2018

Consolidate and promote the use of the first three modules

The most immediate priority felt by the statisticians and the users is to publicise and communicate about the data already available, as well as the analytical power of environmental economic accounts, e.g. for deriving relevant resource efficiency indicators. In parallel, statisticians must consolidate and ensure adequate quality, coverage, accuracy and comparability of the first three modules of environmental accounts. Some countries have acquired considerable experience of producing these accounts for several years, while for other countries this is a relatively new exercise following the adoption of the Regulation.

For the first three modules adopted in 2011, the Regulation requires quality reports following transmission of the first data. All aspects of quality will be covered: timeliness, comparability, accessibility, clarity, coherence, completeness and reliability. The reports will also contain a structured description of sources and methods used to compile the data. The reports will be a basis for a plan to further improve data quality, including comparability and timeliness.

Prepare implementation of the second batch of modules

A major task in the period 2014-2016 will be to intensify preparations for the introduction of the three new modules (EPE, EGSS, PEFA). Although first data delivery is foreseen only in 2017, the amending Regulation stipulates that the time series to be provided by countries start from 2014.

Eurostat will continue to assist the Member States to implement the three new modules through a variety of means, including:

- Grants for pilot studies
- Facilitating sharing of experience between countries
- Training courses under the European Statistical Training Programme

- Handbooks and manuals
- Establish voluntary annual data collections as a preparation for obligatory reporting
- Stream-lining and rationalising the way data will be transmitted to Eurostat

Improve use of the accounts

Environmental accounts data are used in a variety of policy applications both at national and EU level. One particularly prominent example is the Domestic Material Consumption from the material flow accounts which was adopted as the main headline indicator for the Europe 2020 resource efficiency flagship initiative. The air emission accounts contribute to our understanding of the sectors responsible for greenhouse gas emissions, while the environment taxes are an important economic instrument to reduce emissions and also included under the resource efficiency indicators. All Eurostat data are included in several publications and analyses and can be widely consulted on Eurostat's publicly accessible web site at:

http://epp.eurostat.ec.europa.eu/portal/page/portal/environmental_accounts/introduction

However there is a concern that some of the available data is not used enough. Some part of the problem is that data can only be useful when it exists for a sufficient number of countries and years to permit analysis. This will automatically improve as time passes.

Other ways to improve use will need to recognise that there are different types of users: politicians and the general public would like high-level simple indicators quickly; policy makers in ministries want more detail but analysis is often entrusted to research institutes with more expertise. Developing a variety of dissemination tools is important: web sites with both text and data, short briefing notes, brochures, reports, press releases and press conferences. Getting the right mix is the key to addressing the greatest number of users.

Improving the communication and the dialogue with users is vital at EU and at national level.

The fact that the accounts are aligned with input-output tables permit various forms of analysis and modelling, such as the so-called "consumption perspective" for CO2 emissions to assess which forms of our final demand engender air emissions from production, transportation, etc. in the economy and in the rest of the world. The potential for calculating other footprint indicators as a standard part of disseminating the results should be explored.

There is a strong policy interest in some quarters in complementing the material flow accounts with accounts in raw material equivalents and work will continue in this direction.

As part of the suite of volumes on the world-level System of Environmental-Economic Accounts (produced by UN, OECD, Eurostat, World Bank, IMF, FAO), the third volume is about Applications and Extensions of the Central Framework. This proposes various ways the accounts can be used and shows real examples from various countries. This volume could constitute a bridge between the producers and potential users of the environmental accounts.

Improve timeliness - early estimates

So far the environmental accounts were conceived as fairly detailed structural data to analyse the mutual interactions between the economy and the environment in the selected areas covered by the Regulation. Following the introduction of the European Semester – a yearly cycle of economic policy coordination implementing the Europe 2020 Strategy – there is a growing need to include environmental aspects alongside the conventional economic data such as GDP. Eurostat is working with NSIs to see in which ways these environmental accounts could be compiled earlier and

considerable progress has been made in countries and in Eurostat to compile and process the accounts faster. However this is unlikely to produce the level of timeliness required for the Semester. Therefore Eurostat is also examining ways to make early estimates for some main indicators (possibly working top-down rather than bottom-up from the detailed basic data). For example estimates of CO2 emissions from energy use are being compiled at t+4 months calculated from Eurostat's monthly statistics of energy use. In addition, for compiling air emission accounts it is worth exploring the usefulness of the new approximated greenhouse gas inventory data, produced at t-1 year.

Improve liaison with producers of basic data that feeds the accounts and with the national accounts

The environmental accounts draw on data from a wide variety of sources, some statistical and some administrative - for example: energy statistics for the energy and air emissions accounts, government accounts for environmental protection and environmental taxes, business statistics for expenditure by enterprises; agriculture and mining statistics for the material flow accounts; etc. Re-use of data is important in order to limit response burden, to meet financial restrictions and to encourage the coherence of the statistical system. Cooperation with the producers of these basic data sets will need to be intensified at national and Eurostat level in the interests of efficiency of production and reliability of the environmental accounts. The identification and use of new data sources can help further improve the environmental accounts.

Close cooperation with the national accounts is particularly important and should be strengthened. Experience has shown that such cooperation also helps further improve the quality of the national accounts. The ESA supply-use and input-output tables are an essential element for work in several environmental accounts areas.

Developing infrastructure elements

There are various infrastructure elements which could improve the availability, quality and usefulness of the environmental accounts, such as:

- Environmentally-extended supply-use and input-output tables and standard analysis methods that are simple and transparent and that NSIs can use during their compilation and dissemination work
- Analytical tools (including web tools) made available to users
- Raw material equivalents that NSIs can use to calculate raw material consumption also in the rest of the world
- Convergence and reconciliation of classifications of products, expenditures, natural assets, etc.

Possible new development areas

Developing new areas beyond the first six modules should be a focus of work in 2016-2018. Studies should be pursued in the following areas:

- Forest accounts, including current production, stocks of standing timber and areas of wooded land through the development of Integrated Environmental and Economic Accounting for Forests consistent with SEEA. Interest in forests has increased recently,

including due to their role in the annual climate related reporting and as they are a form of natural capital.

- Water flow accounts, showing abstraction from the environment, water used by the various industries and households and water returned to the environment. The conceptual work has advanced but progress is hampered by a lack of basic data. (This work will be coordinated with the EEA).
- Environmental subsidies and similar transfers, where a task force of experienced Member States is developing a framework for data collection.
- Resource management expenditure accounts showing activities and expenditures to manage resource such as water, forests, flora and fauna, energy resources and minerals. In the short term the focus will be on resource management activities which enter the new module on EGSS.

These areas, especially forest and water, could in the first instance be fairly restricted, minimalistic accounts simply re-aligning existing questionnaires to the concepts and structure of SEEA. Water and forest concern the Member States to a very differing degree depending on national circumstances, geography, etc. It is proposed in the first instance to develop a common agreed methodology, classifications, tables, etc. which countries would use if they wish to develop accounts in these areas.

An integrated framework for the monetary environmental accounts modules (environmental protection expenditure, resource management expenditure, environmental goods and services sector, environmental taxes and subsidies) should be developed. Such a framework can be a tool to facilitate the integrated production of these various modules from a set of common data sources.

Development work in areas beyond the 6 modules and 4 areas listed above does not seem feasible in the medium term given current and projected resource constraints. However, statisticians will be available to help other institutions with data and methodological advice. Also, it is essential to leave the door open for development work in newly emerging priority areas and cross-cutting issues, e.g. energy or transport subsidies, waste accounts or further detail on environmental aspects of households.

Section 4. Enlarging the scope of the Strategy

Ecosystems and biodiversity

Currently data on ecosystems and biodiversity lie far outside the normal activities of NSIs, the ESSC and thus of the ESEA.

However, there is a strong demand from environmental policy-makers for more data on ecosystems and biodiversity. At the moment this is very much research work, involving multidisciplinary teams comprising environmentalists and experts in natural sciences as well as mapping agencies. The UNSD is very active in connection with SEEA Experimental Ecosystems Accounts, the World Bank is developing its Wealth Accounting and Valuation of Ecosystem Services (WAVES) and at EU level the Mapping and Assessment of Ecosystem Services (MAES) project is actively led by the Commission's DG Environment.

At this experimental development and testing stage of the work on ecosystems and biodiversity it seems appropriate that within the EU this should be pursued by the European Environment Agency with Eurostat and NSIs mainly providing basic data (on agriculture, forestry land use, etc.) and providing statistical advice to keep new developments as far as possible consistent with existing

statistical sources. The increasing role of geo-referenced and small area data should help the statistical system provide relevant spatially resolved socio-economic and other data. The role of NSIs could be reconsidered in a few years.

Climate change related statistics

A task force has prepared a report with recommendations on climate change related statistics which were adopted by the 62nd plenary session of the Conference of European Statisticians at its meeting on 9 - 11 April 2014. The report first analyses how official statistics contribute to the calculation of greenhouse gas emissions inventories and makes recommendations for improving the coordination between NSIs and the inventory compilers. It also reviews a wide range of other statistics related to climate change including:

- Drivers: the part of human causes of climate change that deals with sources and causes of emissions
- Impacts: impacts of climate change on human and natural systems
- Mitigation: efforts of humans to avoid the consequences
- Adaptation: efforts to adapt to these consequences, drivers of climate change, mitigation adaptation human health impacts, etc.

The recommendations of that report should be analysed and those important for good statistics in Europe should be implemented. Environmental accounts and SEEA have the potential to integrate the various and wide-ranging indicators of basic statistics that inform these climate change related issues.

Conclusion

This ESEA 2014 sets out a programme of work for the period 2014-2018 which focuses on:

- consolidating the quality of the first set of accounts (air emissions, environmental taxes and material flows)
- promoting the use of existing environmental economic accounts
- improving timeliness, including the development of early estimates, to bring environmental policy aspects more into economic planning
- implementing the second set of accounts (environmental protection expenditure, environmental goods and services sector, physical energy flow accounts)
- investing in statistical infrastructure elements, to improve the availability, quality and usefulness of the environmental accounts (convergence of classifications, compilation of parts of the environmental accounts integrated into statistical production in the national accounts and in other statistical areas)
- developing methodologies and implementing voluntary data collection for a few additional areas (water and forests, environmental subsidies and similar transfers and resource management expenditure)
- assistance to the development of ecosystem accounting led by the European Environment Agency

To maintain and further enhance the quality of the environmental accounts it is essential that the NSIs ensure sufficient staff resources are made available for this small but important area. Eurostat will continue to develop manuals and compilation guides and to provide training to assist the Member States and to ensure that the data are harmonised and internationally comparable.