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Revision of SEEA 2003:

State of play – Environmental goods and services sector

– Document to the London Group meeting in Brussels September 2008 following the meeting in Rome December 2007

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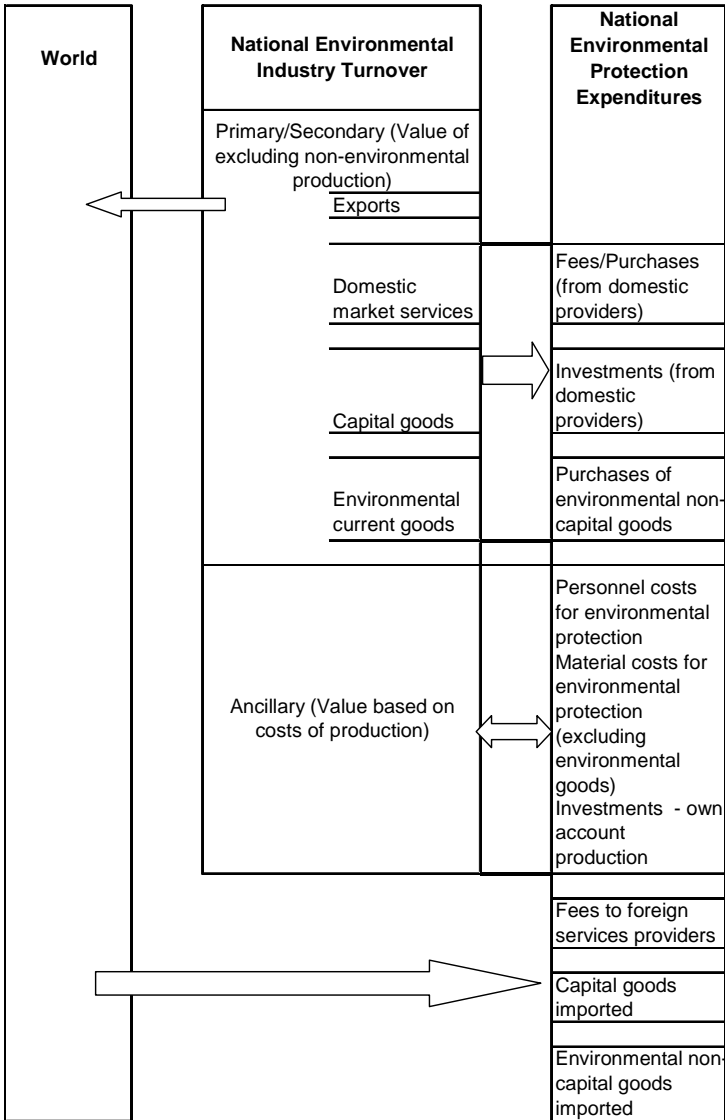
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Introduction

In SEEA 2003 the “Environment industry” is briefly described in chapter 5 based on the OECD/Eurostat 1999 definition. The SEEA 2003 neither develops nor explains the statistical aspects of the “environment industry” leaving the reader to go to the original source for more information. As described in the initial research list in preparation for the revision process, those countries that publish data related to this issue have developed their own methodology and delimitations. Due to an increased interest in Europe from policy makers such as DG Environment Eurostat decided to bring the collective community together to establish common methodology and a harmonised reporting format in this area.

In theory, the “Environmental goods and services sector” and “Environmental protection expenditure” are two sides of one coin, one being the supply and the other the demand side of environmental technology and services. Figure 1 describes the two statistical areas. Main differences are how the statistics include imports/exports. EPE statistics include goods and services purchased either from national or international suppliers and cannot distinguish between the two. EGSS can follow the two different items from a product perspective but not from a national enterprise level. EPE also measures the extra cost of environmental goods and services while the EGSS capture the full turnover.

Figure 1: Similarities of EGSS and EPE



The standard tables and the handbook presented in this paper are the results of the work done in collaboration with the Task Force on the environmental goods and services sector. The Members of this Task Force are:

- Sacha Baud and Alexandra Wegscheider-Pichler (Statistics Austria)
- Maja Cederlund, Mats Eberhardson, Hanna Brolinson and Nancy Steinbach (Statistics Sweden)
- Michel David (IFEN, France)
- Maria Luisa Egido (National statistical office, Spain)
- Federico Falcitelli (ISTAT)
- Gabor Szilagyi (Statistics Hungary)
- Rocky Harris and Dean Thomas (DEFRA and DTI UK)
- Sarah Nasse (Federal statistical office, Germany)
- Eila Salomaa and Annika Miettinen (Statistics Finland)
- Maarten van Rossum, Sjoerd Schenau and Anna Kulig (Statistics Netherlands)
- Tone Smith (Statistics Norway)

It also includes the result of the contribution of the Directorate-General Environment, Directorate-General Enterprise, the Environmental Account team of Eurostat and Jeffrey Fritzsche, Statistics Canada.

1. Background

In order to respond to current policy interests in Europe and help to implement future policy measures directed towards the environmental sector, there is a need to produce and compile comparable statistics between countries.

For this reason, Eurostat proposed at its annual working group meeting on "Environmental expenditure statistics" in May 2005 to develop a new collection of data for the Environmental Goods and Services Sector (referred to in this document as environmental sector or EGSS). At this meeting, it was agreed that the manual "The environmental goods & services industry – manual for data collection and analysis" produced in 1999 by OECD/Eurostat¹ was to be used as starting point.

Few countries in Europe have already produced statistics on EGSS using as a reference for their work the OECD/Eurostat manual. They have all developed their own procedures to overcome the difficulties experienced in interpreting the manual.

In order to have a data collection both harmonised and comparable, Eurostat decided to develop standard tables for the collection of statistics on EGSS and a handbook explaining how to handle the data compilation and how to fill in the tables.

Eurostat has mandated a consultant (ICEDD) to assist in developing the standard tables and the methodological handbook. The main goal is facilitating the work undergone by countries collecting data, helping to build new data collection systems and securing the production of harmonised and comparable data on the EGSS.

The standard tables essentially aim at identifying some important variables (e.g., employment, turnover, value added and exports) by different actors and activities of the EGSS.

The handbook provides methods to develop new data collection systems on EGSS at national level. It contains definitions, examples and recommendations to ensure that data are compiled and maintained on a consistent basis in all Member States.

A task force consisting of statisticians from National statistical offices has been set up in 2006 to cooperate with the consultant and Eurostat in order to produce the handbook and the standard tables. Its mandate is to work on definitions, delimitations and methodological issues for the collection and interpretation of EGSS statistics. Participant countries to the task force are Austria, Finland, France, Germany, the Netherlands, Hungary, Italy, Norway, Spain, Sweden and the United Kingdom.

As Eurostat is now starting up the work on EGSS and intends to provide a tool for a new data collection, it is very important to know what kind of information is relevant for the users. A consulting group of users has been working alongside the task force. Participants of the consulting group come from DG Environment², DG Enterprise³ and Eurostat.

¹ OECD/Eurostat, "The environmental goods and services industry, manual for data collection and analysis", Paris, 1999.

² DG Environment is the main policyholder for environmental issues. It is already the main user of statistics of EGSS despite the lack of harmonised data. Several studies carried out by DG Environment have focused on the European environmental industry, relying always on estimation methods.

³ The goal of DG Enterprise is to help create a good climate for businesses creating productivity growth and the jobs and wealth necessary to achieve the objectives set by the European Council in Lisbon in March 2000. This makes DG Enterprise a very important user of relevant statistics on EGSS. They are also involved with the projects managed by DG Environment on environmental industry.

Work on EGSS has started with a meeting with the consulting group held on 29 March 2006. During this meeting, DG Environment expressed an interest in particular for the domain of cleaner technologies and products. As end-of-pipe equipment is seen as something in the phase-out, it is important to follow the development of integrated technologies. The innovation potential of EGSS is also of great interest. In addition, the Environmental Technologies Action Plan (ETAP) will be in need of indicators to follow up their actions. The possibility of comparison with other important economies (USA, China, etc) has been also underlined by DG Enterprise.

The proposals from the consulting group have been taken under serious consideration. Nevertheless their requests suffer from a problem of practicality, i.e. feasibility and possibility of producing the desired statistics and indicators. For this reason, during the elaboration of the standard tables and the handbook, the task force has been asked to determine the practicality of EGSS statistics.

The task force met on 7th April 2006, on 10th October 2006, on 12th February 2007, on 2nd October 2007 and on 12th and 13th February 2008.

First draft versions of standard tables and of the handbook were presented to the working group on "Environmental expenditure statistics" during the meeting held on 12th May 2006. The participants were asked to provide their remarks by the end of June 2006. Last draft version was presented to the working group "environmental expenditure statistics" during the meeting held on 23rd May 2007.

ICEDD has prepared, reviewed and updated draft versions of standard tables and the handbook based on opinion of the task force, the consulting group, the working group and Eurostat. The latest version of both the standard tables and the handbook were presented to the last task force meeting that took place on 12 and 13 of February 2008 at DG Environment, Brussels. The documents are available on Circa.

This document presents the main decisions taken till now concerning the EGSS. Final versions of standard tables and the handbook are expected to be produced by May 2009.

2. Standard tables on EGSS statistics

2.1. Starting point

The first step of the work on EGSS was to create several proposals of standard tables as a basis for a discussion with the task force. In order to determine the best way to develop standard tables, the following two issues were carefully analysed:

- Current and future objectives and policy needs and uses concerning EGSS;
- Inventory of countries which already produce these data and the comparison between countries' data and methodologies.

The general principle behind the elaboration of standard tables was the wish to take into account all sectors and activities related to environmental issues, leaving the countries the freedom to delimit what is feasible.

Three proposals of standard tables were discussed. In the tables, economic activities were classified by NACE codes and the environmental activities were split using a modified version of the classification of the environmental activities proposed by the OECD/Eurostat 1999 Manual.

2.2. Which environmental activities?

Following the SERIEE and in link with satellite accounts, the EGSS activities are assigned to two main categories:

- Environmental Protection activities, which are any activities that produce environmental goods and services of both a preventive or remedial nature such as the reduction, prevention or treatment of waste and wastewater, the prevention and elimination or reduction of air emissions, the treatment and disposal of contaminated soil and groundwater, the prevention or reduction of noise and vibration levels, the preservation of ecological entities and landscapes as well as the monitoring of the quality of the environmental media and waste⁴.
- Resource Management activities, which are any activities that produce goods and services to manage and/or conserve natural resources such as recycling materials, producing renewable energy, managing resources in a sustainable way, production of energy saving products and technologies, etc⁵.

Activities for environmental protection are, as recommended by SERIEE, split according to the Classification of Environmental Protection Activities (CEPA).

The task force is working on a classification of resources management activities which will best fit EGSS statistics and reflect the users' needs. The classification developed by the National statistical

⁴ Adapted from Definitions of SBS Regulation variables.

⁵ The SERIEE, as well as the SEEA, defines the scope of the natural resource use and management expenditure account (RUMEA) by including also exploitation activities, which typically correspond to the various natural resource-related industries such as fisheries, forestry, mining and water supply. The Task Force decided not to consider such exploitation activities as being part of the EGSS (see below § 3.1).

office of Italy for RUMEA (Natural Resource Use and Management Expenditure Account) and the classification presented in the 1999 OECD/Eurostat Manual serve as starting points.

2.3. Which actors?

Although the preliminary aim of the standard tables for statistical data collection was to cover as much environmental activities and actors as possible, there is often an increasing ratio of costs to benefits involved in covering all activities and sectors. For this reason, some sort of cut-off was applied in practice in 2006, through the breaking down of the tables in core industries, non-core industries and government. The label “core” was applied to the industries whose activities are entirely environmental and non-core to the rest of the industries whose production is not entirely environmental. The qualitative notes, the methodological notes, the footnote ranges and the content of the standard tables were adjusted during 2006.

The task force was invited in November 2006 to try a pilot data collection out and reporting in order to test the standard tables. The deadline for the data delivery was set to March 2007 at the latest. After these pilot tests and following the suggestions from DG Environment and the task force, it was decided in 2007 not to carry on anymore the distinction between “core” and “non-core industries” even if the methodologies used to estimate data differ between these two broad classes of industries.

For harmonisation purposes, it was decided to use a breakdown of actors similar to NAMEA.

Two kinds of actors were thus distinguished: industries following a NACE orientated breakdown and general government following EPEA (Environmental Protection Expenditure Account) and OECD/Eurostat Joint Questionnaire on environmental expenditure breakdowns.

2.4. Which variables?

Concerning data, it was decided to start off with four main variables: turnover, value added, employment and exports.

Some members of the task force felt that gender issues and educational levels were very relevant to the analysis of EGSS. It was finally decided to include employment figures classified according to gender (i.e. men, women and total) in the standard tables.

The analysis of turnover, value added, employment and exports will help to answer to a number of questions on different aspects of the environmental goods and services sector such as:

- What is the potential for growth?
- What is the potential for employment creation?
- What has been the evolution in the development and the exports of environmental goods and services?
- Is there progress in research and development for cleaner technologies and products?
- What is the progress in the different environmental domains?
- What are the competitive effects for the sector producing cleaner technologies and products?
- Do the environmental and economic policies have an impact on the sector?
- What is the efficiency of the sector?

Size, employment and share in trade of EGSS can also be used to measure the positive 'side' effects of the environmental policies such as innovation up-take, market development or export growth.

2.5. What is in addition interesting to know?

Standard tables allow also to measure, by environmental domain:

- which industries produce cleaner/ resource-efficient technologies and products;
- what part of the production of environmental goods and services is principal, secondary, ancillary, market and non-market.

2.6. Latest version of standard tables

Based on discussions in the task force meetings and the results of the previous points, new proposals for standard tables were drawn up and proposed during the task force meeting which took place in February 2008.

In its latest version, an electronic EXCEL workbook forms the EGSS standard tables. Through the standard tables, national statistical authorities are kindly requested to:

- Provide information on the methodology they have used to produce statistics on the EGSS;
- Fill in the data-sheets for two economic sectors (industries and government) and four main economic variables (turnover, value added, employment and exports).

The latest version of the standard tables consists of 11 data-sheets. One data-sheet is provided by variable and by group of producers (7 tables to fill out); one data sheet summarizes the different groups of producers for each variable (4 tables filled out automatically), that is:

- 4 data sheets for the industry group and 3 for the General Government of producers (exports of General Government is not included).
- 4 data sheets for the total of each variable.

The figures below present the structure of the current standard tables. On Circa it is possible to find the latest complete version of the standard tables (version 6) and a draft of the version which have been implemented following the comments received during the last Task Force meeting (version 7) and should be considered work in progress.

Figure 2: Index of the standard tables, version 6.



	Datasheet	Description	
Introduction	Intro	Introduction about the Eurostat data collection on the environmental goods and services sector	for information
Explanatory notes	Notes	Notes on how to fill in the standard tables	for information
Methodology	Methodology	National authorities are kindly asked to provide information on the methodology used for gathering the data reported in the standard tables	to be filled out

Data

Variable	Title	Description	Type
Turnover	Industries - Turnover	Data sheet for turnover of the industries	to be filled out
	Government - Turnover	Data sheet for turnover of the government	to be filled out
Value Added	Industries - Value Added	Data sheet for value added of the industries	to be filled out
	Government - Value Added	Data sheet for value added of the government	to be filled out
Employment	Industries - Employment	Data sheet for employment of the industries	to be filled out
	Government - Employment	Data sheet for employment of the government	to be filled out
Exports	Industries - Exports	Data sheet for exports of the industries	to be filled out
TOTAL	TOTAL - Turnover	Total turnover by sector	for information
	TOTAL - Value added	Total value added by sector	for information
	TOTAL - Employment	Total employment by sector	for information
	TOTAL - Exports	Total exports by sector	for information

The data sheets contain the environmental domains in columns and NACE categories in rows. This is illustrated in the figures below for of the turnover of General Government and the industries.

Figure 3: Illustration of the data sheet concerning the industries.

Country: _____ Year: _____

Industries

Turnover		Activities										footnotes
Unit: _____		A. Environmental Protection										
NACE		Protection of ambient air and climate	Wastewater management	Waste management	Protection and remediation of soil, groundwater and surface water	Noise and vibration abatement (excluding workplace protection)	Protection of biodiversity and landscapes	Protection against radiation (excluding external safety)	Research and development	Other	Total A	
A	Agriculture, hunting and forestry	0	0	0	0	0	0	0	0	0	0	
	1 Agriculture, hunting and related service activities											0
	of which cleaner technologies and products											0
	2 Forestry, logging and related service activities											0
	of which cleaner technologies and products											0
B	Fishing	0	0	0	0	0	0	0	0	0	0	
	5 Fishing, fish farming and related service activities											0
	of which cleaner technologies and products											0

Figure 4: Illustration of the data sheet concerning the General Government.

Country: _____ Year: _____

Government

Turnover		Activities										Activities	
Unit: _____		A. Environmental Protection										footnotes	Management of inland waters
Government		Protection of ambient air and climate	Wastewater management	Waste management	Protection and remediation of soil, groundwater and surface water	Noise and vibration abatement (excluding workplace protection)	Protection of biodiversity and landscapes	Protection against radiation (excluding external safety)	Research and development	Other	Total A		
TOTAL											0		
of which central government											0		
of which regional government											0		
of which local government											0		

Within data collection on employment, details by gender are required from the Statistical Offices. The respective data sheets are presented as follows:

Figure 5: Illustration of the data sheets concerning the employment.

Country: _____ Year: _____

Industries

Employment		Activities											
Unit: _____		A. Environmental Protection											
NACE		Protection of ambient air and climate			Wastewater management			Waste management			Protection and remediation of soil, groundwater and surface water		
		Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
A	Agriculture, hunting and forestry	0	0	0	0	0	0	0	0	0	0	0	0
	1 Agriculture, hunting and related service activities			0			0			0			0
	2 Forestry, logging and related service activities			0			0			0			0
B	Fishing	0	0	0	0	0	0	0	0	0	0	0	0
	5 Fishing, fish farming and related service activities			0			0			0			0

For each variable, data sheet on totals is then calculated automatically. Similar to the other data sheets, environmental domains are detailed in columns whereas rows consider the actors and the details by type of activity.

Figure 6: Illustration of the rows details in the total data sheets.

Industries (except General Government)	Principal
	Secondary
	Ancilliary
	TOTAL
	<i>Of which non-market activities</i>
	<i>Of which cleaner technologies and products</i>
Government (except industries)	Central
	Regional
	Local
	TOTAL
TOTAL by activity	

The standard tables will be reviewed taking into account the need for a balance between what is desirable and what is practical, bearing in mind the information which can reasonably be expected to be provided from the countries.

3. The handbook on EGSS statistics

The handbook on EGSS explains the scope and the reasoning behind the terms of the standard tables. It also provides extra information necessary to allow a consistent collection and interpretation of the data in all countries.

The handbook has its roots in the experience acquired during the work done on the EGSS by members of the task force.

It follows the principles of the OECD/Eurostat 1999 Manual because it is intended to represent the reference handbook used by national statistics offices to carry out studies on EGSS. At the same time it is intended to be the development of the OECD/Eurostat 1999 Manual.

The handbook provides an analysis of the concepts related to the EGSS, supplemented by a definition and a classification of the sector, practical hands-on and methodological guidance for data collection. It also recommends methods and approaches for analysis. A great deal of effort has been put in increasing coherency and providing users of the handbook with practical recommendations. Full implementation of these recommendations should help to ensure that data are compiled and maintained on a consistent basis in all Member States of the European Statistical System (ESS).

It is not possible to offer a standard compilation method that can be applied to the circumstances of all countries without adaptation. This is at least for two reasons: the EGSS is a very peculiar sector that goes beyond existing agreed international classifications and there is a variety of degree of experience on dealing with the EGSS among Member States. In fact, countries have developed specific compilation procedures tailored towards policy demand and data availability at national level. Some patterns of best practices have emerged from experience so far but the focus can differ across countries. Thus, the handbook outlines the various options that may be available for the collection of data on the EGSS.

The handbook is designed for improvement of existing data collection systems and/or development of new ones. It has been designed so that it can be consulted on a chapter-by-chapter basis if required. For this reason, each chapter must be capable of being read separately, whilst still forming part of a coherent set.

The main considerations of the handbook are described in the following paragraphs.

3.1. Which definition and classification of EGSS?

The definition of EGSS can be wide, giving the user a certain degree of freedom in its interpretation. However a wide definition of environmental activities can be non-operational. The task force decided to follow, if available, any internationally agreed definition of the environmental activities and other topics covered by the standard tables.

It was proposed that the OECD/Eurostat definition⁶ of the environmental goods and services industry was to be used as starting point.

⁶ "Environmental goods and services industry consists of activities which produce goods and services to measure, prevent, limit, minimise or correct environmental damage to water, air and soil, as well as problems related to waste, noise and eco-systems. This includes cleaner technologies, products and services that reduce environmental risk and minimise pollution and resource use" (OECD/Eurostat, 1999, page 9). [COMMENT: Please note that it is important to quote exactly the original definition, without

It was also decided that the structure of the European System for the Collection of Economic Data on the Environment (SERIEE)⁷ could help in classifying environmental sector activities by environmental domains.

SERIEE comprises two satellite accounts: the Environmental Protection Expenditure Account (EPEA) and the Natural Resource Use and Management Expenditure Account (RUMEA). Among these accounts, the EPEA is the most developed both in terms of accounting procedures and implementation in the Member States and at Eurostat. For the EPEA, a classification (namely the CEPA 2000) is defined and adopted at the international level, while a similar classification has not been developed yet for the RUMEA.

EGSS activities are to be classified in different environmental domains. Following the SERIEE, environmental activities have been separated in two classes: Environmental Protection activities and Resource management activities.

Environmental Protection activities category has been divided in different domains using CEPA. For Resource management activities an international agreed classification does not yet exist. Therefore the SEEA definition for resource management and the definitions of the Material Flow Accounts for renewable natural resources have been examined in order to find out proper and coherent definitions of resources. The classification of Italy (CRUMA) and the classification of the 1999 OECD/Eurostat Manual are being tested by the task force. Nevertheless, it has already been decided by the task force not to consider “resource exploitation activities” as being part of EGSS. Such activities are included by the SERIEE and the SEEA in the wider concept of natural resource use and management.

Furthermore, it was decided that both classes of activities should include cleaner/ resource-efficient technologies and products defined as follow:

- Cleaner products are limited consumer and “tangible” goods or services that are less pollutant (prevent environmental damage) and less resource intensive (reduce resource use) at the time of their production, consumption/use and/or scrapping/disposal than the average good/service sold on the national market satisfying the same needs.
- Cleaner/resource-efficient technology is assumed to be a technical process, methods or knowledge, which – by acting upstream – decrease material inputs, reduce energy consumption, recover valuable by-products, reduce emissions, minimise waste disposal problems, or some combination of these. Integrated technologies in the environmental protection category are limited to production technologies used for the prevention of pollution and degradation (cleaner technologies) while in the resource management category, all the production technologies that reduce depletion phenomena are considered as integrated (resource-efficient technologies).

3.2. Which goods and services should be included?

The general definition of the EGSS used in the handbook contains an environmental protection or resources management purpose criterion. But how should this be interpreted?

It was agreed to consider only the goods and services that have been produced for environmental purposes in order to avoid the difficulty of knowing the “user purpose”.

introducing the expression “Environmental protection” that indeed corresponds only to a part of the sector (the EP part which is define according to the EPEA)]

⁷ SERIEE means European System for the Collection of Economic Information on the Environment. It has been published in 1994 by Eurostat. SERIEE is intended to supply the Member States with a common framework for the collection and presentation of economic data on the environment.

Goods and services which have a favourable impact on the environment but which serve primarily other goals do not come under EGSS. Hence, excluded are goods and services that, while beneficial to the environment, primarily satisfy technical needs or the internal requirements for health and safety.

3.3. How to classify statistics between environmental domains?

To classify variables according to domains, it was decided that the environmental protection or resource management purpose criterion should be applied in connection with the function of the good or service. This means that the production of all goods and services whose primary function is environmental protection or resources management are included, regardless of whether the activities are undertaken for other additional purposes and regardless of their effect.

For the activities that affect more than one environmental protection or resource management domain, it was decided that classification of statistics should be made to the main environmental domain and according to the main purpose and function⁸, consistently with the SERIEE and the CEPA guidelines.

3.4. Which producers?

The environmental goods and services sector is highly diverse. It includes a large range of activities from divisions of chemical firms to consultants. However, to ensure data comparability, a classification of the environmental goods and services sector, which allows identification of individual parts of the economic activities, is proposed.

The definition of environmental goods and services identifies two types of producers. The first refers to industries, the second is general government's administration.

Industries include all NACE divisions as well as local and government authorities who work at an executive level (NACE 39 for example).

General government includes a whole range of environmental activities undertaken at a more indirect level: environmental policy making, law enforcement, control, co-ordination, research, granting environmental permits, etc. These activities are found at all government levels, central, regional and local and concern legislation, supervision, control, research, information, education, etc. It was decided that the distinction of government levels is important to assess the role of the government in a country.

3.5. Which kind of production activities?

The environmental sector does not only include market activities. There are also non-market entities, e.g., for water supply, wastewater treatment, waste collection, recycling and disposal services and other environmental activities. The environmental sector that existed before the wave of environmental legislation in the early 1970s was composed mainly of non-market activities with some market

⁸ For example, a double-glaze window in a warm country will typically relate to issues of noise protection whereas in colder countries, it will be a standard a-energy saving device. In the first case, so in warmer countries, the double-glaze windows would be classified in the environmental protection activities, in the noise and vibration domain and as a cleaner product. On the contrary, in the colder country, it would be classified in the resources management category, in the domain of heat/energy saving or management also as a cleaner product.

support⁹. Since then, the market sector has played an increasing role due to a trend towards privatisation and outsourcing. It is done either through an increased subcontracting to private institutions or through full privatisation of environmental activities. This evolution has made the EGSS more diverse in terms of ownership and responsibilities and its structures differ widely across countries. This is particularly true for the provision of environmental services.

If data collection and analysis covered only private and market activities, then changes resulting from privatisation (or contracting out) of activities that were previously carried out in the public or non-market sector could lead to an overestimation of the environmental goods and services industry private sector growth rate, and render national studies less comparable. Distinctions between private and public ownership, and measurement of both, provide the information necessary to avoid such misinterpretation.

For these reasons, it was decided to separate statistics of EGSS in market and non-market activities.

Only few enterprises produce environmental goods and services as a main or principle activity. Environmental goods and services can be produced with other goods and services that are the main line of business and are not environmental. This means that some enterprises produce environmental goods and services as a secondary activity. A third category of enterprises produce environmental services for their own internal use (others outsource these activities). These are ancillary activities.

If data collection and analysis cover only business activities with environmental good and services as a principal activity, then changes resulting from internalisation, privatisation (or contracting out) could lead to a misinterpretation of the data collected to analyse the environmental sector and render national aggregates less comparable.

For these reasons, it was decided to give the possibility to the countries to separate statistics in principal, secondary and ancillary activities.

3.6. How much of the chain of a certain production activity should be included?

Selection criteria are needed for distinguishing activities belonging to the environmental sector from other activities of the business.

It was decided that the environmental sector will cover the entities which produce environmental goods (but not the components of the goods) and/or provide environmental services but not their subsequent sub-providers, distribution or use. This type of delimitations will reduce the risk of double-counting and overestimation of the EGSS.

In the supply chain of environmental goods and services, there are suppliers of components for environmental products, suppliers of complete environmental products and distributors of them. It was thus proposed to only include activities that are producing the environmental specific good (or service) (the main producers).

Figure 7: Supply chain of the EGSS.



⁹ The criterion used generally to distinguish between market producers and non-market is that the price paid to use the good or service must cover more than 50 per cent of the production costs.

In extension, the activities that are selling the already produced goods to final consumer (the distributors of the final product) are excluded. The argument is that the reason to measure the EGSS is to capture innovation potential and economic impact of certain goods and services. The distributors only sell existing goods and services that might be of certain interest but not as part of the EGSS.

3.7. How to find the population of EGSS?

When using supply-side approaches, the first step is the identification of enterprises pertaining to the environmental sector.

In the case of the environmental sector, the population is unknown (a complete list of suppliers does not exist). Standard classifications provide very few divisions (NACE Rev. 2 Divisions 38 or 39, for example) that regroup environmental goods and services enterprises. However, most of them are classified under different divisions (e.g. chemicals, equipment manufacturing), as the environmental sector is a crosscutting one.

The handbook discusses and explains the selection criteria for an enterprise to be considered under the definition of EGSS. It was generally agreed that the exploratory phase of finding the relevant enterprises is the most important but also the most time consuming phase. A great part of the countries participating in the task force have established a list of enterprises that are considered EGSS by handpicking methods.

In building the population of environmental producers of goods and services different sources of information can be used. In general, the population can be built by choosing the divisions of NACE standard classification and by using a list of products with the correspondent codes which identify environmental goods and services by establishment in the statistical office registers of businesses and organisations. These sources of information need to be completed with proper coverage from other sources¹⁰.

Some lists of environmental goods and services have thus been used by the countries with experience in collecting data on EGSS: These lists (e.g., the OECD/Eurostat list and the WTO list) can be used to have an idea of the activities included in the EGSS. Nevertheless, they should not be considered as an exhaustive set of the goods in the EGSS. In fact, the EGSS is an innovative sector: new products and therefore new producers appear continuously. EGSS population should thus be updated continuously.

The handbook provides guidance on methods to build the population and recommendations on how to handle sources of information and the results obtained.

The identification and classification of EGSS population according to existing activities and products classifications (NACE, CPA, CN, etc) has been underpinned to fully exploit the potentiality of a supply side approach. Thus, comparisons with other statistics should be more easily accomplished.

3.8. How to compile data?

In-depth studies on the difference between demand and supply side approaches, on the identification of trade in goods and services related to environmental sector and on the identification of

¹⁰ These sources could be different business registers, lists from associations, internet search with the use of keywords, telephone directories, government lists, specialised registers and catalogues of environmental product suppliers (e.g. environmental goods and services enterprises directory), lists of contacts from environment trade shows and fairs and other sources (e.g. surveys of consulting engineering, scientific and technical services, industry, trade, etc), etc.

environmental employment have taken place during 2007. ICEDD visited a certain number of countries that have already some experience in EGSS statistics. Some countries have provided their method based on the supply-side approach and all available meta-information related to data sources, methodologies and data quality has been compiled through in country visits. Data gaps have also been approached as far as possible. Some methodological issues named by the task force members during 2006 and 2007 but not yet adequately discussed so far due to time constraints have also been discussed with the countries during the visits. The inventory of the information has been analysed and its use to close certain methodological gaps has been assessed.

The conclusions from the in-country visits have provided a basis for further understanding and improvement of compilation methods for the environmental sector and for establishing a framework for data collection and analysis on the environmental sector in the draft handbook. At the same time, the development of the delimitations, methods and assumptions underlying any estimates on variables of the environmental sector have led to developments with regards to definitions and classifications in the handbook.

The collection of information and the comparability of data should be time and resource-efficient and produce robust results that do not remain disputed. However, different methods of data collection pose different questions of data availability, data coverage and resource efficiency.

There are a group of activities which are connected to treating of waste, wastewater, etc, and which have been widely agreed on by the task force as being activities that can be easily identified and measured. In fact, when using NACE classification, there is a set of industries whose activities can be considered being entirely environmental. They are classified in NACE 22.11 "Re-treading of tyres, "NACE 37 "Sewerage", NACE 38 "Recycling", NACE 39 "Remediation activities and other waste management services", NACE 46.77 "Wholesale of waste and scrap" ¹¹. This set of industries is easy to identify and define and are held to represent the economic activities of the EGSS which are 100% environmental. They are distinct from the other groups of activities undertaken by enterprises engaged in environmental protection or resources management but whose activities cannot be regarded in their entirety as environmental protection or resources management activities.

For industries producing (providing) solely environmental goods (services) which can be identified via a NACE (or any other activity classification) level, data can be found directly by looking at official sources as national accounts, production statistics, industrial surveys. These figures are the most reliable.

The handbook provides also guidance on how to calculate the share of environmental activity of total activities, for which industries whose activities are not regarded as 100% environmental. To do this any hint from National Accounts and any other register/survey can be used. The handbook analyses also other sources that can help in retrieving and estimating data.

The analysis of sources to compile statistics on turnover, value added, employment and trade have revealed the main approaches to be followed to gather statistics on EGSS.

The handbook recommends to use those methods which best fulfil information needs. It focuses on supply-side approaches as the data obtained with these approaches are usually of good quality. Other approaches are presented to deal with special cases or when difficulties arise.

The latest version of the handbook provides detailed directions on how to process primary data derived from international or national statistical sources in order to arrive at data which meets the demands of the draft standard tables on EGSS.

¹¹ During the last meeting, the task force agreed to use the NACE ver. 2 (2008) classification. The activities mentioned above correspond to NACE 25.12 "Retreading", NACE 37 "Recycling", NACE 51.57 "Wholesale of waste and scrap" and NACE 90 "Sewage and refuse disposal, sanitation and similar activities" when using the NACE 1.1.

It sets out the agreed rules for the harmonisation of national data collection systems as well as the logic behind these rules.

3.9. Latest version of the handbook

The latest version of the handbook has six chapters (see table 1 for a rapid overview of contents):

Chapter 1 - Introduction of the handbook: This chapter introduces the policy context concerning the EGSS, describes the purpose, the scope and the organisation of the handbook and explains the structure of the handbook. A summary of how to use this handbook is presented at the end of this chapter.

Chapter 2 - Definition of the EGSS: This chapter deals with a general definition of the EGSS, an overview of the breakdown of environmental activities and some guidance on how to delimit and classify the environmental sector. This chapter provides illustrations and overview definitions. Detailed definitions and examples are provided in annex.

Chapter 3 - The population of the EGSS: This chapter provides guidance on how to identify and to build the population of EGSS.

Chapter 4 - A framework for data collection and analysis: In order to ensure consistency between sources and final estimates as well as comparability of results between countries, this chapter outlines the potential data sources and methods and practices for the compilation, updating and analysis of data. It starts presenting the existing approaches to gather statistics on EGSS. It provides guidance on how to estimate variables using existing statistics or surveys. It includes recommendations on how to optimise the use of existing data and integrate and streamline data collection and analysis, recommendations on how to handle specific difficult examples, some strategies for implementing these recommendations and examples of assumptions to be applied.

National Statistical Offices throughout the world face the need to drastically reduce the response burden as one of their major strategic challenges. Minimising the response burden is not only in the interest of respondents. A successful reduction programme may very well reward the statistician too: data quality may be higher, the response will be quicker and response rates will rise, while collection costs fall. For these reasons, this chapter presents, firstly, how to gather statistics on EGSS using existing statistics, secondly, how to add questions to existing surveys and finally, how to implement targeted surveys.

Some recommendations for crosschecking and quality control of data are summarised at the end of this chapter. The recommendations pay full regard to the need for consistency in the definitions and classifications used in the standard tables and particularly to compatibility with NACE.

Chapter 5 - The standard tables: This chapter aims at providing a common and harmonised classification of the EGSS based on the breakdown, the standard classifications and the variables used by the standard tables. It starts with a presentation of the structure of the standard tables and the data requirements based on the standard tables. It provides also definitions of required data and presents an overview of sectors following the breakdown of the standard tables.

Chapter 6 - Presentation and interpretation of results: The objective of this chapter is to use the results to show, on an aggregate level, how important and useful are the different variables, different environmental domains and the sectors concerned at European and at national level. The data collected can be analysed in many different ways. This includes time series analysis by individual sectors, comparison of the different sectors, comparison of the different environmental domains and analysis by variable made by the countries and for the European Union. This chapter is being completed with illustrations from the participants to the task force and will be sent to DG Environment for inputs and comments.

Supporting information is provided in the **Annexes**.

The handbook has been organised to be used at different levels. This is to answer to the needs of different users since the experience of dealing with the EGSS varies among the Statistical offices of Member States. Each chapter is thought to offer at the same time definitions, methodological insights, examples (in boxes and tables) and practical suggestions.

The handbook aims at ensuring consistency and comparability not only with data compiled between countries but also with data compiled for other scopes (e.g. surveys on environmental expenditures). This is the reason to ensure that the classification of EGSS follows international standards and classifications. In particular the handbook intends to be as much as possible coherent with the SERIEE system of accounts.

The primary focus of the handbook is how the information can be generated by the Member States of the European Statistical System. However, the quality of this information should be assessed by the Member States.

Table 1: The Structure of the Handbook on EGSS, latest version

Where?		What?		
Chapter	Sub-chapter	Information		In particular...
1. Introduction		Purpose, scope and organisation of the Handbook		
2. The EGSS	Definition	Definition from OECD/Eurostat 1999		Which goods and services in the EGSS? Which activities? Definition of cleaner technologies and products
	Classification of activities	Classification of activities by environmental domains:		Based on CEPA 2000 and CRUMA 2007
3. The population	Boundary of the chain of production	How to define the boundaries of the chain of production of goods and services?		Dual use and multi-purpose products cases
	Identification of the actors	Industry Government		
	Sources for identification of the population	How to proceed to build the population?		Sources of information: Activities and products classification (NACE, CPA, HS, CN, etc.)
4. A framework for data collection		How to gather statistics for: Turnover/Value Added, Employment, Exports		Sources of information Supply side and demand side approaches
5. Standard Tables		How to fill in the standard tables?		Identification of activities by groups of producers Identification and examples of cleaner/resource efficient technologies and products
6. Presentation and interpretation of results		How to present and analyse data?		

4. Conclusions and future work of the TF on EGSS

One of the main constraints in drawing up the standard tables and the handbook is to recognize and implement what is feasible for all Member States. For example, a new data collection system can be very expensive to develop and maintain, and the resources devoted to it can widely differ among Member States.

To try to cope with this issue, it was decided that:

- Standard tables reflect a compromise rather than the ideal situation;
- The handbook presents the weaknesses and strengths of several methods and focus on existing data. However, it can also be used as a tool to push further towards ideal solutions by identifying and recommending best practices.

The standard tables on EGSS are a compromise between what was desirable by policy interest and needs (mainly expressed by DG Environment) and what could reasonably be achieved from statistical data (mainly expressed by the task force). The handbook constitutes the outcome of complex compromises between the countries, Eurostat and stakeholders.

The situation regarding data collection on EGSS is very different from one country to another. Most countries have to create and develop their data collection system, whereas a few need only to adapt their existing data collection system to meet the requirements of the standard tables. The use of standard tables and the handbook aims at guarantying a certain level of harmonisation between the data in the various Member States, but this is not sufficient to make national data collection systems fully operational. In order to do so, the Member States have to add other elements to take account of national peculiarities, such as the potential data sources and the needs of various users. The handbook leaves open to decide how to compile and maintain the data, but underlines the importance of having information on the experiences of other countries and documented guidelines at national level.

A preliminary list of issues to be dealt with concerning EGSS are:

- Selection of a classification of resources management activities.
- New version of the standard tables based on NAMEA breakdown.
- Improvement of the handbook:
 - Provide indicative lists of cleaner technologies and products for each environmental activity and sector. Further discussions need to take place for creating a list of examples of categories of cleaner technologies and products in line with the environmental classifications of the activities and the NACE classes. These examples will explain how to identify and where to classify cleaner technologies and products by environmental domain and by NACE class.
 - Provide further explanations on how to deal with multi-end products and on how to estimate the variables by actors; provide guidance on how to deal with special difficult examples.

5. Issues related to the SEEA revision

The new SEEA will be divided into a standard, work in progress and analytical approaches. With regards to the current topic on the “Environmental goods and services sector” the London Group needs to decide if the statistics can be included as a standard or as work in progress. Historically the European approach to standardised frameworks is a bottom up approach. This means that a sufficient number of countries must be working in the field and that they have agreed on a common approach. From this viewpoint the area of EGSS could potentially be a candidate for inclusion in the part of a standard in the SEEA. The ongoing European TF has managed to collect a majority (if not the total amount) of compilers of EGSS related statistics. With their collective expertise and the publishing of the handbook on EGSS statistics good work has been conducted and would be able to support the SEEA revision.

On the other hand, it could be argued that the area of EGSS should not be included as a standard yet in the SEEA as the work of the TF has not had time to be evaluated and tested through pilot studies at national level.

Question to the LG:

- Should the area of EGSS be included as a standard in the new SEEA based on the work led by Eurostat and the Task Force?