



Improving and extending the EGSS-account in the Netherlands

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Explanation of symbols

:	Not applicable
.	Data not available
x	Publication prohibited (confidential figure)
-	Nil
0 (0.0)	Less than half of unit concerned
*	Provisional figure
**	Revised provisional figure (but not definite)

Abbreviations

CEPA	Classification of Environmental Protection Activities
COFOG	Classification of the Functions of Government
CReMA	Classification of Resource Management Activities
EGSS	Environmental Goods and Services Sector
EPE(A)	Environmental Protection Expenditure (Accounts)
FADN	Farm Accounting Data Network
FTE	Full-time equivalent
FTS	Foreign Trade Statistics
GDP	Gross Domestic Product
MLN	Million
NACE	Standard Industrial Classification
NGO	Non-Governmental Organisation
OECD	Organisation for Economic Co-operation and Development
PRODCOM	PRODUCTION COMMUNAUTAIRE; Community Production for mining, quarrying and manufacturing
SKAL	Association for certification of organic products

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1. Introduction

The first official reporting year for the three new modules that were added to the regulation (EU) No 691/2011 on European environmental economic accounts is 2017. Hence, it is crucial to fine tune the set-up of these modules so they can be properly reported in 2017. This report describes the fine-tuning of the Dutch Environmental Goods and Services Sector (hereafter EGSS) account.

The fine tuning of the data on the Dutch Environmental Goods and Services Sector concentrates on the following topics: enhancing the scope of the outlined activities, improving data on exports, exploring the possibility to integrate data for the EPE-tables in the EGSS statistics and improving a few EGSS components (environmental education, organic agriculture and the estimation of the environmental shares of businesses).

The scope of the Dutch EGSS does not yet include all activities as proposed in the EGSS-handbook (Eurostat, 2016). Some activities, like 'wood production' or 'removal services from mines', have little or no relevance in the Dutch economy. For some other activities, however, an accurate method and data sources have not been investigated and developed yet. Hence, Statistics Netherlands explored the possibility to extend the list of activities included in the Dutch EGSS which is in line with the EGSS-handbook (Eurostat, 2016). The focus will be on 'noise insulation works' and 'technical inspection services of road transport vehicles regarding air emissions'.

In 2013 and 2014 Statistics Netherlands has developed the compilation of export-data for the EGSS (Statistics Netherlands, 2013; 2014a). Hence, there exists a method and time-series for the export of the EGSS. However, there are still some remaining issues that need more attention. Firstly, the Dutch export-indicator is the sum of export from national production and re-exports. It is worth to explore the possibility to separate these two types of export, as they have a totally different contribution to the economy. Secondly, export has not yet been disaggregated to the different NACE-classes and/or CEPA/CRReMA-categories¹. As this will be compulsory by the end of 2017, the possibility has been investigated in this project. Thirdly, the provisional figures for the export of organic agricultural goods still hold a few issues regarding the scope. Currently, agricultural goods are limited to (organic) potatoes, vegetables and fruits. This may be expanded by including other products such as eggs. Furthermore, most international trade of organic agricultural products is done by wholesalers which is an economic activity that is not included in the employment, production and value added of organic agriculture². Hence, the current export-value needs to be corrected for the trade margin by wholesalers in agricultural products. Moreover, data on the trade in services is generally of lower quality in the Netherlands, especially on a micro-level. As the department of international trade statistics has improved this dataset earlier this year, the incorporation of the source in the current compilation-methodology has been explored as well.

In 2013 and 2014 Statistics Netherlands has developed the EPEA (Environmental Protection Expenditure Accounts) tables for the extended legal base. EPEA and EGSS are connected by the "supply – use" relationship for environmental services and environmental goods. This

¹ See appendix A for the CEPA (Environmental Protection) and CRReMA (Resource Management) classification.

² And should also not be included in the EGSS according to the EGSS-Handbook.

relationship is further investigated in the study for integrated monetary accounts (Statistics Netherlands, 2016). New data that was produced for the EPE tables (which also includes some data on CReMA categories) can be integrated in the EGSS statistics. Moreover, data previously used to compile economic figures for government activities is no longer available as a result of budget cuts. Therefore, the relationship between EPEA and EGSS was used to compile the economic figures for all government activities, in order to replace the method that is currently used.

Employment, production and value added figures for organic agriculture are based on surface area and the number of organic farms in relation to the total agricultural sector in the Netherlands. Differences in the production structure of organic and conventional practices are largely ignored. The possibility to incorporate data from the European commission's farm accounting data network (FADN) to provide the information to fine tune the economic indicators for organic farming has been explored.

The economic figures for environmental education are based on a limited selection of environmental studies, like environmental science and environmental technology. Figures for environmental education are enriched by including a broader range of environment related studies, such as studies related to organic agriculture and sustainable energy.

Finally, possibilities were explored to improve the estimation of the environmental share of businesses included in the population of the micro-approach. The estimation of the environmental share of larger and more complex businesses is problematic, as they are involved in various activities and there is only limited data available to determine the share of their environmental activities.

The report is structured as follows. The next chapter outlines the results of the possible extensions of the EGSS. Chapter 3 describes the results of improving the export-estimates of the EGSS. Chapter 4 describes the (partial) integration of the EPEA and EGSS. Chapter 5 describes the possible improvements of existing EGSS components and the last chapter provides the discussion and conclusion.

2. Enhancing the scope of the EGSS

Not all activities as proposed in the Eurostat compilation guide were yet included in the Dutch EGSS. Hence, this Grant was used to extend the list of activities by including technical inspection services of road transport vehicles regarding air emissions and noise insulation works. This chapter will describe the data sources and methodology used to compile the economic figures.

2.1 Technical inspection services of road transport vehicles regarding air emissions

The technical inspection services of road transport vehicles regarding air emissions were not yet included in the EGSS. However, data about the environmental costs of technical inspection services of road transport vehicles is available at Statistics Netherlands which is specifically related to measuring soot particles from automotive exhaust emissions. Hence, the obtained results are allocated to CEPA 1 (air pollution). The costs of measuring air emissions of road transport vehicles were determined for 2006, after which year-on-year developments are based on the consumer price index for technical inspections. Combining information on the Dutch car park, the frequency of testing and the costs of measuring air emissions for vehicles results in the total environmental costs.

In order to convert the data on environmental costs into economic figures for the EGSS, the assumption was made that the environmental costs for inspection paid for by road users is equal to the production value of inspection services produced by companies³. Consequently, the value added and employment figures were derived from the production value. To do so, 'production/employment' and 'production/value added' factors were determined based on national accounts and employment data of NACE 71.203 'technical testing and analysis'⁴. The factors were used to convert the production value of inspection services into value added and employment figures. The results for the technical inspection services of road transport vehicles are presented in table 2.1.1.

Table 2.1.1 Economic figures of technical inspection services of road transport vehicles regarding air emissions

	2001	2005	2006	2007	2008	2009	2010	2011	2012	2013
Employment (FTE)	560	630	620	620	590	590	610	620	570	490
Production value (mln euro)	70	90	90	90	80	90	90	90	80	70
Value added (mln euro)	40	50	50	60	50	50	50	50	40	40

The results obtained for technical inspection services of road transport vehicles are relatively a large addition to the EGSS component 'environmental technical testing and analysis', although its contribution decreases over time. The addition of technical inspection services of road transport vehicles results in an increase of employment in the 'environmental technical testing and analysis' component of almost 50% in 2001, but its share has fallen below 25% in 2013.

³ A correction was made for the value added tax, which is included in the environmental costs paid for by road users, but which should not be included in the EGSS figures.

⁴ Data from NACE class 71.203 'technical testing and analysis' was used because it is related to all kind of environmental inspection services.

The calculation of the results shown above is straightforward and would have been implemented, if not for the fact that the required data statistics will no longer be available⁵. Further research showed that the 'raw' data source to produce the statistic will still be available. However, significant additional effort is required to compile the statistics when using the 'raw' data source. The impact of adding technical inspection services of road transport vehicles to the total EGSS economic figures is rather small. As relatively much effort is required to compile just a small part of the EGSS, it is decided to not include the technical inspection services of road transport vehicles in the EGSS.

2.2 Noise insulation works

Noise insulation works was identified as one of the missing components of the Dutch EGSS. Initially, a method was developed to determine economic figures for noise insulation based on Statistics Netherlands statistics about government expenditure on noise insulation of road transport. However, just as in the case of the technical inspection of road transport vehicles regarding air emissions, the statistic on noise insulation expenditure has been terminated.

However, another point of attention in this Grant was to explore the possibility to integrate data for the EPE-tables in the EGSS statistics. The source for these EPE-tables are COFOG files which contain information on all kinds of government expenditure. As noise insulation works for road transport are paid for by the government, data on the expenditures is included in the COFOG files. Chapter 4 will extensively describe how data for the EPE-tables is integrated in the EGSS statistic. Hence, noise insulation works is most likely included via this approach⁶.

⁵ As a result of budget-cuts in 2016, Statistics Netherlands decided to terminate, among some other statistics, the statistic on environmental costs of technical inspection services of road transport vehicles.

⁶ An extra plausibility check, in cooperation with the department of governmental statistics, will be executed in 2017.

3. Improving the export figures of the EGSS

In 2013 and 2014 Statistics Netherlands has developed the compilation of export-data for the EGSS (Statistics Netherlands, 2013; 2014a). However, there were still some remaining issues that needed more attention. In this chapter the methodology and the results of the following actions are described: investigating the incorporation of new trade data on services and improvements in the export-figures of agricultural products (3.1.2), separating export-figures in export from national production and re-exports (3.2.1) and allocating the export-figures to NACE-class and CEPA/CRReMA-category⁷ (3.2.2).

3.1 Methodology

3.1.1 General approach for compiling the Dutch export-figures

This chapter is a follow-up of the feasibility study to compile data on international trade for the Dutch EGSS, which was executed in 2014 (Statistics Netherlands, 2014a). This section provides a brief description of the methodology. More details can be found in the publication of 2014.

The Dutch EGSS consists of 16 activities, of which 4 have no international trade by default. For this reason the following activities are excluded from the export-figures: public administration activities related to the environment, water quantity control, NGOs related to the environment and nature and environmental related education (Statistics Netherlands, 2014a).

The two main sources for the compilation of the EGSS-figures are the national accounts data and the foreign trade statistics (FTS)⁸. The FTS consists of two different datasets, one for goods and one for services. The following approaches, along the lines of the different methodologies for collecting the other economic indicators of the Dutch EGSS, are used:

- National accounts data (on a 2- and 3-digit NACE-level);
- FTS data (both for goods and services) combined with NACE codes (on a deeper NACE-level than provided by the national accounts data);
- FTS data combined with the micro database of Dutch businesses active in the activities which are scattered all over the NACE system;
- Alternative sources are used for the trade estimation of organic agriculture, i.e. agricultural statistics, FADN (Farm Accounting Data Network) and AGRIMATIE⁹.

Table 3.1.1 shows per activity the data source used to compile the export-figures of the Dutch EGSS.

⁷ See annex A for the CEPA (Environmental Protection) and CRReMA (Resource Management) classification.

⁸ The study in 2014 on international trade for the Dutch EGSS describes these data sources in more detail.

⁹ Data portal of Wageningen Economic Research

Table 3.1.1. Data source per activity of the Dutch EGSS

Overview of Activities*	No export by default	National accounts	FTS - Goods	FTS - Services	Other
Wholesale trade in waste and scrap			X		
Preparation for recycling		X			
Environmental services					
Private		X			
Public	X				
Environmental inspection, certification			X	X	
Second-hand shops (not antiques)			X		
Environmental consultancy, engineering			X	X	
Production of industrial envir equipment			X	X	
Environmental related constr. Activities			X	X	
Energy systems and energy saving (excluding insulation activities)			X	X	
Insulation activities		X	X		
Water quantity management	X				
Government administration for environment	X				
Phylanthropic environmental organisations	X				
Education about the environment	X				
Organic agriculture					X

*excl. trade in renewable energy (more information on this can be found in the study of 2014 on foreign trade (Statistics Netherlands, 2014a)).

3.1.2 Methodology further extended

The figures on export include both export from national production and re-exports. As they have a totally different contribution to the Dutch economy, it is worth to explore the possibility of separating these two types of export and to look at their contributions to the total figure. Moreover, export has not yet been disaggregated to the different NACE-classes and/or CEPA/CRReMA-categories. As this will be compulsory by the end of 2017, the possibility to compile such figures has been explored in this chapter. The necessary extension of the existent methodologies is described per data source and the connected methodology.

National accounts

In line with the compilation of the figures on gross value added and production, the export figures of 'environmental services' and 'recycling' can be directly drawn from the supply-and-use tables of the national accounts. In the national accounts these two activities are registered in the corresponding NACE Rev.2 classes¹⁰. The export of insulation services is also drawn from the national accounts. Trade by manufacturers and wholesalers of insulation materials, such as mineral wools and multi-layered glass, is included in the activity 'Energy systems and energy saving'. This will be discussed under 'foreign trade statistics and micro-approach'. Table 3.1.2 shows the NACE and CEPA/CRReMA –class to which the activities are drawn from/assigned to.

¹⁰ Businesses are allocated (in full) to a single NACE based on their principal activity. Though secondary activities of these businesses may have no environmental relevance, they are included in the figures for the EGSS. Under these assumption all economic indicators (production, value added, employment and export) are simply obtained from the national accounts.

Table 3.1.2. NACE and CEPA/CreMA classification per EGSS activity based on the national accounts

Activity	NACE	CEPA/CreMA	Goods/services
Preparation for recycling	383 - Materials recovery	CEPA3	Goods and services
Environmental services (private)	37 – Sewerage management	CEPA2	Goods and services
	381 - Waste collection	CEPA3	Goods and services
	382 - Waste treatment and disposal	CEPA3	Goods and services
Insulation activities (services)	39 - Remediation activities and other waste	CEPA4	Goods and services
	43 - Specialised construction activities*	CreMA13	Services

**) with CPA selection: 4322011 - Isolation buildings*

From the national accounts a distinction can be made between goods and services. In addition it is possible to distinguish re-export and export from national production. However the re-exports of these activities appear to be very low. The results are presented in chapter 3.2.

Foreign trade statistics and NACE

The foreign trade statistics include NACE-codes that are more detailed than the level of NACE in the supply and use tables of the national accounts. Table 3.1.3 includes the activities that are drawn from the foreign trade statistics by selecting the detailed NACE-codes.

Table 3.1.3. NACE and CEPA/CreMA classification per EGSS activity based on FTS – NACE

Activity	NACE	CEPA/CreMA	Goods/services
Wholesale trade in waste and scrap	46771, 46772, 46779	CreMA 14	Goods
Second-hand shops (not antiques)	47792, 47793	CreMA 14	Goods
Environmental inspection, certification*	71203	CEPA 9	Goods and services

**) assuming that this category entails only environmental analysis and control*

Foreign trade statistics and micro-approach

The micro-approach differs from the NACE-selection in the way that the micro-approach only looks at a selection of businesses that are scattered over various NACE-categories, whereas all businesses of a relevant NACE-class are selected in the NACE-selection method. Not every selected business is 100% specialised in EGSS activities. Many businesses produce and trade environmental goods and services alongside other non-environmental goods and services. For example, a business exporting solar panels may also be trading air-conditioning equipment. In these cases the estimated specialisation factor is applied to all economic variables¹¹. Hence, the assumption is made that the degree of specialisation per business is the same for production, employment, export and other economic figures. It would be more accurate to allocate specific specialisation factors for each economic indicator, but due to the lack of information this is not possible. The list of EGSS relevant businesses (including their environmental shares) is joined with the business register and FTS. Table 3.1.4 shows the different activities for which export is based on the micro-approach.

¹¹ For more information on the list of EGSS relevant business, see the publication of the study in 2015 on the rebase of the population of the EGSS (Statistics Netherlands, 2015b).

Table 3.1.4. NACE and CEPA/CRReMA classification per EGSS activity based on FTS – micro-approach

Activity	NACE	CEPA/CRReMA	Goods/services
Environmental consultancy, engineering	Various	Various	Goods and services
Production of industrial env. equipment	Various	Various	Goods and services
Environmental related constr. activities	Various	Various	Goods and services
Energy systems and energy saving	Various	CRReMA13	Goods and services
Insulation activities (goods)	Various	CRReMA13	Goods

Data on international trade of goods and services are collected in different ways by Statistics Netherlands. In both cases the method consists of linking the businesses in the list to FTS data on business level. FTS on micro level is only consistent and reliable enough from 2009 onwards. The two datasets and the associated approach are described underneath.

Trade of goods

Relevant data on international trade in goods comes from both a register of the customs and a dedicated survey by Statics Netherlands. Businesses report their trade to and from non-EU member nations to the Dutch customs. The customs share this data with Statistics Netherlands. The data on trade in goods is not collected on the level of the business register id number (BEID) regarding the business register, but follow another level of business units (so called *relatienummers*). However, the business register id number is required for the micro-approach in order to link the list of businesses to FTS data. The department of international trade in goods of Statistics Netherlands has a dataset available of trade in goods on BEID-level from 2009 onwards, including the share of re-exports. Allocating the BEIDs to business units in the FTS-goods is however a complex matter that requires knowledge of both the trade in goods data collection and the multiple layers of the business register.

The businesses belonging to the activities mentioned in table 3.1.4 are simply linked to the import and export data in goods through their business register id number together with the environmental share of each business. Except for the trade in ‘biofuels and biomass’ and ‘insulation materials’. The figures on ‘biofuels and biomass’ and ‘insulation materials’ are based on specific commodity codes (CN-code) in the FTS database, see annex B. This specification is necessary as large parts of the trade of businesses that are involved in trade in biofuels and solid biomass also import and export conventional energy carriers, and businesses trading insulation materials are not included in the list of businesses (as it is hard to identify all the players and they often perform many other activities related to construction). An correction to the micro-approach has been made to the export of the few businesses that also trade insulation-materials that are already included by selecting CN-codes in the trade data.

The export figures based on this method can be depicted by NACE, CEPA/CRReMA-classification and exports from national production and re-exports. The latter can however only be done on an aggregated level due to confidentiality and reliability issues. The FTS has data on trade per CN-code and per business-unit level. Moreover it incorporates already the share of re-exports. The quality on the micro-level is however not always as reliable as one prefers. Therefore, we have to be cautious when interpreting the results. The list of businesses include the specification to CEPA and CRReMA. By linking these datasets, the data can also be depicted by CEPA and CRReMA category.

For the trade in 'biomass and biofuels' and 'insulation materials' the categorisation has to be done differently as not all FTS data can be linked to BEIDs. The trade of these two categories are totally assigned to CReMA13. The NACE and re-export shares are based on a 'sample' population per year involved in trading these goods. The results can be found in the next chapter.

Trade of services

For the international trade in services, Statistics Netherlands uses various different data sources. The data on services are collected every quarter by Statistics Netherlands in a sample survey among 5.000 businesses located in the Netherlands. The 350 largest are requested to provide more detail on their international trade than the other businesses. From the reference year 2009 onwards a newly designed system for processing and registering sample survey data was introduced for the trade in services statistics. Comparability and uniformity of figures for 2006-2008 to 2009 and later is a problem. Hence, it is only possible to compile a time series from 2009 onwards. Merging data on international trade in services with the businesses in the EGSS is more complicated than for the trade in goods, as part of the international trade in services is only allocated to the aggregated enterprise and not to the individual businesses (statistical units). Also not all identification numbers of units in FTS services data are up-to-date so the coordination with the Statistics Netherlands business register is quite complex.

Table 3.1.5. New FTS services data on micro level of EGSS activities (mln euro), 2014 ¹²

NACE (letter)	CEPA	CReMA	Total
<i>Total</i>	<i>127,1</i>	<i>889,8</i>	<i>1016,9</i>
B - Mining and quarrying	x	235,6	x
C - Manufacturing	19,8	201,0	220,8
D - Electricity, gas, steam and air conditioning supply	x	x	x
E - Water supply; sewerage, waste management and remediation activities	x	x	x
F - Construction	4,8	74,2	79,0
G - Wholesale and retail trade	18,7	28,5	47,2
H - Transportation and storage	x	29,2	x
J - Information and communication	x	x	3,6
L - Real estate activities	:	x	x
M - Professional, scientific and technical activities	77,2	286,7	363,9
N - Administrative and support service activities	x	22,2	x

A new and more comprehensive micro-dataset for trade in services has been made available by the international trade department. However, only 2014-data is available at the moment. A similar dataset for some older years may become available at the beginning of 2018. Table 3.1.5 depicts the results of trade in services, based on the list of businesses and corrected for the trade of those NACE-classes and activities that are not compiled on a micro-level. One has to be careful when interpreting the results as the applied environmental shares are the same for all economic indicators. The new results for 2014 are significantly higher than the current

¹² Only based on the micropopulation, so it does not include the additional trade data in services of the EGSS. A more detailed delineation to CEPA en CReMA can be found in Annex C

estimation of international trade in services of the EGSS based on micro-data (i.e. 576 mln euro). More plausibility checks need to be done to really incorporate the new data in the compilation of the export-figures on the EGSS.

Other data sources

Trade in organic agriculture cannot be drawn from the data sources and methods described above. Hence, an extra data source had to be consulted to estimate the trade in organic agriculture. So far only an estimation was made on the export in organic potatoes, fruits and vegetables, based on the study '*Bionext Exporttrend Biologisch 2014*' (Bionext, 2015). Meat-products, dairy and eggs were not yet included. As the export of meat and dairy products¹³ are processed goods they remain to be excluded from the EGSS (Eurostat, 2016). Eggs however can be included in the export figures on organic agriculture, which has been done in this project. In addition to the inclusion of organic eggs, a correction for the trade margin has been made to the export figures published by Bionext, as we do not want to estimate wholesale prices but export-values that can be attributed to the agricultural sector.

Starting point is the export from nationally produced goods¹⁴ in 2012, 2013 and 2014 (Bionext, 2015). The export of these goods in 2009-2011 is based on the growth rate of trade in organic potatoes, fruits and vegetables by wholesalers specialised in organics (based on branch specific information provided by SKAL Biocontrole¹⁵). The trade margin has been set to 10 percent based on branch specific information by Firmfocus¹⁶. The export of organic products is part of NACE (A)01 and CEPA 4.

3.2 Results

This section discusses the results of the export-figures for the EGSS. It looks both at the contribution of re-exports and the delineation to NACE-classes. Although it is possible to show results on this level of detail, the interpretation of such figures is more difficult. Firstly, because the classification to NACE is, regarding to the used methods, in most cases based on the prime economic activity of the included business while we only take into account that part that can be assigned to the EGSS which is often not the prime economic activity. So the result to NACE-class illustrates what kinds of businesses are included in the EGSS based on the institutional classification and not by the kind of economic activity that is part of the EGSS. Secondly, data on the trade on services and the share of re-exports is of lower quality especially on a micro-level. Hence, it is recommended to publish the data on an aggregated level and without separating re-export from export from national production. It is however interesting and useful to do a certain analyses to explore the data in more detail and to understand the structure of the figures.

3.2.1 Export from national production and re-exports

The share of re-exports is for most years about a third of total exports, except for 2012 where it is 45 percent¹⁷. See figure 3.2.1 for a time-series of the delineation of exports into export from national production and re-exports. Most re-exports take place in goods assigned to the

¹³ The export in dairy products contains mainly cheese (Bionext, 2015).

¹⁴ Organic potatoes, fruits, vegetables and eggs

¹⁵ SKAL Biocontrole is the designated Control Authority responsible for the inspection and certification of organic companies in the Netherlands

¹⁶ <https://www.firmfocus.biz/NL/intelligence/bedrijfstak/sector-informatie-groothandel-in-landbouwproducten.php>

¹⁷ The reason for this extremely high share of re-exports in 2012 is not clear yet. Further analyses, in cooperation with the department of international trade statistics, is recommended for an additional plausibility check.

management of energy resources and management of minerals (CReMA13 and CReMA14), see table 3.2.1. In both the table and figure, the share of re-exports is taken from the total exports of goods and services together. By excluding services (as they are not included in re-exports) the same trend is perceptible, because services only contribute for a small part, 7 percent in 2014, to total exports.

Figure 3.2.1. Export from national production and re-exports (in mln euro)

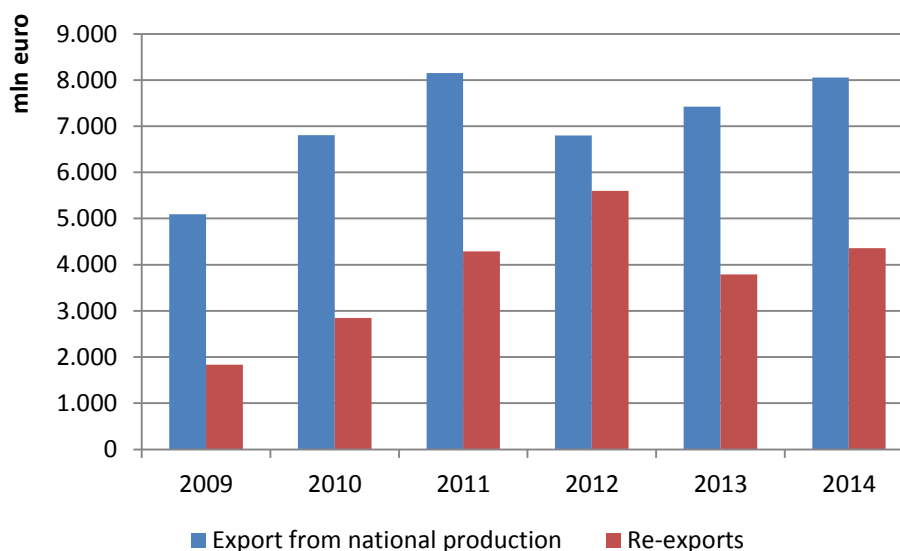


Table 3.2.1. Share of export from national production and re-exports per CEPA and CReMA, 2014

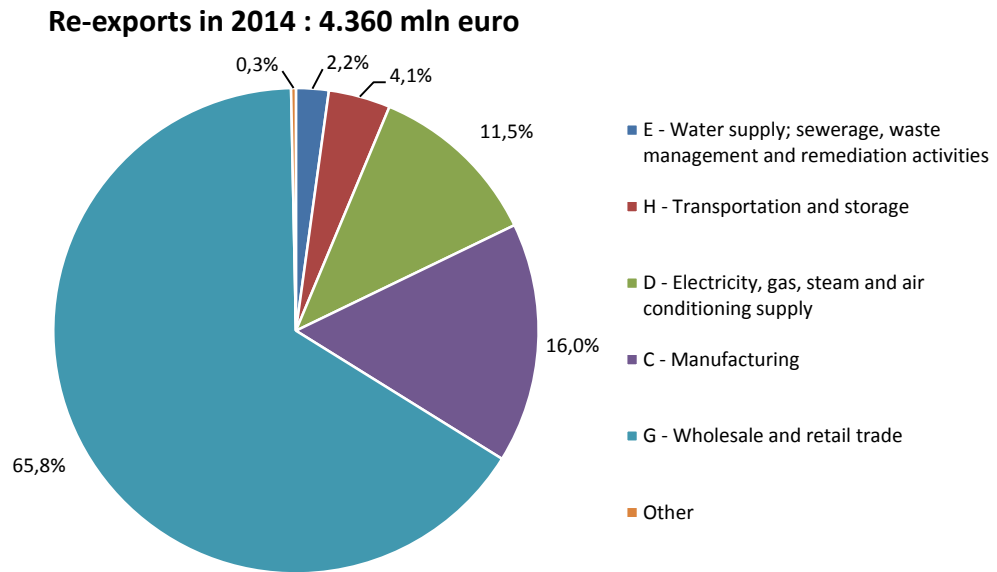
CEPA/CReMA	Total export (mln euro)	Export from national production	Re-export
CEPA1	186	100%	0%
CEPA2	592	100%	0%
CEPA3	1,061	100%	0%
CEPA4	294	100%	0%
CEPA5	17	100%	0%
CEPA6	X	X	X
CEPA7	X	X	X
CEPA8	X	X	X
CEPA9	261	100%	0%
CReMA10	21	100%	0%
CReMA11	20	100%	0%
CReMA12	X	X	X
CReMA13	6,857	58%	42%
CReMA14	3,088	52%	48%
CReMA15	X	X	X
CReMA16	15	100%	0%
Total	12,414	65%	35%

Table 3.2.2 shows the share of re-exports per NACE-class in 2014. In line with the concentration of re-exports in CReMA 13 and CReMA 14, the share of re-exports are especially large in NACE D (Electricity, gas, steam and air conditioning supply), NACE G (Wholesale and retail trade) and NACE H (Transportation and storage). Figure 3.2.2 shows the contribution of several NACE-classes to total re-exports in 2014. Businesses in wholesale and retail trade have contributed the most to re-exports of EGSS-goods. This is to be expected for this kind of businesses.

Table 3.2.2. Share of export from national production and re-exports per NACE – level 1, 2014

NACE	Total export (mln euro)	Export from national production	Re-export
A - Agriculture, forestry and fishing	148	99,9%	0,1%
B - Mining and quarrying	95	99,4%	0,6%
C - Manufacturing	3.865	81,9%	18,1%
D - Electricity, gas, steam and air conditioning supply	519	3,0%	97,0%
E - Water supply; sewerage, waste management and remediation activities	954	90,1%	9,9%
F - Construction	229	97,5%	2,5%
G - Wholesale and retail trade	5.945	51,7%	48,3%
H - Transportation and storage	243	26,1%	73,9%
I - Accommodation and food service activities	-	-	-
J - Information and communication	6	98,8%	1,2%
K - Financial and insurance activities	x	x	x
L - Real estate activities	x	x	x
M - Professional, scientific and technical activities	397	98,3%	1,7%
N - Administrative and support service activities	7	99,9%	0,1%
O - Public administration and defence, compulsory social security	-	-	-
P - Education	3	99,6%	0,4%
Q - Human health and social work activities	-	-	-
R - Arts, entertainment and recreation	x	x	x
Total	12.414	64,9%	35,1%

Figure 3.2.2. Contribution of several NACE-classes to total re-exports, 2014



3.2.2 Export to NACE-class and CEPA & CReMA

The compilation of export-figures to NACE and CEPA/CReMA will be compulsory in 2017. As this delineation of the export-figures has not yet been done in the Netherlands, the system for compiling the export-figures had to be extended. In annex C the export-figures to NACE and CEPA/CReMA for 2014 are depicted¹⁸. Most export in EGSS goods and services are part of CReMA13-activities (55%), CReMA 14 (25%) and CEPA 3 (9%). Trade in goods and services of CReMA13 mainly takes place in NACE C, D and G, which mainly contain trade in goods and services related to renewable energy, energy saving and insulation activities. Trade in goods and services of CReMA 14 mainly take place in NACE G, which contains wholesale trade in waste and scrap. Lastly, trade in goods and services of CEPA 3 mainly takes place in NACE E, which contains trade in goods and services by environmental services (private) and recycling companies.

Figure 3.2.3 illustrates per NACE, the contribution in trade by CEPA and CReMA in 2014. The absolute values are given as well to get an idea of the size. Table 3.2.3. summarizes the outcome per NACE to the total export value of CEPA and CReMA for 2012, 2013 and 2014. Exports sorted by NACE (level 1) and CEPA/CReMA seem to remain rather stable over the years. Except for NACE D, which has a much higher export value in 2014 compared to the previous years, and NACE M, which shows a decline in export over the years.

¹⁸ A similar table for the other reference years, i.e. 2009-2013, are available upon request.

Figure 3.2.3. Export per NACE and share CEPA/CREMA (incl. absolute figures in mln euro), 2014

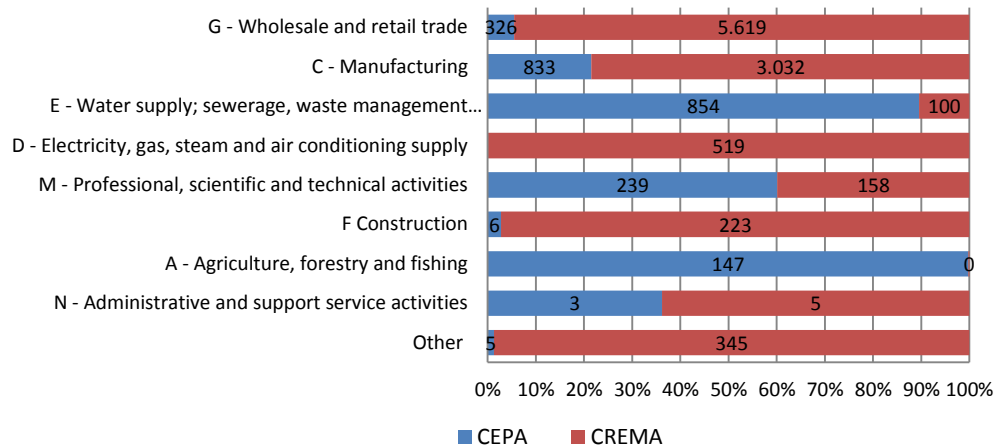


Table 3.2.3. Export to NACE and CEPA/CREMA, 2012-2014

NACE	2012			2013			2014		
	CEPA	CREMA	Total	CEPA	CREMA	Total	CEPA	CREMA	Total
A - Agriculture, forestry and fishing	X	X	155	X	X	138	X	X	148
B - Mining and quarrying	X	X	69	X	X	71	X	X	95
C - Manufacturing	734	2.968	3.702	760	2.981	3.741	833	3.032	3.865
C10 - C12 - Manufacture of food products, beverages and tobacco products	x	x	330	x	x	284	x	x	288
C13 - C15 Manufacture of textiles, wearing apparel, leather and related products	X	X	X	X	X	X	X	X	X
C16 - C18 Manufacture of wood and paper products, and printing	-	X	X	-	X	X	-	X	X
C19 - Manufacture of coke and refined petroleum products	0	209	209	0	406	406	0	96	96
C20 - Manufacture of chemicals and chemical products	66	965	1.031	65	825	889	86	1.031	1.116
C21 - Manufacture of basic pharmaceutical products and pharmaceutical preparations	-	X	X	-	X	X	-	X	X
C22 - C23 Manufacture of rubber and plastic products, and other non-metallic mineral products	70	1.094	1.164	81	1.072	1.153	83	1.143	1.226
C24 - C25 Manufacture of basic metals and fabricated metal products, except machinery and equipment	230	83	313	219	125	344	217	87	304
C26 - Manufacture of computer, electronic and optical products	20	41	61	20	35	55	21	33	54
C27 - Manufacture of electrical equipment	12	62	74	15	45	60	13	50	63
C28 - Manufacture of machinery and equipment n.e.c.	238	128	366	254	117	372	300	145	445
C29 - C30 Manufacture of transport equipment	62	10	72	78	26	104	77	76	153
C31 - C33 Manufacture of furniture; other manufacturing; repair and installation of machinery and equipment	35	44	78	27	38	65	35	39	74
D - Electricity, gas, steam and air conditioning supply		52	52		74	74		519	519
E - Water supply; sewerage, waste management and remediation activities	789	173	962	851	147	998	854	100	954
E36 - Water collection, treatment and supply	-	-	-	-	-	-	-	-	-
E37 - Sewerage	67	-	67	70	-	70	73	-	73
E38 - Waste collection, treatment and disposal activities; materials recovery	683	173	857	740	147	887	743	100	843
E39 - Remediation activities and other waste management services	39	-	39	41	-	41	38	-	38
F Construction	8	180	188	7	238	245	6	223	229
G - Wholesale and retail trade	275	6.260	6.535	284	5.029	5.313	326	5.619	5.945
H - Transportation and storage	X	X	190	X	X	175	X	X	243
I - Accommodation and food service activities	-	-	-	-	-	-	-	-	-
J - Information and communication	X	X	X	X	X	6	X	X	6
K - Financial and insurance activities	X	X	8	X	X	6	X	X	2
L - Real estate activities	-	X	X	-	X	X	-	X	X
M - Professional, scientific and technical activities	238	288	526	243	196	438	239	158	397
M69-M70 - Legal and accounting activities; Activities of head offices; management consultancy activities	X	X	X	X	X	X	X	X	X
M71 - Architectural and engineering activities; technical testing and analysis	219	85	304	220	69	290	221	102	323
M72 - Scientific research and development	13	34	48	17	27	44	14	39	53
M73-M75 - Advertising and market research; Other professional, scientific and technical activities; Veterinary activities	X	X	X	X	X	X	X	X	X
N - Administrative and support service activities	4	2	7	2	2	5	3	5	7
O - Public administration and defence, compulsory social security	-	-	-	-	-	-	-	-	-
P - Education	-	2	2	-	2	2	-	3	3
Q - Human health and social work activities	-	-	-	-	-	-	-	-	-
R - Arts, entertainment and recreation	-	X	X	-	X	X	-	X	X
Total	2.205	10.194	12.398	2.290	8.924	11.214	2.414	10.001	12.414

4. Integrating EPEA and EGSS

As a result of budget cuts at Statistics Netherlands, several environmental statistics were abolished completely or published at a more aggregated level. As a result data previously used to compile the EGSS-figures were lost. This was mainly the case for governmental activities such as public administration activities related to the environment and environmental services of the government. Therefore, new sources were required to compile economic figures for these activities.

The data that is no longer available can however be replaced by COFOG-data, because these components were all related to governmental activities. This is in line with the data collection for water quantity management, which was already based on COFOG data. Hence, these activities can now be integrated into one single method. A brief description of the methodology used will be presented in paragraph 4.1. Statistics Netherlands published a more detailed report on how to compile the EPEA by using mainly COFOG-data in 2014 (Statistics Netherlands, 2014b). The EGSS-figures on governmental activities can be derived from the COFOG-data, in a similar way the EPEA on government expenditures is derived.

4.1 Methodology

4.1.1 Local governments and non-profit institutions; CEPA classification

All government transactions¹⁹ are allocated to COFOG-categories in the Dutch government statistics; this is done for all subsectors of the government (i.e. central government, municipalities, provinces, water boards, etc.). Environmental protection expenditure is allocated to COFOG 05, which is further divided into six environmental categories. An overview of the COFOG categorisation for environmental protection expenditure is presented in table 4.1.1.

The 2-digit environmental categories of COFOG 05 can be linked to the CEPA categories required for the EPEA and EGSS, the link between the three categorisations are presented in table 4.1.2. The third column shows the COFOG 05 categorisation, to which all government transactions are allocated. The remaining columns show the categorisation of the EPE accounts and the CEPA categorisation.

In most cases there is an one to one link between COFOG 05 and CEPA categorisation, but particularly COFOG 05.3 pollution abatement requires additional allocation, as this COFOG category includes several CEPA categories. The allocation of COFOG 05.3 pollution abatement to CEPA classes is, among others, based on a biannual survey held by the Environmental Statistics department to gain additional information on governmental expenditures on the environment.

¹⁹ Classification of transactions according to the European System of Accounts

Table 4.1.1. Overview of COFOG categorisation for environmental protection expenditure

ESA transactions	Environment protection	Waste management	Waste water management	Pollution abatement	Protection of biodiversity and landscape	R&D Environmental protection	Environment protection n.e.c.
	CG 05	CG 0501	CG 0502	CG 0503	CG 0504	CG 0505	CG 0506
D.1	Compensation of employees						
D.29	Other taxes on production						
D.39	Other subsidies on production						
P.51c	Consumption of fixed capital						
P.2	Intermediate consumption						
P.11A+P.13	Market output + payments for non market output						
P12A	Output for own final use						
(P.132)	Non-market output						
(P.3)	Final consumption expenditure						
D.3	Subsidies						
D.41	Interest						
D.45	Rent						
D.621	Social security benefits in cash						
D.622	Other social insurance benefits						
D.623	Social assistance benefits in cash						
D.71+D.72	Net non-life insurance premiums + Non-life insurance claims						
D.73	Current transfers with general government						
D.74	Current international cooperation						
D.75+D.76	Miscellaneous current transfers						
D.92	Investment grants						
D.99	Other capital transfers						
NP	Acquisitions less disposals of non-produced assets						
P.51g	Gross fixed capital formation						
P.52+P.53	Changes in inventories/acquisitions less disposals of valuables						
Total expenditure							

Table 4.1.2. Correspondence table between COFOG and CEPA categories

EPE accounts		COFOG (05 environment protection)	SEEA (CEPA 2000)
Waste management	Collection and transportation	05.1.0 Waste management	3. Waste management
	Treatment and disposal		
	Other activities		
Wastewater management	Sewage networks	05.2.0 Wastewater management	2. Wastewater management
	Storm water networks		
	Other activities		
Pollution abatement	Protection of ambient air and climate	05.3.0 Pollution abatement	1. Protection of ambient air and climate
	Soil and groundwater protection		4. Protection and remediation of soil, groundwater and surface water
	Restoration and cleaning of water bodies		5. Noise and vibration abatement
	Noise and vibration abatement		7. Protection against radiation
	Protection against radiation		
Other activities			
Protection of biodiversity and landscape	Landscape and habitat protection	05.4.0 Protection of biodiversity and landscape	6. Protection of biodiversity and landscapes
	Species protection		
	Rehabilitation of species populations and landscape		
Research and development		05.5.0 Research and development environment protection	8. Research and development
EPE n.e.c	General administration	05.6.0 Environment protection n.e.c.	9. Other environmental protection activities
	Education, training, information services		
	Other activities		

⁽¹⁾ "Other activities" includes measurement, control, laboratories and the like, as well as administration, training, information and education activities specific to the domain, when they can be separated from other activities related to the same domain and similar activities related to other classes

Source: Statistics Netherlands (2014b)

4.1.2 Local governments and non-profit institutions; CReMA classification

The EGSS does not only include environmental protection but also resource management, which is classified according to the CReMA classification. However, there is no clear link between COFOG and the CReMA classification. Further investigation (Statistics Netherlands, 2014b, 2016) showed that for local government and non-profit institutions resource management expenditures are limited, except for water management which is executed by the water boards. Therefore, only the transactions of water boards are allocated to CReMA, and the remaining local governments and non-profit institutions are allocated to the CEPA categories.

In the Netherlands water boards have two important tasks. Firstly, they are responsible for managing water barriers, water ways and water levels. Secondly, they are responsible for wastewater treatment. The latter is clearly related to environmental protection (CEPA 2, see table 4.1.2), but the first is related to resource management (CReMA 10, management of waters). In the COFOG statistics a distinction is made between these two main tasks of the water boards, so information on both CEPA 2 and CReMA 10 activities can be obtained. For water boards COFOG 05 is allocated to CEPA 2 (wastewater management), and COFOG 04.7²⁰ is allocated to CReMA 10 (management of waters). Water resource management was the only component of the Dutch EGSS for which COFOG-data was already being used.

4.1.3 Example of how EGSS figures are derived from COFOG statistics

Table 4.1.3 presents an example of how EGSS-figures are derived from COFOG statistics for water boards. Several ESA transactions, such as intermediate consumption and compensation of employees, are selected from COFOG 05.2 wastewater management. The sum of these transactions equal total government output, which is set equal to the production value of the EGSS. Value added is calculated by subtracting intermediate consumption from the production value. Employment is calculated by multiplying the compensation of employees with an FTE-ratio. This FTE-ratio is based on data from the database of the ministry of internal affairs²¹, which contains information on the payroll of all employees and the FTEs for each government subsector. The outcomes are allocated to CEPA 2.

Table 4.1.3. Water boards, from COFOG to EGSS figures, 2001

EPEA figures derived from COFOG data (ESA transactions)	COFOG 05.2 (mln euro)
Intermediate consumption (P.2A)	420
Compensation of employees (D.1)	237
Other taxes less subsidies on production (D.29-D.39)	21
Consumption of fixed capital (P.51C)	<u>224</u>
Total (= output)	902

EGSS result derived from EPEA figures	CEPA 2
Production value (= output), mln euro	902
Value added (= output - intermediate consumption), mln euro	482
Employment (FTE) (= Compensation of employees * FTE-ratio)	6.041

²⁰ COFOG 04.7 Economic affairs; Other industries

²¹ <http://kennisopenbaarbestuur.nl/cijfers/>

4.1.4 Central government; CEPA and CReMA classification

For the central government a different approach was used to compile EGSS figures. This is because, as contrary to the local governments, the central government expenditures include both CEPA and CReMA activities. This approach is also based on COFOG-data, and is extensively described in a Grant report by Statistics Netherlands (Statistics Netherlands, 2015a). For now, results are only available for the years 2013 and 2014. However, the quality of the outcomes requires further investigation, because there are some unlikely year-on-year developments. Further, it is currently investigated how to develop a time series from 2000 onwards, as it is very time consuming to apply this approach for each year.

4.1.5 Corrections for double counting

Although the new approach based on COFOG-data is promising, it is not perfect yet. Several corrections to the COFOG-data were needed to prevent double counting. First of all, in the COFOG-files for municipalities activities with respect to maintenance of roads and squares are allocated to waste management (COFOG 05.01), because it also includes sweeping and cleaning of squares. However, maintenance of roads and squares includes more than sweeping and cleaning and does not have to be environmentally related; therefore the maintenance of roads and squares have been excluded in the EGSS.

Furthermore, the COFOG-files for municipalities include environmental services of the government related to waste management. These activities are partly executed by the municipalities themselves, which should be included. However, part of the activities is executed by private companies, which are paid by municipalities. The payments to private companies are government transactions and therefore included in the COFOG-files. However, the environmental services executed by private companies are already in the EGSS by using a different approach (i.e. supply and use tables of the national accounts). Hence, a correction should be made to the COFOG-data to prevent double counting of activities by private companies paid for by the government.

The new COFOG-approach includes several environmental activities that were previously determined separately, such as public administration, environmental services by the government, investments in the sewerage system and activities by water boards. These activities that were previously determined separately are now all included in the COFOG-approach and will no longer be determined separately (see annex E). Chapter 4.2 will show the results of the new approach and gives more insight in the overlap between the current approach and the new COFOG-approach.

4.2 Results

This chapter presents the results of the new COFOG-approach and compares the results with the method currently used²². From the current method only environmental activities by the government were selected for comparison. The results of these activities were then compared to the results of the COFOG-approach, see table 4.2.1.

First of all it should be mentioned that the activities by the central government are left out in the first columns (2001 and 2014) because there is no complete time series available yet (see

²² More detailed tables with results of both methods are presented in Annex C.

paragraph 4.1.4). The activities by the central government are included in the last column (2014*). Therefore, the totals of the first columns are incomplete and underestimate the results of the COFOG-approach. Further, it should be mentioned that the COFOG-approach includes non-profit (governmental) institutions, which are not included in the current method²³. The activities of these non-profit institutions are largely allocated to CEPA 6 (landscape and biodiversity), so the difference in CEPA 6 between the two methods is largely caused by the inclusion of non-profit institutions in the COFOG-approach.

For the year 2001 the new COFOG-approach shows similar results as the current method for both CEPA and CReMA activities. Striking is that CEPA 9 is smaller for the COFOG-approach, but most of the remaining CEPA categories are larger for the COFOG-approach. This is because a more detailed allocation to CEPA categories can be made in the COFOG-approach, whereas in the old approach CEPA 9 is often used as residual when it is not clear where to allocate certain activities. Hence, based on the year 2001 the COFOG-approach looks promising.

The difference between the results of both approaches regarding the CEPA classification increases gradually over time. This is mainly caused by the relative growth of CEPA 1, 2, 6 and 9 in the COFOG-approach, of which CEPA 6 is explained by the inclusion of non-profit institutions. Further research is required to identify the causes of the differences in both approaches.

Table 4.2.1 Comparing the current- and COFOG-approach for governmental activities; production value in mln euro.

Category	2001	2001	2014	2014	2014*	2014*
	Current	COFOG	Current	COFOG	Current	COFOG
CEPA 1	0	10	0	100	0	170
CEPA 2	1680	1910	2420	3290	2420	3290
CEPA 3	760	610	1030	800	1030	800
CEPA 4	50	360	70	210	70	240
CEPA 5	20	120	20	10	20	10
CEPA 6	0	220	0	430	0	520
CEPA 7	0	30	0	40	0	40
CEPA 8	0	0	0	0	0	50
CEPA 9	1190	530	1380	1120	1380	1330
CReMa 10	590	590	1180	1180	1180	1190
CReMa 11	0	0	0	0	0	0
CReMa 12	0	0	0	0	0	0
CReMa 13	0	0	0	0	0	450
CReMa 14	0	0	0	0	0	0
CReMa 15	0	0	0	0	0	0
CReMa 16	0	0	0	0	0	20
Total CEPA	3700	3780	4920	6000	4920	6440
Total CReMA	590	590	1180	1180	1180	1660
Total	4290	4370	6100	7180	6100	8100

*Includes activities by the central government.

²³ This was discovered while developing the COFOG-approach. These non-profit institutions should have been included in the current method as well. The EGSS did already have figures on the (private) environmental related NGOs, so the ones that do not fall under the government.

The last column (2014*) includes activities by the central government. It includes governmental activities on both environmental protection (CEPA) and resource management (CReMA). The resource management activities by the government (except for water boards) were not yet included in the current method and are a good addition to complete the EGSS figures. However, the results require further investigation and a time series has to be made.

Table 4.2.1 presents the production value for both approaches. However, also employment and value added figures are part of the EGSS-figures and are presented in Annex E2. The production values of the COFOG-approach are larger than those of the current approach for the year 2014. The differences between both approaches are even larger for employment and value added figures than for the production value. More effort is required to check whether the differences between both approaches are justified by the inclusion of more activities or that it is partly caused by double counting. Furthermore, some other issues should be looked at in more detail, such as the FTE-ratios used to convert production value into employment figures (see paragraph 4.1.3) and whether other corrections on production and value added might be necessary, for instance a correction for value added tax.

Altogether more effort is required to optimize the new approach based on COFOG-data. However, it includes a wider range of environmental activities of all government subsectors and provides more detailed information to classify activities to CEPA and CReMA categories. Moreover, the EPEA and EGSS are better aligned, as the EPEA is also based on COFOG-data. Hence, the COFOG-approach seems to be a promising method to replace the current method, which can no longer be applied due to the termination of some environmental statistical domains.

5. Improving existing EGSS components

The economic activities in this chapter were already included in the figures on the Dutch EGSS. However to fine tune the EGSS figures, some potential improvements have been examined and implemented.

5.1 Organic agriculture

Employment, production and value added figures for organic agriculture are all based on surface area of organic farms in the Netherlands. Differences in the production structure of organic versus conventional practices are largely ignored. The possibility to incorporate data from the European commission's farm accounting data network (FADN) to provide the information to fine tune the economic indicators for organic farming has been explored.

The following data sources are used to construct figures for organic agriculture²⁴:

Agricultural statistics:

- The number of organic agricultural entities, the area of utilized organic farming land and the number of fulltime equivalents in farming.
- Supply and use tables from the national accounts (NACE A1 - Crop and animal production) for the total production value and value added of agriculture.
- FADN database²⁵ for specific farm economic indicators.
- AGRIMATIE-database²⁶ for specific farm economic indicators (organic and conventional farming) in the Netherlands.

The organic production value and value added is estimated based on the production value and value added of all agricultural farms according to its share of utilized agricultural area. To estimate employment, total FTE in farming is divided by total agricultural entities in order to get the ratio 'FTE/entity'. This ratio is multiplied by the amount of organic agricultural entities. This implies the assumption that conventional agricultural entities have (on average) the same amount of FTEs as organic agricultural entities. The estimates on production, value added and FTEs are fine-tuned in this section by incorporating farm specific data from FADN and AGRIMATIE.

Initially, the idea was to use data from FADN, as suggested by Statistics Estonia (2016), to improve the estimates on organic agriculture. However, separate data on organic farms are no longer publishes on FADN. Therefore we had to use an additional data source (AGRIMATIE) to get the kind of information needed to correct for labour productivity differences.

The employment figures are corrected for the difference in business structure between organic farms and conventional farms, by using information on employment for different type of businesses from AGRIMATIE. De data portal also provides information on costs and revenues per type of farm. This information is used to estimate a correction factor for output and value added. However, it appeared to be that the extra revenues, on average, compensate the extra

²⁴ Organic horticulture is not included in the Dutch EGSS as it is hardly practices. When this activity grows in the future it should be included as well.

²⁵ The Farm Accountancy Data Network (FADN) is an instrument for evaluating the income of agricultural holdings and the impacts of the Common Agricultural Policy.

²⁶ AGRIMATIE (Agro and food portal) is a data-portal from Wageningen Economic Research. It contains all relevant data on Dutch agriculture.

costs²⁷. Hence, the estimates for production value and value added have not been corrected for a difference in farm structure and have therefore remained the same.

The new estimates of the economic indicators of organic agriculture are presented in table 5.1.1. For more information on the compilation of the export-figure see chapter 3.1.2.

Table 5.1.1. New estimates of the economic indicators of organic agriculture

	2008	2009	2010	2011	2012	2013	2014
Output (mln euro)	405	385	477	501	545	597	573
Gross value added (mln euro)	113	102	146	124	135	165	173
FTE (x1000)	2,3	2,4	2,7	3,2	3,4	3,5	3,5
Export (mln euro)	.	119	134	144	152	136	145

5.2 Education

In the Netherlands a distinction is made between primary, secondary and tertiary education. Although it is likely that some attention is given to environmental issues in primary school, no environmental specialisations exist for primary education. Hence, primary education is not included in the Dutch EGSS.

For secondary and tertiary education there are studies that specialise in environmental issues. These environmental studies have been identified in the past, and for all environmental studies the number of registered students is determined. The number of students of environmental studies relative to the total number of students is used as an environmental share to compile economic figures of education for the EGSS. A separate environmental share is determined for secondary and tertiary education.

Statistics Netherlands has data on the production and value added for both secondary and tertiary education. In addition, data on employment for secondary and tertiary education is retrieved from the database of the ministry of internal affairs²⁸. The environmental shares are applied to convert the economic figures of total secondary and tertiary education into economic figures of environmental education only. The result is employment, production value and value added figures for environmental education, separately for secondary and tertiary education.

The point considered for improvement is the selection of environmental studies. The initial selection of environmental studies that was made in the past is rather limited and could be extended by including a broader range of environment related studies, such as studies related to organic agriculture, green innovations, sustainable energy, etc..

For secondary education a detailed list of studies is available. Assessment of this list resulted in the addition of four environment related studies, which brings the total up to nine. The four added studies are related to organic agriculture and technical environmental services. For tertiary education it turned out to be too difficult to extend the list of environment related

²⁷ The correction factor ((revenue per ha/cost per ha of conventional agriculture)/(revenue per ha/cost per ha of organic agriculture)) was estimated to be 0,999.

²⁸ <http://kennisopenbaarbestuur.nl/cijfers/>

studies. Although a more detailed list of studies was available, the more aggregated and published list, which was already used, turned out to be sufficient and most reliable. It would have been possible to add studies that only partially relate to environmental issues, however information required to make a good estimate of their environmental share was not available.

Table 5.2.1 shows the effect of extending the list of environmental studies for secondary education. Because the added studies have been developed and launched in recent years, there is no effect for the year 2001. However, from 2010 onwards the added studies have an increasing impact on the results for secondary education.

Table 5.2.1 Secondary education; before and after extending with environmental studies

Before	2001	2005	2010	2011	2012	2013	2014
Employment (FTE)	130	110	51	52	52	48	49
Production value (mln euro)	9	9	5	5	5	5	5
Value added (mln euro)	7	7	4	4	4	4	4
After	2001	2005	2010	2011	2012	2013	2014
Employment (FTE)	130	110	62	63	65	66	71
Production value (mln euro)	9	9	6	6	6	6	7
Value added (mln euro)	7	7	5	5	5	5	6

Total environmental education includes not only secondary but also tertiary education. Table 5.2.2 presents the new results for total environmental education. It shows (comparing table 5.2.2 with table 5.2.1) that secondary education has only a limited impact on total environmental education, as the share of tertiary environmental education is relatively large.

Table 5.2.2 Economic figures for total environmental education

Total education	2001	2005	2010	2011	2012	2013	2014
Employment (FTE)	590	460	443	460	475	502	534
Production value (mln euro)	62	55	62	64	67	72	76
Value added (mln euro)	50	43	48	50	53	56	60

5.3 Environmental shares of businesses

Part of the Dutch EGSS is based on a micro approach, which consists of a population of businesses that are linked to economic figures such as employment, production and added value. For each company only their environment related activities are included in the EGSS, therefore it is required to determine an environmental share for each business. Currently the environmental shares are determined by browsing websites and viewing year reports. The rebase in 2015 (Statistics Netherlands, 2015b) resulted in an update of the list of businesses included in the population and of a revision of their environmental shares. However, the main issue of the micro-approach remains the determination of the environmental shares of companies. This is especially the case for large and complex companies that are involved in various activities and have a relatively large impact on the EGSS outcomes. On the other hand,

smaller companies often specialize in one or a few activities, which makes it easier to determine their environmental share.

Therefore, possibilities were explored to improve the environmental share estimation of large and complex businesses included in the population. In order to do so, several sources at Statistic Netherlands were consulted. The Production Statistic (PS) was consulted for more detailed information on the goods produced by companies. If environmental goods could be distinguished from the non-environmental goods, this could be an indication of the environmental share. However, in practice no such distinction could be made because the classification of goods is too aggregated.

As the required information was not available at Statistics Netherlands, the possibilities were explored to gain additional information by contacting companies directly. However, it was concluded that for both direct communication by mail or phone and a biannual survey (adding a few questions to an already existing survey on the environmental costs for businesses) the costs outweighed the benefits. Therefore, the decision was made to accept the current uncertainty with respect to the environmental share estimation, and to stick to the current practice of browsing websites and viewing year reports.

6. Overview of the results and discussion

The initial purpose of this report was to fine tune the data on the Dutch EGSS. The results however, especially the integration of EPEA and EGSS, turned out to affect the economic figures of the EGSS significantly. The total result of the updates are presented in table 6.1²⁹. Some topics, mainly the integration of the EPEA and EGSS, still require more attention as they have a large impact on the outcomes. In the remainder of this chapter the main outcomes and remaining issues will be discussed.

Table 6.1. Overview of total EGSS economic figures, previous and updated results

Variable	CEPA		CReMA		Total		
	Previous	Updated	Previous	Updated	Previous	Updated	Change
Labour input (1000 FTE)	73,7	80,0	56,8	67,3	130,5	147,3	13%
Output (mln euro)	18.292	17.778	16.905	19.428	35.198	37.207	6%
Gross value added (mln euro)	7.751	8.342	6.717	8.806	14.468	17.148	19%
Export (mln euro)	4.990	2.414	7.127	10.000	12.118	12.414	2%

The enhancement of the scope of the EGSS by including technical inspection services of road transport vehicles regarding air emissions and noise insulation works was challenging due to the loss of essential data. Regarding the technical inspection services of road transport vehicles, the required data source is still available. However, significant additional effort is needed to compile just a small part of the EGSS. Statistics Netherlands has therefore decided not to include it in the Dutch EGSS. With regard to noise insulation works, the data source is no longer available. However, figures on noise insulation works are included in the EGSS via the COFOG-approach.

The use of COFOG-files to compile economic figures of the EGSS for government activities was mainly initiated to integrate the EPEA and EGSS. Moreover, as several environmental statistics were (partly) abolished, which were used to compile the figures for government activities, a new method had to be developed. The COFOG-approach seemed to be promising, but the obtained results for recent years are significantly higher than those of the previous method, especially regarding the estimates for value added and employment. Furthermore, the differences between both approaches increases over time, especially for CEPA 3 and CEPA 9, and the environmental activities by the Central Government need to be further developed. Results of the latter are only available for the years 2013 and 2014. Hence, it was not possible yet to develop a time series from 2000 onwards. Moreover, the year-on-year development from 2013 to 2014 is unlikely and requires further investigation. Altogether, more effort is needed to check whether the differences between the old and newly investigated approach are justified. Furthermore, some other issues should be looked at in more detail, such as the FTE ratios used to convert production value into employment figures and whether other corrections on production and value added should be implemented, for instance a correction for value added tax.

The export-figures can now be published on a more detailed level. Both to CEPA and CReMA classification and to the different NACE-classes. Moreover, it is possible to look at the contribution of re-exports to total exports. However, the data sources used, especially on a

²⁹ It should be noted that the results are provisional. Moreover, the economic activity of wholesale in waste and scrap has now, as suggested by the EGSS-handbook, been allocated to CReMA 14 instead of CEPA 3.

micro-level, are not meant to be used for such publication purposes. Hence, this will only be used for internal purposes and analyses to better comprehend the results. In addition to the classification of the export-figures, the estimate on the export of organic agriculture has been improved and the data source 'FTS of services' has been enriched. In this project, the latter could only be explored and not implemented as the new dataset is only available for 2014.

The improvement of existing EGSS components yield mixed results. Economic estimates on organic agriculture have only been adapted for export and employment. Value added and output remains the same, as the suggested correction factor for the difference in production structures between organic farming and conventional farming appeared to be close to one. The export-figure is now corrected for the trade-margin and the export of organic eggs has been added as this appeared to be quite significant in the Netherlands. The employment figure has now been corrected for a difference in farm structure, which resulted in slightly more FTEs than previously estimated. Improvements were also made for secondary education by the inclusion of several new environmental studies, mostly related to organic agriculture and technical environmental services. However, the list of environmental studies for tertiary education was not extended. Resulting in a very limited increase in economic figures of environmental education. Finally, the efforts to improve the estimation of the environmental share of large and complex businesses turned out to be fruitless. Several methods were explored, such as using Production Statistics for more detailed information on produced goods and the possibility to conduct a survey to gain additional information. These methods were either unsuccessful or too costly for the potential benefits.

References

Agrimatie. Data portal with economic data on agriculture of Wageningen Economic Research.

Bionext (2015). Bionext Exporttrend Biologisch 2014, Zeist.

Eurostat (2016). Environmental goods and services sector accounts: Handbook, 2016 edition, Luxembourg.

FADN. Farm Accountancy Data Network of the European Commission.

Firmfocus. Retrieved from the webpage:

<https://www.firmfocus.biz/NL/intelligence/bedrijfstak/sector-informatie-groothandel-in-landbouwproducten.php>

Statistics Estonia (2016). Improvement and Elaboration of the Methodology for the Environmental Goods and Services Account in Estonia. Grant Agreement no 05121.2014.001-2014.287.

Statistics Netherlands (2013). Foreign trade statistics for the Dutch Environmental Goods and Services Sector.

Statistics Netherlands (2014a). Foreign trade statistics for the Dutch Environmental Goods and Services Sector 2009-2012.

Statistics Netherlands (2014b). Compiling the EPE module for the Netherlands: short time series plus improvements

Statistics Netherlands (2015a). EPEA: Classification of COFOG based source data to CEPA & CReMA; *Final report on pilot study Eurostat, Grant 2013*

Statistics Netherlands (2015b). Rebase of the population for the Environmental Goods and Services Sector.

Statistics Netherlands (2016). Mainstreaming the compilation process of the EPEA / testing the CReMA tables; *Final report on pilot study Eurostat, Grant 2016*

Annex A

Classification of environmental domains

Environmental protection group

CEPA 1	Protection of ambient air and climate
CEPA 2	Wastewater management
CEPA 3	Waste management
CEPA 4	Protection and remediation of soil, groundwater and surface water
CEPA 5	Noise and vibration abatement
CEPA 6	Protection of biodiversity and landscape
CEPA 7	Protection against radiation
CEPA 8	Research and development
CEPA 9	Other environmental protection activities

Resource management group

CReMA 10	Management of waters
CReMA 11	Management of forest resource
	11 A Management of forest areas
	11 B Minimisation of the intake of forest resources
CReMA 12	Management of wild flora and fauna
CReMA 13	Management of energy resources
	13 A Production of energy from renewable sources
	13 B Heat/energy saving and management
	13 C Minimisation of the intake of fossil resources as raw material for uses other than energy production
CReMA 14	Management of minerals
CReMA 15	Research and development
CReMA 16	Other natural resource management activities

Source: Eurostat: RAMON - Reference And Management Of Nomenclatures; Regulation (EU) No 691/2011

Annex B

B1. CN-code, description (in Dutch) and category of biomass and biofuels products

CN code	CODE DESCRIPTION (Dutch)	Category
15180010	linoxyne "geoxideerde lijnolie"	Biodiesel
15180031	mengsels van plantaardige oliën, vloeibaar, niet geschikt voor menselijke consumptie, n.e.g., voor technisch of industrieel gebruik, ruw (m.u.v. voor de vervaardiging van	Ethanol
15180039	mengsels van plantaardige oliën, vloeibaar, niet geschikt voor menselijke consumptie, n.e.g., voor technisch of industrieel gebruik (m.u.v. ruwe oliën en m.u.v. voor de vervaardiging van producten voor menselijke consumptie)	ETBE
15180091	standolie en andere dierlijke of plantaardige oliën, alsmede fracties daarvan, gekookt, geoxideerd, gedehydrerd, gezwaveld, geblazen of op andere wijze chemisch gewijzigd (m.u.v. die bedoeld bij post 1516; linoxyne "geoxideerde lijnolie")	Raw material
15180095	mengsels en bereidingen van dierlijke vetten en oliën of van dierlijke en plantaardige vetten en oliën, alsmede fracties daarvan, ongeschikt voor menselijke consumptie "yellow grease"	Raw material
15180099	mengsels en bereidingen van dierlijke of plantaardige vetten of oliën of van fracties van verschillende vetten en oliën bedoeld bij hoofdstuk 15, ongeschikt voor menselijke consumptie, n.e.g.	Raw material
22071000	ethylalcohol met een alcohol-volumegehalte van $\geq 80\%$, niet gedenatureerd	Ethanol
22072000	ethylalcohol en gedistilleerde dranken, gedenatureerd, ongeacht het gehalte	Ethanol
29091910	Tert-butylethylether (ethyl-tertiair-butylether, ETBE)	ETBE
38249091	Monoalkylesters van vetzuren, met een estercentage van 96,5 volumepercenten of meer (FAMAE)	Biodiesel
44013020	Zaagsel en resten en afval, van hout, geperst tot pellets	Biomass
44013010	Zaagsel, van hout, ook indien geperst tot blokken, briketten, pellets of dergelijke vormen.	Biomass
44013090	Resten en afval, van hout, ook indien geperst tot blokken, briketten, pellets of dergelijke vormen (m.u.v. zaagsel).	Biomass
38260010	Monoalkylesters van vetzuren, met een estercentage van 96,5 volumepercenten of meer (FAMAE)	Biodiesel
38260090	Biodiesel en mengsels daarvan, geen of minder dan 70 gewichtspercenten aardolie of olie uit bitumineuze mineralen bevattend (m.u.v. Monoalkylesters van vetzuren, met een estercentage van 96,5 volumepercenten of meer (FAMAE))	Biodiesel
44013910	Zaagsel, van hout, ook indien geperst tot blokken, briketten, of dergelijke vormen (m.u.v. houtpellets)	Biomass
44013990	Resten en afval, van hout, ook indien geperst tot blokken, briketten, of dergelijke vormen (m.u.v. zaagsel en houtpellets)	Biomass
44013100	Houtpellets	Biomass
15162095	Koolzaad- en raapzaadolie, lijnolie, zonnebloemzaadolie, illipenotenolie, kariténnotenolie, makoreolie, touloucounazadenolie en babassunotenolie, alsmede fracties daarvan, geheel of gedeeltelijk gehydrogeneerd, veresterd, opnieuw veresterd of geëlaïdiniseerd, ook indien geraffineerd, voor technisch of industrieel gebruik, in verpakkingen met een netto-inhoud per onmiddellijke verpakking van > 1 kg of op andere wijze geïmponeerd (m.u.v. die voor de levensmiddelenfabricage).	Raw material
15162096	Grondnotenolie, katoenzaadolie, sojaolie en zonnebloemzaadolie, alsmede fracties daarvan (m.u.v. die bedoeld bij 1516.20.95); andere oliën alsmede fracties daarvan, met een gehalte aan vrije vetzuren van < 50 gewichtspercenten, in verpakkingen met een netto-inhoud per onmiddellijke verpakking van > 1 kg of op andere wijze geïmponeerd (m.u.v. palmpittenolie, illipenotenolie, kokosolie, koolzaad- en raapzaadolie, kopaivaolie; die bedoeld bij 1516.20.95).	Raw material
15162098	Plantaardige vetten en oliën, alsmede fracties daarvan, geheel of gedeeltelijk gehydrogeneerd, veresterd, opnieuw veresterd of geëlaïdiniseerd, ook indien geraffineerd, in verpakkingen met een netto-inhoud per onmiddellijke verpakking van > 1 kg of op andere wijze geïmponeerd (m.u.v. vetten en oliën, fracties daarvan, die verder zijn bereid; ricinusolie, gehydrogeneerd; die bedoeld bij 1516.20.95 en 1516.20.96).	Raw material
29051100	Methanol "methylalcohol". Bevat ook fossiele methanol	Methanol
44013040	Zaagsel, van hout, ook indien geperst tot blokken, briketten, of dergelijke vormen (m.u.v. pellets)	Biomass
44013080	Resten en afval, van hout, ook indien geperst tot blokken, briketten, of dergelijke vormen (m.u.v. zaagsel en pellets)	Biomass
44013920	Zaagsel, resten en afval van hout, ook indien geperst tot blokken, briketten of dergelijke vormen (m.u.v. pellets)	Biomass
44013930	Zaagsel van hout, niet geperst	Biomass
44013980	Resten en afval van hout, niet geperst (m.u.v. zaagsel)	Biomass

B2. CN-code, description (in Dutch) and category of insulation materials

CN code	CODE_DESCRIPTION (Dutch)	Category
39031100	polystyreen in primaire vormen, expandeerbaar	Plastic
39211100	platen, vellen, foliën, stroken en strippen, van polymeren van styreen met celstructuur, onbewerkt, of alleen aan het oppervlak bewerkt of alleen vierkant of rechthoekig versneden (m.u.v. zelfklevende producten en m.u.v. vloerbedekking en wand- en plafond)	Plastic
39211310	flexibele platen, vellen, foliën, stroken en strippen, van polymeren van urethanen met celstructuur, onbewerkt, alleen aan het oppervlak bewerkt of alleen vierkant of rechthoekig versneden (m.u.v. zelfklevende producten en vloerbedekking en wand- en	Plastic
39211390	platen, vellen, foliën, stroken en strippen, van polyurethanen met celstructuur, onbewerkt, alleen aan het oppervlak bewerkt of alleen vierkant of rechthoekig versneden (m.u.v. flexibele of zelfklevende producten en vloerbedekking en wand- en plafondbekl	Plastic
68061000	slakkenwol, steenwol e.d. minerale wol, ook indien onderling vermengd, in bulk, in bladen of op rollen	Mineral wool
70080020	Glas voor isoleringsdoeleinden, meerwandig, in de massa gekleurd of troebel gemaakt, geplateerd of voorzien van een absorberende of reflecterende laag	Glass
70080081	glas voor isoleringsdoeleinden, bestaande uit twee langs de hele omtrek met een randprofiel luchtdicht afgesloten glasplaten en gescheiden door lucht, andere gassen of een vacuüm (m.u.v. dat welk in de massa gekleurd of troebel gemaakt is, geplateerd	Glass
70080089	glas voor isoleringsdoeleinden, bestaande uit twee glasplaten met een tussenlaag van glasvezels of uit drie of meer glasplaten (m.u.v. dat welk in de massa gekleurd of troebel gemaakt is, geplateerd is of voorzien is van een absorberende of reflecterende	Glass
70193100	matten van ongeregeld gelaagde glasvezels	Mineral wool
70193110	Matten van ongeregeld gelaagde glasvezels, van filamenten.	Mineral wool
70193190	Matten van ongeregeld gelaagde glasvezels (m.u.v. filamenten).	Mineral wool
70193200	vliezen van ongeregeld gelaagde glasvezels	Mineral wool
70193210	Vliezen van ongeregeld gelaagde glasvezels, van filamenten	Mineral wool
70193290	Vliezen van ongeregeld gelaagde glasvezels (m.u.v. filamenten	Mineral wool

Annex C

FTS-services microdatabase to CEPA and CReMA (export in mln euro), 2014

NACE	CEPA1	CEPA2	CEPA3	CEPA4	CEPA5	CEPA6	CEPA7	CEPA8	CEPA9	CEPA totaal	CReM A10	CReM A11	CReM A12	CReMA 13	CReM A14	CReM A15	CReM A16	CReMA totaal	TOTAAL
B - Mining and quarrying	:	x	:	:	:	:	:	:	x	x	:	:	:	235,63	:	:	:	235,63	x
C - Manufacturing	0,51	9,33	3,59	1,30	x	x	:	:	5,05	19,78	x	:	:	199,74	0,44	:	x	200,96	220,77
D - Electricity, gas, steam and air conditioning supply	:	x	:	:	:	:	:	:	:	x	:	:	:	x	:	:	:	x	x
E - Water supply; sewerage, waste management and remediation activities	:	:	x	:	:	:	:	:	:	x	:	:	:	x	:	:	:	x	x
F Construction	x	1,90	x	1,56	:	x	:	:	1,04	4,80	x	:	:	73,64	:	:	x	74,25	79,04
G - Wholesale and retail trade	0,92	10,68	4,52	x	x	:	:	:	2,13	18,75	0,78	x	:	24,09	2,99	:	x	28,45	47,20
H - Transportation and storage	x	x	:	x	:	:	:	:	x	x	:	:	:	29,21	:	:	:	29,21	x
J - Information and communication	:	:	x	x	:	:	:	x	x	x	:	:	:	x	:	:	x	x	3,57
L - Real estate activities	:	:	:	:	:	:	:	:	:	:	:	:	:	x	:	:	:	x	x
M - Professional, scientific and technical activities	x	15,84	x	8,89	10,42	1,22	:	x	30,77	77,16	2,86	x	x	268,83	x	x	12,65	286,70	363,85
N - Administrative and support service activities	:	x	x	:	:	x	:	:	x	x	:	:	:	22,21	:	:	:	22,21	x
Total	6,42	37,85	17,86	12,04	10,67	1,59	:	0,04	40,64	127,10	4,47	2,53	0,01	865,71	3,62	0,08	13,39	889,82	1016,92

Annex D

Export (in mln euro) to NACE and CEPA / CReMA classification, 2014

NACE	CEPA1	CEPA2	CEPA3	CEPA4	CEPA5	CEPA6	CEPA7	CEPA8	CEPA9	CEPA Total	CReMA10	CReMA11	CReMA12	CReMA13	CReMA14	CReMA15	CReMA16	CReMA Total	Eindtotaal
A - Agriculture, forestry and fishing				146,3					x	x				x				x	147,7
B - Mining and quarrying		x							x	x	x			94,0				x	95,4
C - Manufacturing	143,2	344,3	141,5	96,2	9,6				98,1	833,0	x			2983,8	30,6		x	3031,8	3864,7
C10 - C12 - Manufacture of food products, beverages and tobacco products		x								x				x				x	288,2
C13 - C15 Manufacture of textiles, wearing apparel, leather and related products			x	x						x				x				x	x
C16 - C18 Manufacture of wood and paper products, and printing										-				x				x	x
C19 - Manufacture of coke and refined petroleum products										-				96,0				96,0	96,0
C20 - Manufacture of chemicals and chemical products	x	26,4		43,5					x	85,7				1030,8				1030,8	1116,5
C21 - Manufacture of basic pharmaceutical products and pharmaceutical preparations										-				x				x	x
C22 - C23 Manufacture of rubber and plastic products, and other non-metallic mineral products	x	75,4	4,9	x	x				x	82,5				1140,5	x		x	1143,1	1225,7
C24 - C25 Manufacture of basic metals and fabricated metal products, except machinery and equipment	89,2	104,1	7,9	x	x				9,4	217,2				x	x			86,9	304,1
C26 - Manufacture of computer, electronic and optical products	x	x	x						x	20,7	x			x			x	33,5	54,2
C27 - Manufacture of electrical equipment	x								x	13,3	6,4			43,7				50,1	63,4
C28 - Manufacture of machinery and equipment n.e.c.	x	130,1	71,9	49,5	x				31,4	299,9	8,5			106,3	30,1			145,0	444,9
C29 - C30 Manufacture of transport equipment			37,2						39,5	76,8				75,8				75,8	152,6
C31 - C33 Manufacture of furniture; other manufacturing; repair and installation of machinery and equipment	x	7,5	18,9	x					x	35,5	x			x				38,8	74,2
D - Electricity, gas, steam and air conditioning supply										-				518,9				518,9	518,9
E - Water supply; sewerage, waste management and remediation activities		72,8	743,1	38,3						854,2				99,7				99,7	953,9
E36 - Water collection, treatment and supply										-				-				-	-
E37 - Sewerage		72,8								72,8								-	72,8
E38 - Waste collection, treatment and disposal activities; materials recovery			743,1							743,1				99,7				99,7	842,8
E39 - Remediation activities and other waste management services				38,3						38,3								-	38,3
F Construction	x	x	x	x		x			x	6,4	x			221,4			x	222,7	229,1
G - Wholesale and retail trade	28,8	104,4	170,9	x	x			x	19,7	326,5	x	x		2536,8	3057,2		x	5618,7	5945,2
H - Transportation and storage		x	x	x					x	x				x				x	243,3
I - Accommodation and food service activities										-				-				-	-
J - Information and communication			x	x				x	x	x				x	x		x	x	6,2
K - Financial and insurance activities		x	x							x	x			x				x	x
L - Real estate activities										-				x				x	x
M - Professional, scientific and technical activities	11,3	69,0	x	8,9	7,7	x	x		136,9	239,0	x	x	x	147,4	x	x	8,5	158,5	397,4
M69-M70 - Legal and accounting activities; Activities of head offices; management consultancy activities	x	x	x	x		x			x	x	x			x	x	x	x	x	x
M71 - Architectural and engineering activities; technical testing and analysis	7,3	62,9	3,9	5,1	7,7	x	x		132,7	220,9	x	x	x	93,7	x		x	101,7	322,6
M72 - Scientific research and development	x	x	x	x		x			x	13,6				39,3				39,3	52,9
M73-M75 - Advertising and market research; Other professional, scientific and technical activities; Veterinary activities									x	x				x				x	x
N - Administrative and support service activities	2,5	x	x			x				2,6				4,6				4,6	7,2
O - Public administration and defence, compulsory social security										-				-				-	-
P - Education										-				2,6				2,6	2,6
Q - Human health and social work activities										-				-				-	-
R - Arts, entertainment and recreation										-			x	x				x	x
S - Other service activities										-				-				-	-
Total	185,8	592,4	1061,5	294,2	17,4	x	x	x	261,1	2413,7	21,4	19,6	x	6856,6	3088,1	x	14,9	10000,7	12414,4

Annex E

E1. The following tables show the results of the different components of the method that is currently used. Also information is provided about their allocation to the CEPA and CReMA categories.

Public administration focusing on the environment

Variable	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Employment (FTE)	10480	11830	13180	12820	12460	12700	12940	11880	10820	9840	8860	8680	8510	8380
Production value (mln euro)	1190	1360	1520	1480	1430	1510	1580	1600	1610	1530	1460	1420	1400	1380
Value added (mln euro)	500	570	630	640	650	680	700	680	650	610	570	550	540	540

The results are allocated to CEPA 9.

Traditional environmental activities such as waste collection and wastewater treatment.

Variable	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Employment (FTE)	8850	8520	9230	8910	8730	8720	9120	8910	9400	8490	8870	8570	8200	7920
Production value (mln euro)	2080	2160	2320	2340	2340	2420	2600	2620	2800	2660	2870	2860	2820	2820
Value added (mln euro)	780	800	850	860	870	900	960	970	1010	980	1050	1030	990	980

The results are allocated to CEPA 2 (60%), CEPA 3 (37%), CEPA 4 (2%) and CEPA 5 (1%)³⁰.

Environmental construction activities; sewerage system

Variable	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Employment (FTE)	2340	2510	2620	2520	2380	2890	3450	3850	3350	2710	2720	2830	2790	2660
Production value (mln euro)	440	470	510	510	510	660	820	980	880	700	720	720	720	720
Value added (mln euro)	130	140	150	140	150	190	240	300	270	230	230	220	240	230

The results are allocated to CEPA 2

³⁰ The percentages shown are just to give an impression of the subdivision to CEPA categories and their magnitudes, and are based on results of 2014.

Water quantity management by water boards

Variable	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Employment (FTE)	3340	3840	4050	3830	3790	3710	3500	3510	3620	3890	3910	3950	3990	4040
Production value (mln euro)	590	670	770	780	780	780	810	850	910	990	1070	1110	1140	1180
Value added (mln euro)	350	400	440	450	460	450	450	470	490	550	600	620	650	690

The results are allocated to CEPA 10.

E2. The following tables show the results of the new approach based on COFOG data. Different tables are shown for employment, production value and value added. The results for the Central Government is included, but only for the available years 2013 and 2014.

Environmental activities by the government, based on COFOG data; employment in FTEs

Category	Variabele	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013*	2014*
CEPA 1	Employment (FTE)	80	120	170	210	220	210	180	370	560	640	680	670	1300	1020
CEPA 2	Employment (FTE)	10500	11010	11210	10770	10620	11320	10870	10140	10800	10460	10240	10170	10520	9420
CEPA 3	Employment (FTE)	7840	8130	8390	8300	8000	9190	9310	8500	9000	9140	9120	8940	8240	7410
CEPA 4	Employment (FTE)	3730	2980	1970	2130	2120	2150	2010	1890	1910	2050	2060	1660	1910	1300
CEPA 5	Employment (FTE)	1220	890	430	330	240	240	230	280	340	420	480	230	270	40
CEPA 6	Employment (FTE)	1900	1890	1880	1860	1760	1770	1880	1910	2150	2070	2000	1880	2450	2730
CEPA 7	Employment (FTE)	210	220	210	200	200	180	170	180	180	170	160	180	170	170
CEPA 8	Employment (FTE)	0	0	0	0	0	0	0	0	0	0	0	0	400	400
CEPA 9	Employment (FTE)	5410	6600	8400	8310	7760	8560	8670	8070	8080	8150	7600	7360	8780	8130
CRema 10	Employment (FTE)	3360	3860	4050	3830	3790	3710	3500	3510	3620	4030	4030	4090	4200	4150
CRema 11	Employment (FTE)	0	0	0	0	0	0	0	0	0	0	0	0	20	40
CRema 12	Employment (FTE)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CRema 13	Employment (FTE)	0	0	0	0	0	0	0	0	0	0	0	0	600	4840
CRema 14	Employment (FTE)	0	0	0	0	0	0	0	0	0	0	0	0	10	20
CRema 15	Employment (FTE)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CRema 16	Employment (FTE)	0	0	0	0	0	0	0	0	0	0	0	0	20	130

*Includes results for the Central Government

Environmental activities by the government, based on COFOG data; production value in million euro

Category	Variabele	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013*	2014*
CEPA 1	Production value (mln euro)	10	10	20	20	30	20	20	50	80	90	90	100	180	170
CEPA 2	Production value (mln euro)	1910	2030	2250	2320	2390	2550	2760	2920	3100	3070	3190	3230	3330	3290
CEPA 3	Production value (mln euro)	610	630	650	630	660	790	890	740	790	810	810	830	900	800
CEPA 4	Production value (mln euro)	360	300	220	240	250	250	260	270	270	280	290	240	290	240
CEPA 5	Production value (mln euro)	120	90	50	40	30	30	30	40	50	60	70	30	30	10
CEPA 6	Production value (mln euro)	220	240	250	270	280	290	310	360	390	400	380	390	490	520
CEPA 7	Production value (mln euro)	30	30	30	30	30	30	30	30	30	30	30	40	40	40
CEPA 8	Production value (mln euro)	0	0	0	0	0	0	0	0	0	0	0	0	60	50
CEPA 9	Production value (mln euro)	530	670	920	950	930	1010	1110	1130	1150	1110	1060	1050	1300	1330
CRema 10	Production value (mln euro)	590	670	770	780	780	790	820	870	920	1010	1090	1130	1170	1190
CRema 11	Production value (mln euro)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CRema 12	Production value (mln euro)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CRema 13	Production value (mln euro)	0	0	0	0	0	0	0	0	0	0	0	0	90	450
CRema 14	Production value (mln euro)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CRema 15	Production value (mln euro)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CRema 16	Production value (mln euro)	0	0	0	0	0	0	0	0	0	0	0	0	0	20

**Includes results for the Central Government*

Environmental activities by the government, based on COFOG data; value added in million euro

Category	Variabele	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013*	2014*
CEPA 1	Value added (mln euro)	0	10	10	10	10	10	10	20	40	40	50	50	90	80
CEPA 2	Value added (mln euro)	1130	1190	1240	1290	1360	1450	1570	1690	1770	1800	1840	1940	2020	2020
CEPA 3	Value added (mln euro)	530	560	600	620	620	690	750	760	790	820	860	880	890	870
CEPA 4	Value added (mln euro)	180	150	100	120	120	120	120	120	120	140	150	120	140	100
CEPA 5	Value added (mln euro)	60	40	20	20	10	10	10	20	20	30	30	20	20	0
CEPA 6	Value added (mln euro)	130	130	140	150	150	150	170	190	210	220	220	220	270	310
CEPA 7	Value added (mln euro)	20	20	20	20	20	20	20	30	30	30	30	30	30	30
CEPA 8	Value added (mln euro)	0	0	0	0	0	0	0	0	0	0	0	0	30	30
CEPA 9	Value added (mln euro)	260	330	440	450	450	480	520	520	520	550	540	550	660	630
CRema 10	Value added (mln euro)	350	400	440	450	460	460	460	480	500	560	610	630	670	700
CRema 11	Value added (mln euro)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CRema 12	Value added (mln euro)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CRema 13	Value added (mln euro)	0	0	0	0	0	0	0	0	0	0	0	0	40	330
CRema 14	Value added (mln euro)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CRema 15	Value added (mln euro)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CRema 16	Value added (mln euro)	0	0	0	0	0	0	0	0	0	0	0	0	0	10

**Includes results for the Central Government*