

Rebase of the population for the Environmental Goods and Services Sector

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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)

Figures are rounded off to the nearest ten million Euro. Consequently, some totals may not correspond to the sum of the separate figures.

Abbreviations

CEPA	Classification of Environmental Protection Activities
CoC	Chamber of Commerce
CReMA	Classification of Resource Management Activities
EGSS	Environmental Goods and Services Sector
FTE	Full-time equivalent
GDP	Gross Domestic Product
NACE	Standard Industrial Classification
NGO	Non-governmental organization
OECD	Organisation for Economic Co-operation and Development
PRODCOM	PRODUCTION COMMunautaire; Community Production for mining, quarrying and manufacturing

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Summary

This report describes the methodology and the results of the rebase of the EGSS population, completed in 2015. The focus is on activities related to waste and wastewater management, as these were expected to be underestimated. Moreover, the list of NGOs related to environmental protection and/or environmental management has been extended. This because it was noted that some big NGO's were missing when only considering NACE 94. Hence, the missing NGOs are included by means of a micro-level approach.

A regular rebase of the population of businesses is highly recommended as the EGSS is an innovative and rapidly changing sector, where the population and environmental shares can easily change from year to year. It is however time-consuming to conduct a rebase each year, hence Statistics Netherlands tries to do one every 3 years. Nevertheless the environmental shares of the biggest companies and institutions are revised every year.

The revised EGSS population has directly been linked to the economic data for the years 2009 up to 2013. For the years 2001-2008 estimations were made based on the pre-rebase trend of the EGSS population. The population rebase resulted in an increase of employment, gross value added and output of the environmental goods and services sector of 3.8%, 2.9% and 2.7% respectively (reference year 2013).

The major part of the companies that are added to the EGSS are involved in environmental protection activities rather than resource management, which is in line with the CEPA/CRéMA division of the pre-rebase population.

The rebase has been successful in its main purpose, i.e. improving the quality and the completeness of the EGSS. However, some limitations were encountered during the rebase process. These limitations are especially related to determination of the environmental shares. Closer collaboration with the department that is specialised in mapping the business structure and activities of the largest companies and of those companies with a complex business structure might improve the solidness of the estimation of the environmental shares. This collaboration will be further explored in 2016.

1. Introduction

In 2014, three new modules were added to the regulation (EU) No 691/2011 on European environmental economic accounts, of which the first reporting year is soon approaching. Hence, it is crucial to fine tune the infrastructure of these modules so they can be properly reported in 2017.

The Environmental Goods and Services Sector (EGSS) framework is one of these new modules and data is required for the following economic variables: output, value added, employment and exports. Statistics Netherlands has been actively involved in setting up and improving the statistics for the EGSS. Earlier pilot studies focussed the environmental protection group as well as the resources management group of the EGSS (Statistics Netherlands, 2006 and 2008). More recent studies were focussed on the inclusion of export-statistics (Statistics Netherlands, 2012 and 2013). Presently, Statistics Netherlands explores the possibilities to construct an integrated monetary account for the Netherlands. Furthermore, a rebase of the EGSS population was carried out to improve the quality of the data.

This report describes the work performed with respect to the rebase of the EGSS population. The rebase of the 'EGSS population database', for companies and institutions active in the market of environmental protection and resource management, is very important for monitoring dynamics in the EGSS over time. An up-to-date EGSS business register, by identifying new companies, will improve the quality and the completeness of the EGSS statistic. A database of the EGSS population is needed to estimate those figures for the Dutch EGSS that cannot be drawn from the National Accounts figures directly, as these businesses are scattered over various NACE categories. The EGSS population needs to be updated once every three years in order to monitor new market opportunities of Dutch companies in the EGSS market. Earlier this year, on August 28th, an interim report was compiled on the work in progress, the method used, and the status of the study at that time. This final report builds on this earlier work and will include the final results.

2. Concept of collecting and compiling the Dutch EGSS

The Dutch EGSS is sub-divided into 16 “environmental activities”. These activities share similar environmental aspects, but can also be scattered over different economic activities. Besides, the environmental activities can be classified to different categories of environmental protection and/or resource management activities, i.e. CEPA/CRReMA classification (see Appendix B and Eurostat, 2009).

In the Netherlands, the starting point in collecting and compiling economic statistics for the EGSS is information on producers and suppliers of environmental related goods and services. This information is retrieved from several statistical sources, both inside and outside Statistics Netherlands. Among these sources are the national accounts, environmental statistics, energy statistics, PRODCOM statistics and the business register. Furthermore, additional information is obtained from branch associations, reports from government institutions and websites such as ‘www.biobasedeconomy.nl’ and ‘www.natuurnet.nl’ which have a large network of companies/institutions in the field of biobased economy and nature advice respectively.

In general, this study uses the same methodologies and concepts developed in the former studies on the EGSS by Statistics Netherlands (Statistics Netherlands, 2013). Table 1 presents the 16 environmental activities of the Netherlands and the corresponding method to compile the data. Where possible, the National Accounts data are used directly by selecting a specific NACE-class. For the activities where this is not possible, a micro-approach is used. In short, this includes a list of businesses/institutions conducting environmental protection and/or environmental management activities which are scattered over various NACE-classes. More information on the different methodologies used in Netherlands can be found in the previous publications on the EGSS (Statistics Netherlands, 2008, 2012, 2013 and 2014).

Table 1: Overview activities and methodology

Overview of Activities	Methodology
Wholesale trade in waste and scrap	National Accounts and NACE-selection
Preparation for recycling	National Accounts and NACE-selection
Environmental services	National Accounts and NACE-selection
Environmental inspection, certification	National Accounts and NACE-selection
Organic agriculture	National Accounts and statistics on surface area
Second-hand shops (not antiques)	National Accounts and NACE-selection
Education about the environment	National Accounts and educational statistics
Philanthropic environmental organisations	National Accounts and Micro-database
Production of industrial environmental equipment	Micro-database
Environmental consultancy, engineering	Micro-database
Environmental related constr. Activities	Micro-database and capital formation statistics

Energy systems and energy saving (excluding insulation activities)	Micro-database and additional methods (like energy statistics)
Production of renewable energy	Micro-database, energy statistics, price statistics and subsidies
Government administration for environment	EPE
Water quantity management	Government statistics
Insulation activities (construction industry)	Based on sales of materials and ratios

3. Scope of the 2015-rebase

The 2015-rebase focuses on the so called micro-population of the Dutch EGSS. The micro-database consists of a list of Dutch businesses conducting environmental protection and/or resource management activities. It encompasses those activities that are scattered over the NACE-system and can therefore not be detected by using a specific NACE Rev.2 class.

Currently the following activities are completely or partly based on a micro population database:

1. production of industrial environmental equipment,
2. environmental consultancy and engineering,
3. environmental related construction activities,
4. energy systems and energy saving activities
5. the production of renewable energy.

The micro-population related to the 'production of renewable energy' has already been closely investigated, as Statistics Netherlands is involved in a yearly project that monitors the sustainable energy sector (SES). The construction activities in the environmental sector are often related to energy systems and energy savings (also insulation activities), which are also included in the 'SES-project'. Hence, the figures of these activities can be considered to be up-to-date. A rebase of the list of companies that are active in the sustainable energy sector is planned for 2016.

Much progress can still be made on figures on waste and wastewater management. Therefore, this project has mainly focused on identifying businesses related to the 'Environmental consultancy and engineering', and 'production of industrial environmental equipment'. These activities are in most cases linked to waste management (CEPA 3) and/or wastewater management (CEPA 2). Furthermore, the rebase will include environmental related construction activities. Finally, in addition to these three categories, we will rebase the population that belongs to the philanthropic environmental organisations (NGOs). This because some big and relevant NGOs appeared not to be included in the figures when using the current methodology.

4. Methodology of the rebase

In this section we concisely explain the methodology of the rebase.

1. *Compilation of a list of companies regarding wastewater and waste management (consultancies, engineering and industrial environmental equipment) and NGOs related to environmental protection and/or resource management.*

Statistics Netherlands works together with relevant branch organisations and other knowledge/research institutions to gain information on the businesses involved in these environmental related activities. Based on this information a list of potentially relevant companies/institutions is compiled which must be carefully screened on the condition that the companies and institutions are indeed carrying out environmental related activities by protecting the environment and/or by managing resources.

2. *Gaining additional information through the Dutch business register.*

The compiled list of potentially relevant companies for the EGSS can, by means of the Chamber of Commerce (CoC) registration number, be linked to the Dutch business register. This provides additional information regarding the size of the company/institution, by means of employment. Furthermore, it provides the business identification code for internal use and the Dutch SBI code (comparable to the international NACE-rev2). This business identification code is useful, because companies/institutions may exist of several offices which all have their own CoC registration number, but which are all covered by the same business identification code. By selecting companies/institutions on basis of their business identification code instead of their CoC registration number, double counting is avoided. The business identification code also allows us to link the businesses to other statistics, like the labour accounts and production statistics which are all provided on business-level.

3. *Confronting the compiled list with the existing micro-database and other compilation methodologies.*

The compiled list is checked for those companies that are already included in the EGSS micro-database. The pre-rebase micro-database (reference year 2013) contains 1.521 companies, of which 1.061 companies are related to CREMA 13 (management of energy resources). In addition, some companies might already be included in the EGSS via another method, i.e. based on NACE-selection (see table 2). These companies/institutions are excluded from the micro-database as well.

4. *Include only those companies that are assumed to carry out environmental related activities and couple the right CEPA/CREMA share to it.*

Not all companies/institutions that have initially been assigned to the EGSS in step 1, adhere in fact to the definition of the EGSS set by Eurostat/OECD (Eurostat, 2009). According to the definition, the environmental goods and services sector consists of a heterogeneous set of producers of technologies, goods and services that:

- Measure, control, restore, prevent, treat, minimise, research and sensitise environmental damages to air, water and soil as well as problems related to waste, noise, biodiversity and landscapes. This includes 'cleaner' technologies, goods and services that prevent or minimise pollution;

- Measure, control, restore, prevent, minimise, research and sensitise resource depletion. This results mainly in resource-efficient technologies, goods and services that minimise the use of natural resources.

If a company/institution falls under this definition, then the share of environmental production activities need to be determined and classified according to the CEPA/CREMA classification (Eurostat, 2009). An overview of the CEPA and CREMA categories can be found in appendix B. *Environmental Protection Activities (CEPA)* includes technologies and products of a preventive or remedial nature such as for the prevention, reduction, elimination and treatment of air emissions, waste and wastewater, soil and groundwater contamination, noise and vibration; radiation, prevention, reduction and elimination of soil erosion and salinity and other kinds of degradation. The CEPA category also includes the preservation of biodiversity and landscapes as well as the monitoring and control of the quality of the environmental media and waste. *Resource Management Activities (CREMA)* comprises technologies and products that manage and/or conserve the stock of natural resources against depletion phenomena, including both preventive and restoration activities as well as the monitoring and control of the levels and uses of natural resource stocks. The shares and allocation to environmental domains are determined on basis of information from the website of the companies concerned and/or in collaboration with experts in the field. The number of employees, and in some cases turnover figures, is used to determine the environmental shares.

Table 2. SBI selection¹ (NACE-selection)²

SBI2008	Description
35	Electricity, gas, steam and air conditioning supply
37	Sewerage
38	Waste collection, treatment and disposal activities; materials recovery
39	Remediation activities and other waste management services
4677	Wholesale of waste and scrap
4779	Retail sale of second-hand goods in stores
71203	Technical testing and analysis; other
84	Public administration and defence; compulsory social security
85	Education
94996	Philanthropic organisations; other

5. Revision of the shares of the biggest companies/institutions that are already included in the micro-database.

In order to correctly monitor the development of the EGSS over time, it is important to check whether the environmental shares of companies/institutions in the EGSS micro-database are still reflecting the present development. However, revision of the shares is a very time consuming process. Therefore, only the shares of the biggest companies/institutions were revised, this because they have a relatively big influence in the overall trend.

¹ The Dutch SBI-classification is comparable to the ISIC_2 and NACE_REV2. 'Second-hand shops' are defined on a sbi-5 digits level which differs from the NACE and ISIC classifications (so not the whole 4779 is included, only a selection (i.e. clothes and goods (excl. antique)).

² For some of the reported NACE-classes only a share is included, as it may also include business not related to CEPA/CREMA activities.

6. Generate a new consistent time series

Finally, the new micro-database is coupled with the economic data bank of Statistics Netherlands in order to retrieve all necessary information to compile figures for the three indicators. The revised EGSS population is directly linked to the economic data for the years 2009 up to 2013. This could however not be done for the years 2001-2008 as the appropriate sources are lacking. In order to generate a new time series, estimations were made for the years 2001-2008 based on the trend shown by the pre-rebase EGSS population.

The next chapter presents the results of the rebase with regard to employment, value added and production. In addition to the specific results of the activities related to the rebase, it also provides an updated time series of the whole EGSS in the Netherlands.

5. Results

5.1 Interim results of the process

Before presenting the final results of the 2015 population rebase and the impact of this population rebase on the size of the EGSS, some interim results of the process will be presented.

Based on the information received from 9 branch associations³, a total list of over 1800 companies/institutions was compiled, including almost 50 NGOs. After linking these companies/institutions to the Dutch business register, the list was checked extensively for double counting, for those companies already included in the EGSS micro-database, and for those companies already included in the EGSS via another method, i.e. based on NACE-selection. As a result of this, the compiled list was reduced to around 820 companies/institutions.

Subsequently it was checked whether these companies/institutions can be assigned to the EGSS according to the definition of the EGSS set by OECD/Eurostat. Moreover, all companies that could be assigned for more than 50 percent to CReMA 13 (Management of energy resources), were excluded from this rebase as these companies will be examined in 2016. Hence, a list of 370 business/institutions, of which 47 NGOs, remained. So, the final 2015-rebase of the EGSS population comprises the inclusion of 370 companies/institutions.

5.2 Effect of the 2015-rebase on the EGSS

The pre-rebase EGSS population consisted of 1521 companies, of which about 1000 were (partly) active in the field of sustainable energy or energy efficiency (CReMA13). The remaining companies (± 500) are involved in activities which are not related to sustainable energy or energy efficiency (no CReMA13).

The allocation of the environmental share for each company shows some clear features. The fifty largest companies have an average environmental share of 41 percent, while the smallest 121 companies (i.e. companies with 1 FTE or less) have an average environmental share of 92 percent. The environmental share for the remaining companies is 72 percent. This result shows that small companies more often focus on environmental activities, making it their core business. On the other hand, environmental activities are often side activities for larger companies.

Table 3 presents an overview of the EGSS population in terms of labour input for the year 2013. The first column shows the different environmental activities and the second column shows total labour input for each environmental activity, based on the EGSS population before the rebase. The third and fourth column show the effect of the rebase in terms of full time equivalents (FTEs) and percentage change respectively. The rebase only affects four environmental activities, due to the scope of the rebase.

³ See Appendix A for the list of branch associations.

In total the EGSS population rebase resulted in an increase of labour input of 4.8 FTE, which is about 3.8 percent of the total environmental sector. Relatively, the impact is greatest for the philanthropic environmental organisations, which increased by over 85 percent due to this population rebase. In terms of value added and output, the impact on philanthropic environmental organisations was even greater, with 103 percent and 140 percent respectively (see appendix C). More than 50 percent of these philanthropic environmental organisations are linked to SBI-91042, which includes nature conservation. Many of these NGOs are provincial landscape associations.

Furthermore, in total the EGSS post-rebase figures resulted in an increase of value added of 2.9 percent and an increase in output of 2.7 percent. These results are similar to the employment figures. Detailed information on the added value and output figures can be found in appendix C.

Table 3. Effect of the EGSS population rebase on labour input by environmental activity, 2013

Labour input	Before rebase	Rebase	
	(x1000 FTE)	(x1000 FTE)	(%)
Organic agriculture	2.9		
Energy systems and energy saving	23.2		
Wholesale trade in waste and scrap	5.5		
Philanthropic environmental organisations	1.6	1.4	85.5%
Insulation activities constr. Industry	17.2		
Environmental consultancy. engineering	8.1	2.2	27.3%
Environmental services	29.9		
Environmental inspection. certification	2.0		
Environmental related constr. activities	8.2	0.3	4.0%
Education about the environment	0.5		
Gov. administrion for environment	8.5		
Production of renewable energy	3.2		
Production of industrial enviro equipment	5.0	0.9	17.6%
Second-hand shops (not antiques)	2.0		
Preparation for recycling	4.0		
Water quantity management	4.0		
Total environmental sector	125.7	4.8	3.8%

Table 4 shows the breakdown of the rebase population in terms of labour input (in FTEs) into CEPA and CReMA activities, i.e. environmental protection and resource management activities respectively. The second and third column show the labour input (in FTEs) allocated to CEPA and CReMA activities. The fourth and fifth column show the related share of CEPA and CReMA activities. The CEPA share is largest for each of the environmental activities. In total, 87 percent of the rebase population consists of environmental protection activities and only 13 percent of resource management activities.

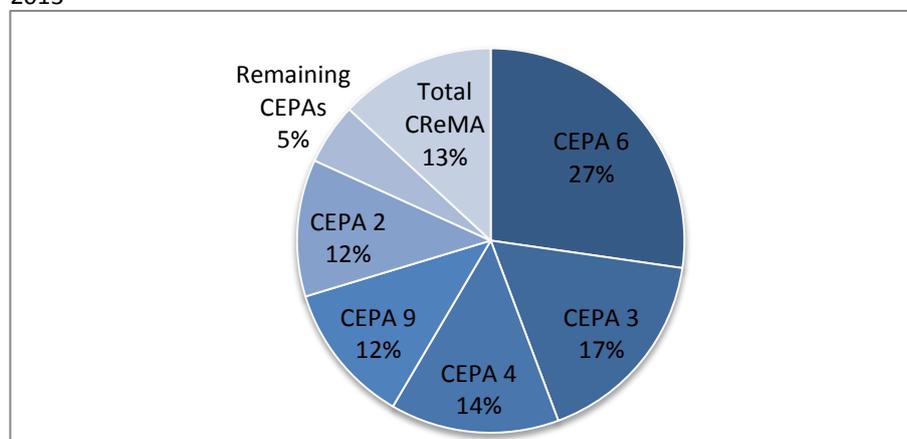
Table 4. Breakdown of the rebase population into CEPA and CReMA activities, Labour input 2013

Labour input	CEPA (x1000 FTE)	CReMA (x1000 FTE)	CEPA share %	CReMA share %
Production of industrial environmental equipment	0.82	0.07	93%	7%
Environmental consultancy. engineering	1.73	0.48	78%	22%
Environmental related constr. activities	0.33	0.00	100%	0%
Philanthropic environmental organisations	1.29	0.08	94%	6%
Total	4.17	0.62	87%	13%

The large CEPA share of the rebase population is remarkable, but it can be partly explained by the fact that companies which focus mainly on CReMA 13 (Management of energy resources) were excluded from the database. Furthermore, the large CEPA share is in line with earlier figures of the Dutch EGSS before the rebase. In the pre-rebase EGSS population the CEPA share was even higher (94 percent) for these four environmental activities.

Figure 1 presents a breakdown of the rebase population by CEPA and CReMA categories, in terms of labour input for the year 2013. As was shown in table 4 the total CReMA share is small with only 13 percent of total labour input, so it is more interesting to take a closer look at the different CEPA categories. The largest category is CEPA 6, protection of biodiversity and landscape, with 27 percent of total labour input. More than 62% of the labour input in this category comes from philanthropic environmental organisations, which are often involved in the protection of biodiversity and landscape. Furthermore, this rebase focused on activities related to waste (CEPA 3) and wastewater management (CEPA 2). Together these two activities comprise another 29 percent of total labour input. The two other categories with significant impact are CEPA 4 (Protection and remediation of soil, groundwater and surface water) and CEPA 9 (Other environmental protection activities) with respectively 14 and 12 percent of total labour input.

Figure 1. Breakdown of the rebase population by CEPA and CReMA categories⁴, Labour input 2013



⁴ The CEPA and CReMA categories can be found in Appendix B.

5.3 Time series of the EGSS

After the rebase of the EGSS population, new consistent time series (for 2001–2013) have been generated. Three time series of the EGSS will be presented in this chapter: employment, gross value added and production.

Figure 2 presents the time series for employment in the environmental goods and services sector. It presents the share of employment in the environmental goods and services sector in total employment. The red (lower) line shows the pre-rebase situation, and the blue (dotted) line shows the new situation after the rebase. For instance, in 2013 the contribution of the environmental goods and services sector to total employment was 1.80% before the rebase, and due to the rebase it increased to 1.86%.

Furthermore, the revised EGSS population is directly linked to the economic years 2009 up to 2013, for these years the post-rebase and pre-rebase population follow the same trend. This same method could not be used for the years 2001-2008. To generate a new time series estimations were made for the years 2001-2008. These estimations seem to be valid, as the trend of the revised EGSS population is similar to the trend of the pre-rebase EGSS population for the periods 2001-2008.

Figure 3 presents the time series for value added of the environmental goods and services sector. It presents the contribution of the environmental goods and services sector to the Dutch GDP. Again, the red (lower) line shows the pre-rebase situation, and the blue (dotted) line shows the new situation after the rebase. Before the rebase the gross value added of the EGSS was about 2.05% in 2013, due to the rebase this increased to 2.11%.

Figure 2. Contribution environmental goods and services sector to total employment

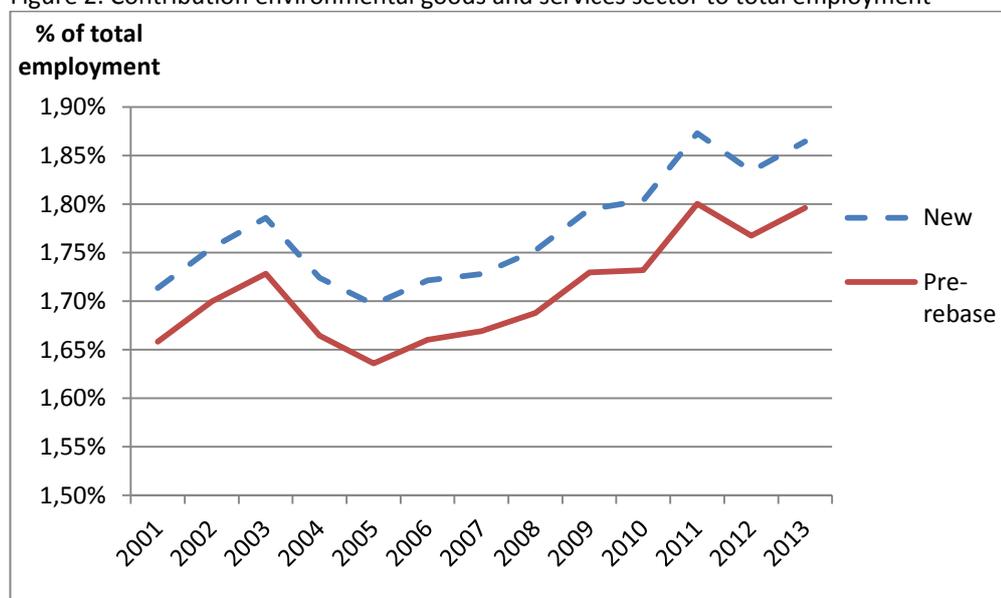
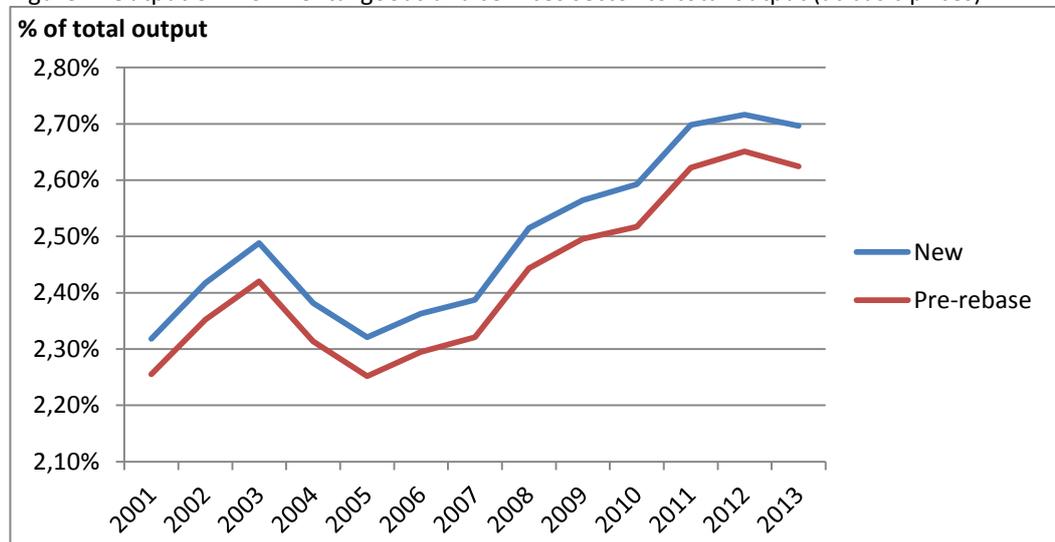


Figure 3. Gross value added environmental goods and services sector (EGSS) to total GDP



Finally, figure 4 presents the output of the environmental goods and services sector at basic prices with respect to total output of the Dutch economy. Again, the red (lower) line shows the pre-rebase situation, and the blue (dotted) line shows the new situation after the rebase. Before the rebase the share of the EGSS output in total output 2013 was 2.62 percent in 2013, due to the rebase it increased to 2.70 percent.

Figure 4. Output environmental goods and services sector to total output (at basic prices)



6. Discussion

The rebase of the EGSS population has positively affected the quality and the completeness of the EGSS statistics, which was the goal of this project. Due to the population rebase, the employment embedded in philanthropic environmental organisations increased by more than 85%, while the added value more than doubled and total output increased by more than 140%. Such results were not to be expected in a rebase. The results are less striking for the other environmental activities.

In case of the philanthropic environmental organisations, the huge impact of the rebase can be explained. Previously, a list of philanthropic environmental organisations based on the SBI-classification⁵ (SBI 94) was compiled and included in the EGSS population. However, this approach turned out to be insufficient, as some (large) philanthropic environmental organisations appeared to be excluded from the EGSS. It turned out that these organisations did not fall under the SBI 94 category, and were therefore overlooked. For this rebase extra attention was given to identify these philanthropic environmental organisations that were not yet included.

Another remarkable result is the relatively large addition of environmental protection (CEPA) activities with respect to resource management (CReMA) activities. However, this result is in line with earlier findings in the EGSS, and could be explained by the type of environmental activities that are based on the micro-approach. For instance, philanthropic environmental organisations are more likely to be involved in environmental protection than in resource management. Furthermore, companies that could be assigned for more than 50 percent to CReMA 13 (Management of energy resources) were excluded from this rebase, because CReMA 13 was outside the scope of this rebase and will be updated in 2016.

Furthermore, some critical notes can be put on the compilation of the EGSS population. One of the most difficult and subjective steps to be taken in order to compile the EGSS population is to couple the right CEPA/CReMA share to each company. The first step, determining in what kind of environmental activities (which CEPAs/CReMAs) a company is involved, is not very problematic. But then, to determine a company's share related to environmental activities, and more specifically a share for each CEPA/CReMA, is very difficult and in many cases subjective. It is more or less straightforward for smaller companies that focus on one or a few activities. However, it becomes more difficult to determine the environmental share for larger companies with a more complicated business structure, for which small deviations may largely affect the EGSS employment, output and gross value added figures.

In addition to this it should be noted that many of the environmental shares assigned to the companies become obsolete. Currently, after this population rebase, the EGSS population includes about 1900 companies. The environmental shares are revised only for a small part of them, i.e. for these companies that affect the EGSS most significantly. The environmental shares are only determined once for the major part of the companies, because this is very time consuming. The EGSS micro-database was firstly compiled in 2006 and even though revisions have taken place before, it could be the case that for some companies their environmental share dates from 2006. It is likely that, at the end of 2015, not only the size of companies has

⁵ The SBI-classification is comparable to the ISIC_2 and NACE_REV2. SBI-94 includes philanthropic environmental organisations.

changed (which effects the EGSS employment, gross value added and output figures), but also that their business structure and activities have changed. This intra-company growth of environmental activities is currently not measured. A more frequent update of these environmental shares would be required in order to keep the quality of the EGSS figures up to standard.

Finally, in order to generate a new time series for the years 2001-2013, estimations had to be made for the years 2001-2008 due to a lack of appropriate sources. These estimations are based on the trend of the pre-rebase EGSS population. Although the outcomes of these estimations are of lower quality than the results for 2009-2013, the results seem to be sufficient for this purpose. So, although the results might not be optimal it does not seem necessary to spend time on improving them.

7. Conclusions

The rebase of the EGSS population was completed by compiling a time series for the EGSS activities for 2001-2013. The revised EGSS population was directly linked to the economic data for the years 2009 up to 2013. For the years 2001-2008 estimations were made based on the pre-rebase trend of the EGSS population.

The population rebase resulted in an increase of employment, added value and output of the environmental goods and services sector of 3.8 percentage, 2.9 percentage and 2.7 percentage respectively. Especially the completeness of the philanthropic environmental organizations was improved, as it turned out that the previous approach to identify the philanthropic environmental organizations fell short. But improvements were also made for environmental consultancy and engineering, production of industrial environmental equipment and environmental related construction activities.

The major part of the companies in the population rebase were involved in environmental protection activities rather than resource management. However, analysis showed that for these four environmental activities that are based on the micro-approach, this was also the case in the pre-rebase population.

Furthermore, the breakdown of the rebase population by CEPA and CReMA categories shows that protection of biodiversity and landscape, waste and wastewater management significantly contribute to the rebase (about 57% in total), these categories formed the main focus of this rebase. It should be noted that a very high percentage would not be expected, as many companies are active in more than one environmental domain (i.e. more than one CEPA or CReMA category).

Although the rebase was successful in its main purpose, improving the quality and the completeness of the EGSS, some limitations were encountered during the rebase process. These limitations are described in the discussion section, and are related to the micro-approach of the EGSS. In the next section some recommendations are made which may help to deal with those limitations in the future.

8. Recommendations

A few recommendations can be made based on this study. First, at Statistics Netherlands there is a department (ConGO) specialised in mapping the business structure and activities of the largest companies and of those companies with a complex business structure. This department is in direct contact with these companies, and their knowledge might be useful for determining the right environmental share. However, due to time constraints at ConGO it was not possible to build on their knowledge about these large companies for this rebase. But co-operation with ConGO could be helpful for further improving the quality of the EGSS in the future.

Second, not only the environmental shares of the largest companies should be looked at more closely. Also more attention is required for the small- and medium-sized companies. For many of these companies their environmental share has been determined in the early phases of the development of the Dutch EGSS, and have not been updated since. Their environmental shares (based on their business structure and activities) may now have changed significantly. The measurement of this intra-company growth in environmental activities is lacking. A more frequent update of these environmental shares would be required to improve the quality of the EGSS. However, this is very time consuming. Therefore, it could be considered to update only the environmental shares of medium-sized companies, while ignoring the small companies and sole proprietorships. This way, a relatively large part of the EGSS population can be updated and a limited amount of time is required.

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Appendix A

Branch association	Description
Netwerk Groene Bureaus	Focused on nature, water, environment and space
NL Ingenieurs	Consulting, management and engineering offices
Vereniging van Milieu Adviesbureaus	Environmental advice soil, soil protection
Natuurnet	Nature advice
Envaqua	Water and environmental technologies
Cleantech Holland	Export organisation and platform for Dutch clean tech businesses, universities, governments, and nonprofit organizations
Nederlands Informatiecentrum Bodembeschermende Voorzieningen	Environmental advice soil, soil protection
Vereniging Kwaliteitsborging Bodembeheer	Environmental advice soil, soil protection
Metasus	Environmental technologies
Website	
Biobased Economy	Network biobased economy

Appendix B

AI- Environmental domains in the Environmental Protection Group and Resource Management Group

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

Appendix C

Added value	Before rebase	Rebase	
	mln euros	mln euros	(%)
Organic agriculture	0.17		
Energy systems and energy saving	2.35		
Wholesale trade in waste and scrap	2.01		
Philanthropic envir organisations	0.11	0.12	103.2%
Insulation activities constr. Industry	0.90		
Environmental consultancy. engineering	0.61	0.16	27.0%
Environmental services	2.84		
Environmental inspection. certification	0.17		
Environmental related constr. activities	0.63	0.03	4.8%
Education about the environment	0.06		
Gov. administrion for environment	0.55		
Production of renewable energy	1.28		
Production of industrial envir equipment	0.39	0.08	19.5%
Second-hand shops (not antiques)	0.09		
Preparation for recycling	0.56		
Water quantity management	0.65		
Total environmental sector	13.35	0.39	2.9%

Output at basic prices	Before rebase	Rebase	
	mln euros	mln euros	(%)
Organic agriculture	0.60		
Energy systems and energy saving	6.74		
Wholesale trade in waste and scrap	2.38		
Philanthropic envir organisations	0.19	0.27	141.5%
Insulation activities constr. Industry	2.13		
Environmental consultancy. engineering	1.09	0.33	30.5%
Environmental services	7.90		
Environmental inspection. certification	0.29		
Environmental related constr. activities	2.18	0.11	4.8%
Education about the environment	0.07		
Gov. administrion for environment	1.40		
Production of renewable energy	2.95		
Production of industrial envir equipment	1.45	0.19	13.1%
Second-hand shops (not antiques)	0.17		
Preparation for recycling	2.12		
Water quantity management	1.14		
Total environmental sector	32.79	0.90	2.7%