

## Report

# EPEA: Classification of COFOG based source data to CEPA & CReMA

Final report on pilot study Eurostat, Grant 2013

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## 1. Introduction and objectives of the project

The SEEA Central Framework (UN et al 2012) as well as the EU Legal Base on Environmental Accounting requires classifying government expenditures according to Environmental Activities. For that purpose the Classification of Environmental Activities (CEA) used in SEEA-CF(2012) can be applied. This classification is based upon a) the Classification of Environmental Protection Activities and Expenditure (CEPA) (United Nations, 2000), for those activities whose primary purpose is the prevention, reduction and elimination of pollution as well as any other degradation of the environment, including measures taken in order to restore the environment after it has been degraded due to the pressures from human activities, and b) CReMA for Resource management (RM), this includes all actions and activities that are aimed at preserving and maintaining the stock of natural resources and hence safeguarding against depletion (SEEA-CF, 2012) <sup>1</sup>. Classification of expenditures and transfers following the CEA, or either CEPA and eventually CreMA classifications, enables compiling EPEA (Environmental protection Expenditure Accounts), ReMEA (resource management account), the EGSS (Environmental goods and services) and accounts for Environmental subsidies and related transfers.

However, when National Accounts data classified according to function of government via the formal COFOG - classification is used as a data source, the allocation to several CEPA classes requires specific extra work, as the category COFOG 5 Environmental Protection is less detailed (6 categories) than CEPA (9 classes). Moreover, the Resource management according to CReMA functions are scattered across several COFOG categories. In this report we describe the results of a first pilot project where we have classified expenditures from central government according to the CEA classification using the central government database.

#### 1.1 Objectives

The prime objective of this project was to investigate whether it would be possible to add an additional CEPA / CreMA classification item to transactions for central government. We have tested such an 'enrichment exercise' by sitting together and combine insight from specialists of different statistical backgrounds, as with Environmental statistics (EPER), government statistics, and Environmental Accounts. Such an additional characteristic would facilitate compiling EPEA / ReMEA and Environmental Transfers directly. Moreover, it would result in data that would be fully consistent with the National Accounts and allow for a breakdown by type of transaction (for example the so-called D-classification of distributive transactions of the SNA) and the receiving institutional sector (including corporations, households, and general government). Important to note is that this action will not result in any changes in the COFOG classification for the government statistics.

The project not only assessed feasibility of adding such an extra criterion, but also investigated whether our existing and recently updated databases and systems were able to cope with such

<sup>&</sup>lt;sup>1</sup> This includes actions and activities aimed at reducing the withdrawals of natural resources (recovery, reuse, recycling, substitution of natural resources) as well as restoring natural resource stocks (increases/recharges of natural resource stocks). To be included under resource management, actions and activities or parts thereof must satisfy the primary-purpose criterion, i.e., that resource management is their primary objective. Those activities whose primary purpose is environmental protection are therefore excluded.

additional detail. The intention was to assign all budget items in the existing database for central government ('Rijksdatabase') to the CEPA/CReMA classification. For budget items where this allocation was not straightforward, we investigated what additional research was needed. The initial focus was on the Central government (ministries), while in the other subproject done this year also the classification to CEA for municipalities, water boards and the provinces was investigated.

The project also aimed to induce synergies between several statistical units within Statistics Netherlands (Government statistics, environmental statistics, environmental accounts) and may result in increased quality of these statistics. The results for reporting year 2013 also aimed to directly feed into the compilation of EPE module, which is part of the extension of EU legal base.

## 2. Description of contributing statistical departments

The project intended to offer enhanced synergy between several statistics departments Accordingly, the project was jointly executed by the regular EPE compilers from the Environmental Statistics team, the Environmental Accounts team dealing with EPEA, EGSS and environmental subsidy compilations, with and with colleagues from teams within Government Finance Statistics department.

#### 2.1 Government finance statistics

#### 2.1.1 Central government expenditure statistics (In Dutch RIJK)

In the Netherlands, S13 (sector government) constitutes a variety of subsectors such as Central Government, Municipalities, Provinces, Water Boards, Universities etc. Basic data for each of these sectors comes from separate data sources and is organized in different databases. For instance data for Central Government (Rijk) is stored in the so-called 'Rijksdatabase' (RDB, Central government database) which is based upon an analysis of budget lines per department, whereas data from municipalities is stored in the so-called 'KREDO' database which is using a classification of 'IV3 functions' used by municipalities.

Statistics Netherlands receives very detailed information from the ministries and funds. This is the result of close and continuing corporation and established communication with the separate ministries. This data often is a dump of the ministries' accounting (bookkeeping) system, by which already a number of specific categorisations and classifications are made, although not consistent between the ministries and not necessarily NA like. This information is put in an Access database. In this database, the specific codes for that ministry or fund are translated to both ESR transactions, classified following ESR2010 guidance, and COFOG functions. Every ministry uses their own financial system, so there is an Access work-database for each ministry or fund. The translated and aggregated data from each ministries and funds is entered in to a central Access database, the Rijksdatabase. The information from the connected agencies, based on their annual reports, is also entered in the (New) Rijksdatabse. After this all the data of a chapter in the (New) Rijksdatabase is checked with the annual report of the organisation, because the two have to match. There is one statistical analyst for each ministry or fund, so this analyst is familiar with the specifics of the organisation and its goals. Some analysts work on more than one ministry or fund. This database functioned as the clear starting point for the proposed analyses in this project as it contains the already ESA-2010 complying data.

Table 2.1 Information organised in the 'New Rijksdatabase'

Year	Budget Chapter	Exp. & receipt (E/R)	Article (budget line)	Article subset	Unit (under ministry)	Cofog classif.	ESA - Transactions	Receiving sector ('Tegensector)
Periode	•	Soort(U/I)	ArtMin	OndMin	Eenh	Cofog	Transactie	Tegensector
2013	06	E	3510	11	060001	104	D.1	S.14
2013	06	Е	3510	11	060001	104	P.2A16	S.1N
2013	06	R	3510	19	060001	104	D.1	S.14
2013	06	R	3510	19	060001	104	D.73A	S.1313F
2013	06	R	3510	29	060001	104	D.1	S.14
2013	06	E	3510	41	060001	104	D.1	S.14
2013	06	E	3510	91	060001	104	D.1	S.14
2013	06	E	3510	91	060001	104	P.2A14	S.1N
2013	06	E	3510	91	060001	104	P.2A29	S.1N
2013	06	E	3523	02	060001	104	D.73A	S.1313C
2013	06	E	3524	02	060001	104	D.1	S.14
2013	06	E	3531	02	060001	034	p.2A19	S.X
2013	06	E	3535	02	060001	034	P.2A16	S.1N
2013	06	E	3535	12	060001	034	D.1	S.14
2013	06	E	3535	12	060001	034	P.2A16	S.1N
2013	06	E	3535	22	060001	034	P.2A19	S.1N

Above an example of the information from the New Rijksdatabase. E/R is for expenses and receipts. Each chapter is divided in policy article numbers (budget lines) and the articles are divided in parts (Ond). Every unit in a chapter (ministry or agency) has it's own unique unit number. Some ESA-transactions are further specified for internal use, the so-called ESR+.

#### 2.1.2 ESA transmission program

The delivery of national accounts data on current and capital transfers to Eurostat is regulated in the national accounts transmission programme. The transmission programme includes table 8 – Non financial accounts by sector and table 11 - General government expenditure by function'.

#### 2.2 Environmental statistics

Statistics Netherlands reports its data on Environmental Protection Expenditures (EPE) to Eurostat through the Joint OECD/Eurostat Questionnaire on EPER (JQ-EPER). The structure of the JQ-EPER is generally but not fully aligned with the national account framework and concepts.

Although, since 2013 the Joint Questionnaire is disseminated and data collected on an annual basis by Eurostat, Statistic Netherlands reports to Eurostat on a biennial basis as the Netherlands compiles these statistics for odd years only. For even years, Eurostat completes the missing data by applying interpolates and extrapolates techniques to the data in order to obtain yearly figures for the Netherlands. Starting from publication year 2017, in agreement with the legal base, Statistics Netherlands will start reporting EPER statistics on a yearly basis. Part of the

research executed for this Eurostat grant will not only be used to obtain more consistent and higher quality data but also to make compilation of the EPER data less time consuming. The aim is to switch to a yearly publication of EPER statistics without adding to extra work load. The Joint Questionnaire on EPER comprises the following sectors: public sector, business sector total, agriculture, forestry and fishing, mining and quarrying, total manufacturing. The subject of this Eurostat Grant, Central Government ("Het Rijk", in Dutch), obviously belongs to the public sector only. In the Netherland the public sector comprises Central Government, Provinces, Municipalities and Water Boards. Government is reported integrally in the Joint Questionnaire but both centralised and decentralised governments are published by Statistics Netherlands, on a biannual basis, via the regular online statistical database Statline (EPE data only in Dutch).

Statistics Netherland has a lasting practice in compiling EPER statistics in the Netherlands, this as the monetary part of the Structural Business Survey (SBS) with in particular EPE for businesses but also for the economy as a whole since 1979. In context of compiling government expenditures on EPE, data analysis was mainly based on the official publicly available publications from the governmental bodies like the annual reports of the individual ministries and some additional sources. As a result of substantially improved data obtained by the department on Government Statistics within Statistic Netherlands, a more sound basis is formed to serve also compilation of EPE(R) statistics in future. This includes the corresponding more detailed descriptions of economic activities. The improved data are explored and used extensively in this study.

The transformation tables, starting from the ESA coded transactions data including COFOG, that distinguishes between environmental (EP and RM) from non-environmental activities developed during this study are welcomed. These tables will enable and facilitate the annual compilation of the relevant part of say the former EPER, but more important of the foreseen Eurostat questionnaires on EPE as required under Regulation 691/2011 on European environmental economic accounts (adopted on 16 April 2014) and eventually of 'environmentally transfers'. The developed tables are foreseen to be applied in the forthcoming years and to partially automate the EPER compilation, following the foreseen demanded reporting structure.

#### 2.3 National and environmental Accounts

Statistics Netherlands (CBS) compiles environmental accounts for several years now. It started from an illustrative NAMEA (National accounting matrix including environmental accounts), that connects environmental data to National Accounts data. The bureau gradually extended the system of environmental accounts both physical and monetary accounts.

Environmental Accounts in the statistical office is organised as a 'module' or satellite to NA with several other 'modules' like growth accounts, labour accounts, regional accounts, within the National Accounts department. This enables cooperation on and use of the detailed data in National Accounts (NA) according to SNA2008 and recently implemented ESA2010 concepts. Accounts were developed for air emissions, water emissions, waste, and energy, water and material flows, as for Environmental taxes, the environmental goods and services sector (EGSS), subsidies, and CO<sub>2</sub>-emission permits.

The Dutch environmental accounts are compiled following the general concepts, definitions and classifications as described in SEEA-CF (2012) and the SNA 2008. More specific information on

applied methodologies can be found on Statistics Netherlands' website (www.cbs.nl)<sup>3</sup>. Specific methodological reports are available on some subjects. Data of the several Dutch environmental accounts modules is stored in the electronic online statistical database Statline (under topic: Macroeconomics – environmental accounts, or search for 'environmental accounts').

The EU-legislations in the area of environmental accounts (and naturally also national accounts), with Regulation (EU) 691/2011 and the amended Regulation (EU) 538/2014 on the European environmental economic accounts form, together with statistical standard SEEA Central Framework (SEEA-CF) and extensions, the basis for work on the various environmental accounts modules at Statistics Netherlands. Three out of the six modules required under the two regulations deal with monetary environmental accounts including Environmental Taxes, EPEA and EGSS. The Environmental Taxes data and EGSS data are delivered for several years to Eurostat. EPEA data are developed and compiled via grants to Eurostat and some test questionnaires has been completed on request of Eurostat.

In recent years, from the Environmental Accounts Group at Statistics Netherlands, effort has been dedicated to compilation of EPEA formats and tables (See: Statistics Netherlands (CBS), 2012) as well as to Environmentally motivated subsidies and similar transfers via Eurostat grants (See: Statistics Netherlands (CBS), 2011). The Environmental Accounts Group participated in Eurostat Taskforces on environmental Accounts, as to the Taskforce on environmental transfers, to the Taskforce on RUMEA & ReMEA and to the (former) Taskforces on environmental subsidies and taxes. The group also participates in the working group meetings on 'Environmental Expenditure Statistics'. Results that relate to this conceptual work as for Environmentally motivated subsidies and similar transfers are published in the annual Environmental Accounts publications<sup>4</sup>. An attempt has been made to start allocating subsidies to receiving industries and households (beneficiaries).

For compilation of the different environmental modules use is made of several basic (source) statistics, as from Environmental statistics (see also §2.2), from energy statistics, but also from government finance statistics (§2.1). Moreover, use is made among others from the Statistical Business Register (SBR), and from Production Statistics (PS), foreign trade statistics, labour statistics. In this project, data is used from government finance statistics that directly feed into the sector accounts of the NA. In addition use is made of data in the rest of the world accounts. Furthermore insights obtained during previous EPEA and subsidy compilation exercises are used.

<sup>4</sup> See for example: <u>CBS – 'Environmental accounts of the Netherlands 2012'</u>, <u>Ch. 6.2 Environmental subsidies and Transfers'</u>, or: <u>CBS – 'Environmental accounts of the Netherlands 2011'</u>, <u>Ch. 7.2 Environmental subsidies and transfers'</u>.

<sup>&</sup>lt;sup>3</sup> More information can be found under Theme <u>macroeconomics</u> or in the Dutch part of the website, where more information can be found on the <u>Environmental Accounts (In Dutch: Milieurekeningen)</u> or either in the annual publication <u>Environmental Accounts of the Netherlands (2013)</u>.

## 3. Applied method

As explained, the delivery of national accounts data to Eurostat is regulated in the national accounts transmission programme (Regulation (EC) No 1392/2007), including Non-financial accounts by sector and General government expenditure by function. For this purpose and for storage of the data in the national statistical database Statline as for other national uses, an annual recurring sequence of collection and compilation efforts are done. The Government finance statistics take responsibility for the compilation of data on transactions and transfers by the government to and from other sectors including the rest of the world.

A positive aspect of the project is that government statistics data stored in the 'Rijksdatabase' is that it has just been updated in recent months resulting in the new version of the existing 'Rijksdatabase'. For the remaining sections of the report, we call this the 'New Rijksdatabase', by which the new ESA-2010 regulation and prescriptions are fully implemented. This enabled that the classified records that functioned as the ultimate starting point of our analysis, right there, were fully ESA-2010 compliant and consistent already. This allows for a relative ease in repeating the work in the (near) future.

This up-to-date classification of the transactions in the 'New Rijksdatabase', provided a sound starting point for the 'enrichment' of the existing data records according to EP/RM categories as was foreseen in the grant proposal following the CEPA/CReMA coding. For the 'enrichment' of transactions and transfers for each individual ministry (department) and the budget lines it represents, a recurring sequence of compilation/enrichment steps were undertaken. We started to implement the procedures with the most relevant ministries for EP/RM like the Ministry of Infrastructure and the Environment and the Ministry of Economic Affairs as they provide substantial transfers for EP/RM. The focus in their policies on EP/RM should be positive on the detail in information facilitating (as far as possible) the allocation to EP&RM and further to the CEPA/CReMa categories. The aim was also to substantially learn from these two ministries with substantial sources on EP&RM and to apply the practice also to eventual other ministries.

#### 3.1 Defining and identification of environmental transactions

Starting point of environmental transactions are environmental (EP/RM) activities, that are described in environmental (EP/RM) activity accounts and statistics. Within an accounting framework, we attempt to record expenditures and related national accounts flows for EP/RM activities. Accounts of this type have been developed in relation to environmental protection (EP), via environmental protection expenditure accounts (EPEA) and statistics on EPE. For resource management (RM) activities such accounts are less developed but can follow similar concepts and definitions as EPEA. The scope of the EPEA is defined from a demand perspective in terms of the expenditures / transactions by economic units for EP purposes, while EPEA also provides (partly) information on the supply side of some of the relevant EP services. It closely follows the concepts, definitions and rules of the NA (§4.38 - §4.44 SEEA-CF, 2014). Via the EPEA extended to RM in the ReMEA, the aim is to identify and measure society's response to environmental and resource concerns through the supply of and demand for EP/RM protection services and through the adoption of production and consumption behaviour aimed at preventing environmental degradation and for resources. The result will be

information on the output of EP/RM specific services produced across the economy and on the expenditure made by resident units on all goods and services for EP/RM purposes. This allows analysis of the extent of EP environmental protection activities and assessment how expenditure on EP/RM is financed. Starting from the four main, interlinked EPEA/ReMEA tables, with first the production of EP/RM products, second the supply (domestic and from ROW) & use (by economic unit) of specific EP/RM services, thirdly adding connected products and adapted goods purchased by EP/RM activity inclusive capital formation & EP/RM relevant transfers, we come to the fourth table, designed to present the financing of national expenditure on EP/RM. These tables are all organised within the different sets of economic accounts that defines relationships between various transactions (§4.45 - §4.59 SEEA-CF, 2014). To use the structure and sequence of regular accounts means the various transactions related to EP/RM can easily be related to these accounts and to other transactions, benefitting from the same accounting conventions as used in the SNA. The scope of assessing the relevant information on expenditure for EP/RM purposes, include next to the use of EP/RM specific services and expenditure on all goods and services used for EP/RM. The expenditure may relate to either intermediate consumption, salaries, final consumption or gross fixed capital formation. These expenditure items can be relevant for both the production sectors as with the different governmental sectors, here the central government in particular (SEEA-CF, 2014).

The estimates for national expenditure on EP/RM show expenditures of activities done by the different users and units. Due to EP/RM transfers between units, this can be and is quite different from who bears these costs, clearly of interest as well for analysis purpose. A next step therefore is to take into account these transfers and assess the sources of the funds that finance the summed national expenditures on EP/RM. Various transfers for EP\RM between different sectors are observed, here particularly transfers from and to the (central) government are relevant. Moreover, as a major category EP/RM relevant transfers to and from rest of the world also denoted as the financing by the rest of the world, as for the EU are relevant and should adequately be recorded as well.

In this context of assessing such EP/RM related transfer we looked preparatory work done with Eurostats as for Environmental subsidies and similar transfers (Eurostat 2014b) and several member states in recent years. In there one distinguish, next to the Potentially environmentally damaging subsidies (PEDs), EP and/or RM supporting measures. The latter comprises:

1. Environmental subsidies and similar transfers, 2. Environmental tax abatements and 3. Other environmental support measures (e.g. price support and/or regulatory support mechanisms, payments related to international climate change policies).

Environmental subsidies and similar transfers and environmental tax abatements effect the costs of production and/or the use of environmental products. Environmental subsidies and similar transfers can and should be mapped through national accounts. That is what we aim for in this project, particularly those that related to central government<sup>5</sup>.

#### 3.2 Identification of the EP/RM transactions

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<sup>&</sup>lt;sup>5</sup> Contrary, often it is not well possible or impossible to map environmental tax abatements and other environmental support measures through national accounts. As some of these measures don't appear in the budgetary documents although they can have substantial budgetary implications, as is the case for the Netherlands. Either through reduced (tax) revenues or by creating financial obligations for the government.

The SEEA central framework (SEEA-CF, 2014) in its chapter IV, 'Environmental activity accounts and related flows', focuses on the identification of economic transactions within the SNA that may be considered environmental. Of particular interest are those transactions that relate to environmental activities, i.e., those economic activities whose primary purpose is to reduce or eliminate pressures on the environment thus EP or to make more efficient use of natural resources, or RM. These types of transactions are summarized in the environmental protection expenditure accounts (EPEA), and in statistics on the environmental goods and services sector (EGSS). The chapter also covers the topics of environmental taxes, environmental subsidies and similar transfers, and a range of other payments and transactions related to EP/RM. Although these transactions are all recorded in the SNA, often they are not explicitly identified as related to the EP/RM.

SEEA-CF (SEEA-CF 2012), 2014,  $\S4.138$ ) in  $\S4.11 - \S4.26$  explains 'The scope and definition of environmental activities'. Where The scope of environmental activities encompasses those economic activities whose primary purpose is to reduce or eliminate pressures on the environment (EP) or to make more efficient use of natural resources (RM). Examples are investment in technologies that prevent or reduce pollution, restore polluted environments, conservation and resource management.

Regarding determining the 'primary purpose', following SEEA and relevant here is that activities are deemed to be environmental activities, only if the primary purpose of the activity is consistent with the definitions of the two types of environmental activity listed as 'environmental', namely EP and RM<sup>6</sup>. SEEA in §4.16 also states that in practice, the primary purpose must be attributed to particular transactions or groups of transactions as recorded in the accounts. That is what we tried to do in the project. Right so, SEEA in subsequent §4.16 states that 'In determining the primary purpose, a variety of motivations for undertaking the activity may be relevant. The activity may be undertaken on a purely voluntary basis, or in order to comply with relevant legislation or regulation, or within the framework of a voluntary agreement. That is what we have been trying to deal with.

A major part of the mentioned 'transactions' that related to central government are the environmental subsidies or similar transfers. Those transfers briefly, defined as: 'transfers intended to support activities that protect the environment or reduce the use and extraction of natural resources. It includes those transfers defined by the SNA as subsidies, social benefits to households, investment grants and other current and capital transfers' (SEEA-CF 2012, 2014, §4.138), where to 'reduce the use and extraction of natural resources' is interpreted as resource management (RM). The focus here is on transactions and transfers that flow from (central) government to the others sectors, plus transfers from the rest of the world (ROW), mainly from the European Union, eventual via other international cooperation.

Eurostat in its (draft) guidelines on 'Environmental subsidies and similar transfers' (Eurostat 2014b), explains how to classify specific transfers, activity or action that have an EP/RM purpose. Two items are of interest in determining EP/RM related transfers, namely 'the technical nature', dealing with the objective nature of the activity irrespective of legislation or declarations and the primary purpose/intention criterion. The primary purpose/intention criterion is not always a stable basis for classification, but it prevents the classification from quickly changing policy interests with pressure towards in'& excluding certain activities. Therefore, in a practical compilation procedure, two ways to operationalize the (primary) purpose/intention criterion for particular subsidies / transfer to be classified as EP /RM are suggested:

1. the legislator's motive behind the transfer (subsidy) as given by the title and/or description in the legislation;

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<sup>&</sup>lt;sup>6</sup> Following SEEA-CF, §4.12 Environmental protection (EP) activities are those activities whose primary purpose is the prevention, reduction and elimination of pollution and other forms of degradation of the environment, where more detail is provided. and §4.13 Resource management activities are those activities whose primary purpose is preserving and maintaining the stock of natural resources and hence safeguarding against depletion, flowed with a more detailed description of RM.

2. and the technical nature of the activity supported by a specific subsidy or similar transfer (i.e. the supported activity is an EP / RM activity and the transfer is specific to it).

In such classification, both criteria should than be used to base the decision as to whether a particular transfer is dedicated towards EP/RM, as shown by the table 4.1.

Table 4.1 Decision formalisation to allocate transfer (subsidy) to EP/RM activity in practice

		Legislator's EP /RM m	otive?
		Yes	No
Technical nature	Yes	EP / RM transfer	EP / RM transfer
(specific for an EP/RM activity or product?)	No	EP / RM transfer	Not an EP / RM transfer

Source: Eurostat 2014b, slightly adjusted, 2014.

Allocation of transfers towards EP/RM based upon the approach presented by this table implies that transfers (subsidies) granted for EP or RM purposes (i.e. given to abate pollution) as well as the specific transfers (subsidies) which support those activities with a technical nature to protect the environment or to manage some resource are to be taken into consideration.

#### 3.3 Stepwise approach to adding EP/RM item to ESA transactions

In this project we started from the described recent version of the 'New Rijksdatabase', consistent with the newest ESA (2010) regulation and thus with reporting's to Eurostat. Secondly the aim was to add an additional CEPA / CReMA classification to the database after the basic data sources had been classified by specialists from the government statistics unit by COFOG.

The project intention was not to change the existing data and COFOG classifications stored in the database, but to prepare and add an classification item to the database representing the CEA (CEPA/CReMA) categories. In future The CEPA/CReMA classification might be done simultaneously with the COFOG classification.

Accordingly, the relevant EP/RM transactions and transfers following the ESA 2010 concept and classifications had to be identified, as well as the connected operational costs. For this purpose for each individual ministry/department (or chapter in the government budgets), the following steps were taken:

- 1. Select a particular ministry/department from the 'New Rijksdatabase', first select the relevant budget chapter, than select those transactions and transfers that are classified as 'expenses' (incl. 'corrections to expenses'), thus deselect 'revenues' (incl. 'corrections to revenues') and subsequently deselect those transactions that are (internal)balances between government bodies / departments with for central government overall a zero net result (In Dutch: 'verrekeningen')<sup>7</sup>. This implies that all other ESA transactions are included, such as intermediate consumption, loans, gross fixed capital formation and current / capital transfers, subsidies, etc.;
- 2. From the remaining selection of records in the database, a kind of quick pre-selection is made that at least contains those transactions classified as COFOG 5 (EP) and those transfers that occur under budget lines / budget items ('beleidsartikelen' or 'sub-artikelen') that potentially can be classified to EP/RM due to particular 'names', 'texts' or 'objectives described' for these (sub-)budget lines ((sub-)artikelen) or underlying 'operational

<sup>&</sup>lt;sup>7</sup> It may eventually be debated whether the selection of EP/RM related transfers also balance and has a zero net effect for the selection of relevant departments.

- objectives' ('Operationele Doelstelling') in the relevant documents like annual budget and annual report by department and eventual additional documents;
- 3. Based upon the Ministry of Infrastructure and the Environments', central government wide overview of 'budget lines' with 'environmental motivation' per budget chapter (government department), the so-called 'Overzichtsconstructie milieu' (OCM, for several years), eventually records (groups of transfers) are added to the existing pre-selection<sup>8</sup>;
- 4. Next the COFOG 5 and other selected transactions are investigated more closely by using relevant descriptions either from legal text, annual budget, annual report, and/or related documentations, such as the Netherlands Budget Memorandum (Miljoenennota 2013), Overview of subsidies from Central Government, (Subsidie Overzicht Rijksoverheid, SOR2010). As a result, a score is given for each item of the pre-selection namely 'Not relevant' or 'Yes relevant' for EP/RM. Occasionally for some of the larger records in the 'New Rijksdatabase', shares are applied for the part relevant for EP and/or RM;
- 5. Subsequently, for those records (ESA transfer categories) that are scored positive with regard to EP/RM, the monetary flow involved is allocated to the CEPA/CReMa classes by applying 'distribution keys' for the shares of each CEPA/CReMa category. Often, the relevant transactions are allocated to only one or eventually two CEPA/CReMa classes;
- 6. For several central government' departments (budget chapters) and for certain records with 'aggregated data' on transactions in the 'New Rijksdatabase' the underlying micro data were analysed in more detail in order to be able to give a better score on EP/RM (Yes / No) and eventual a better allocation to the CEPA/CReMa classes;
- 7. So far only the costs and transfers that are part of particular (EP/RM related) budget lines were included, sometimes denoted as program or programmatic costs / transfers.

  However, in addition, also the operating costs and/or transfers for operational activity (bureau, personal) need to be considered<sup>9</sup>. This is about general costs of organisation of the environmental body and related transactions. The regular budget lines do not include these costs / transfers. Contrary, the so-called non-budget lines (niet-beleidsartikel), include these costs/ transfers. These costs/transfers for operational activities can partly be related to EP/RM, and can be considered in the quantifications for each department (chapter) as follows. First determine the total amount of 'expenses' to EP/RM on the budget lines excluding balancing items (verrekeningen), second determine the total expenses on the budget lines excluding 'balancing items', third take the ratio between both summations, resulting in the share of EP/RM activity in total 'expenses' of the 'budget lines'. Four, apply this percentage to the expenses for the non-budget lines per department and finally, five, distribute proportionally this operational costs for EP/RM activity to the CEPA / CReMA categories as done for the budget line' expenses;
- 8. If the latter point doesn't give consistent results, once information is detailed enough also the relevant *agencies* involved in the different EP/RM related transfers and costs can be analysed in more detail. This is about the operating costs of these agencies while the programme costs & transfers they deal with are already captured by the previously described analysis of the costs/transfers categorised under the EP/RM relevant budget lines. More detailed information on involvement of these agencies for certain programme's

<sup>&</sup>lt;sup>8</sup> The OCM groups together 'environmental concerns' in 5 explicit tasks by combining budget lines (beleidsartikelen) from the subsequent departments. These five 5 'tasks entail: 1.Climate Change and Air Quality, 2.Sustainable Production, 3.Reducing Risks of substances, radiation and GMOs, 4.Strengthening of International Environmental Policy and 5.Environmental Quality.

<sup>&</sup>lt;sup>9</sup> 'Operating Cost' can be defined as expenses associated with administering a business or in this case o governmental organisation on a day to day basis. Operating costs include both fixed costs and variable costs. Fixed costs, such as overhead, remain the same regardless of the output (either products produced or activity done), and variable costs, such as different uses like materials, can vary dependent of the 'output'.

- or subsidy schemes than will have an effect on the share of their operational costs to be dedicated towards EP/RM;
- 9. Finally, the results of both analyses on EP/RM activity, the one on the budget lines and the other on the non-budget lines (operational) are combined. This results in the overall costs and transfer by CEPA/CREMA categories.

#### 3.4 Classification of EP/RM support

Although the prime focus of the project (proposal) was to prepare for enhanced and more efficient compilation of EPE(R) statistics and later on eventual for full EPEA accounts, in order to develop and facilitate compliance with the legal base on EPE, we have widened the scope a bit. A major change in the new SEEA (SEEA-CF, 2014) is the recognition of only two economic activities, namely, EP and RM as "environmental" activities. Recognition of environmental activities is restricted to those economic activities whose primary purpose is to reduce or eliminate pressures on the environment, or to make more efficient use of natural resources'. In order to comply SEEA and thus widen the classification to the RM domain and add, next to CEPA, also to classify to CReMA, was a chance and could be a result from the project. It also would feed discussions in the overlapping areas of EP/RM. Therefore we identified both EP and RM activities and related transfers (from central government and applied the Classification of EPA (CEPA) and the Classification for Resource Management Activity (CReMA)<sup>10</sup>. This is to prepare for presumed expected future data demand and also to do simultaneous testing.

In this paragraph we explain the classification of EP and RM activity and transfers for EP/RM support briefly, following the formal CEPA and CReMA classifications. Recently the CEPA and CReMA classification is combined and referred to as the Classification of Environmental Activities (CEA). The CEA thus is the functional classification used to classify environmental activities, environmental products and environmental expenditures and other transactions. It combines the two Environmental activity accounts (EPEA and EGSS) and related flows types of environmental activities (environmental protection activities and resource management activities (see: §4.27 - §4.30, SEEA-CF; 2014). Annex II shows the formats chosen for the CEPA and CReMA classifications in the project. This principally is the second step in the classification procedure in the project. After first having classified the Rijksdatabase items to either being Yes or No for EP/RM, after which the items with a score got the deeper classification to the EP/RM domains.

#### **Classifications to the CEPA categories**

The scope of EP here follows the Classification of Environmental Protection Activities (CEPA), that distinguishes nine environmental domains (see: Annex II for details). We tried to apply the SEEA-CF guidance (§4.27 - §4.30, SEEA-CF; 2014) and Eurostat's guidance on the EPE-questionnaire. Activities were only included in CEPA that if mainly aim at EP. Similarly the guidance also requires to exclude: those activities that, while eventually beneficial to the environment, primarily satisfy technical needs or health and safety requirements. And to also exclude from CEPA payments not directly linked with an environmental protection activity (i.e fines, penalties). Regarding the guidance used we have relied on the format that has been developed during the 2012 Eurostat Task Force on environmental transfers (see also: Eurostat 2012). In there, guidance is provided for allocation from COFOG code 5 transfers (subsidies)

<sup>&</sup>lt;sup>10</sup> CEPA is the 'Classification of Environmental Protection Activities and Expenditure', thus includes both activities and the expenditures. CReMA is the 'Classification of Resource Management Activities'.

towards the CEPA categories and from other COFOG codes, mainly from COFOG 4 and COFOG 6 categories to the CReMA categories <sup>11</sup>.

The project learned, as was expected to some extent, that we could not always straightforward translate the COFOG functions existent in the 'New Rijksdatabase', directly to the naturally related CEPA and CReMa classifications.

#### Classifications to the CReMA categories

CReMA represents the 'Classification of Resource Management Activities', the classification by resource domain (CReMA). This has been developed especially for the purpose of collecting data on the EGSS, the environmental goods and services sector, roughly half a decade ago. And now wider applied in the context of EPE statistics and modules of Environmental Accounts. This CReMA classification matrix starts from a matrix that cross-classifies the different kinds of activities carried out to manage the natural resources with the different environmental domains. The larger context and aim is to identify the possible resources management activities in the economy that can be placed in each cell of the classification matrix. The CReMA categories are built complementarily with CEPA but intentionally without any overlapping with the CEPA classes.

As was expected, 'CReMA 13 Management of energy resources' dominates in quantitative terms the classification towards CReMA classes. CReMA 13 of course combines 13A Production of energy from renewable sources, 13B Heat/Energy saving and management and 13C Minimisation of the intake of fossil resources as raw material for other use than energy production. This can eventually be reason to look for a further breakdown in CReMA 13 in future. The classification towards Energy related costs/transfers in CReMA 13 is often relatively straightforward. From central government, particularly from the Ministry of Economic Affairs large transactions, particularly large subsidy flows are directed towards promotion of RM in Energy. This effects the classification towards CEPA 'negatively', in terms it reduces the classification particularly to CEPA 1 (climate). Numerous transfers previously classified as CEPA 1, now have moved towards CReMA 13.

A second and third CReMA relevant category of transfers are 'CReMA 10 Management of waters' and 'CReMA 11 Management of forest resources'. Both particularly relevant in transfers with 'Rest of the World (ROW)'. The CReMA categories 12 Management of wild flora and fauna and 'CReMA 15 Research and development', hardly got a score in the classifications among the analysed ministries. This may be the effect that have to do that certain transfers has gained a score on CEPA 6 Protection of biodiversity and landscape instead of CReMA 12 and that R&D generally was classified as 'CEPA 8 Research and development', while classification as 'CReMA 15 with R&D for RM could have been equally right. Research and development transfer in general are not easy to judge whether it is about either EP, RM or whether it is even for both.

#### 3.5 Analysis of cross border flows

A major category of transactions is not covered by the data in the 'New Rijksdatabase', namely transfers stemming from the Rest of the World (ROW), mainly from the EU, that flow to the Dutch economy, but remain outside the 'central government' budget<sup>12</sup>. These transactions are not recorded by the individual ministries (and thus the related analysis we have done),

<sup>&</sup>lt;sup>11</sup> The CReMA classification is say the existing SEEA classification. That is a revised and adapted version of the preceding Classification of Resource Use and Management Activities (CRUMA), principally the 'draft CRUMA 2009' categories. Which proceeded and had many similarities to the current CREMA classification, we also apply in this study (See also Annex II).

<sup>&</sup>lt;sup>12</sup> Also referred to as government accounting intra-EU with payments, and with liabilities and debts in the balance sheets. In Dutch: 'Ontvangsten en/of uitgaven buiten begrotings-verband (intra comptabele schulden / intra comptabele vorderingen).

consequently remain outside the scope of the 'New Rijksdatabase', and thus requires particular attention and analysis, in order to be able to make the picture of government support and resources towards EP/RM more complete. Although maybe a bit beyond the proposed scope of the project, the flows involved may be substantial, although more research is needed for a more exact evaluation of the flows that relate to EP/RM. Therefore we will dedicate some text on the opportunity to also take into account these data sources.

#### **Incoming flows from ROW**

Table 6 of the (draft) questionnaire for the EPE legal module, aimed for data collection by 2017, deals with transfers. In first three items namely (General) government, corporations, and households are distinguished with 'current and capital transfers received', including 'Received from rest of the world'. The fourth item 'Rest of the world: current and capital transfers received', Received from GG' also deals with Transfers received from ROW. These incoming flows from the ROW are relevant for financing of Dutch national activity in EP/RM. Although the EU funds often flow from the EU-budget via the ministries (Foreign Affairs) and via dedicated paying agencies towards the beneficiaries / receivers, the concerned funds normally stay outside the Dutch National budget (ontvangsten/uitgaven 'buiten begrotingsverband'). As a direct consequence these flows remain outside the regular monitoring of the central government via the 'New Rijksdatabase'.

#### **EU** support

Incoming transfers (subsidies) from the EU obviously have a purpose, as a consequence there is strict review of the finances provided and on the right allocation and use of such resources. The Ministry of Finance is responsible for monitoring and control of the ministries financially. In practice this means that the Ministry of Finance compiles annually a state declaration based on statements of some ministries relevant for monitoring EU funds<sup>13</sup>.

The transfers (subsidies) from the EU serve a variety of objectives. Annual revenues from EU funds account for around 1.9 billion Euro's. Organizations that may qualify for certain transfer/subsidy may apply to a ministry or the paying agency of a ministry. Ministries that provide EU subsidies are: ministry of Economic Affairs (incl. the former ministry of Agriculture, Nature and Food Quality) and ministry of Social Affairs and Employment.

The agriculture department within the ministry of Economic Affairs, is with around one billion euro annually the largest Dutch recipient of EU subsidies, most of which is intended for support in agricultural partly destined for support to EP/RM. projects. From the Dutch EU member state declaration that appears every year it is known that at around 850 million Euro from the European Agricultural Guarantee Fund (EAGF) mainly finance direct payments to farmers under the Common Agricultural Policy (CAP) and measures to regulate agricultural markets, and at around 25 million Euro from the European Agricultural Fund for Rural Development (EAFRD) are declared 14. Two difficulties can occur in the right monitoring leaving these sources out of national budget, first the difference in bookkeeping years between EU and the member state

<sup>&</sup>lt;sup>13</sup> The Court of Audit (In Dutch: Algemene Rekenkamer) functions as independent body that controls both the state declaration and underlying statements.

<sup>&</sup>lt;sup>14</sup> The European Agricultural Guarantee Fund (EAGF) uses substantial part of the general budget of the European Union. It finances direct payments to farmers under the Common Agricultural Policy (CAP) and measures to regulate agricultural markets such as intervention and export refunds. The European Agricultural Fund for Rural Development (EAFRD) on the other hand finances the rural development programmes of the EU Member States. The EAGF and the EAFRD, were set up on 1 January 2007 following Council Regulation (EC) No 1290/2005 on the financing of the CAP.

and second, increasing the EU funds with national funding (co-funding). Several EU-programmes though, like The Rural Development Programme (In Dutch: Plattelands Ontwikkelings Programma, POP), European Fisheries Policies, or the Research Framework Programmes, carry the risk of double counting in the National budget (say in the 'New Rijksdatabase').

However, once rightly monitored these flows that originate from the EU-funds are recorded in the Sector Account with Foreign Accounts, and finally its way to the National Accounts. In total for 2013, over one billion euro is registered. Indeed Agriculture, both animal husbandry, arable farming and other farming, with a little in the food industry are the dominant receiving industries.

The Ministry of Finance has the required data available on these monetary flows as it takes responsibility for both the management of the incoming flows from the EU to the right destination as well as for the monitoring of these monetary flows from the EU. Thus data provide a good start for the analyses next to detailed information from the executing ministries.

As stated before, the ministry of Economic Affairs, primarily the departments' part dealing with agriculture, fisheries, nature & landscape, have detailed information on these flows from the EU that somehow serve the Dutch economy. The ministry of Economic Affairs reports to its budget documents in an annex to its annual report, called Annex 3 'Europese geldstromen' (European monetary flows), the incoming EU-funds partly dedicated towards EP/RM, and thus not recorded in the 'New Rijksdatabase'.

This Annex also provides some detailed information on the destination. This allows also to some extent to discover whether EP/RM is aimed although allocation to specific CEPA/CReMA categories is problematic. It is difficult to judge on the primary purpose criterion because the information often lacks. To an increasing extent, EP, including nature & biodiversity conservation and also RM considerations become part of these EU funding, and become more and more embedded in the CAP and in general in EU's common policies. For the agricultural policies this is true for both the first pillar (EAGF) and even more so for the second pillar (EAFRD, rural policies with emphasis on nature conservation and environment) of the Common (Agricultural) Policies.

The correct monitoring of the flows from the ROW, particularly the EU-funds isn't easy and straightforward for several reasons. For a correct assessment of the flows and the share of the total EU-support that indeed relate to EP/RM, clearly further research will be needed. It is foreseen that these shares increased and will further increase over time The part that represent the second pillar of the CAP, will have large share dedicated towards EP/RM particularly in the biodiversity and nature conservation domain. For the First Pillar this probably will require more in depth research to apply a sound share of the total incoming flows from the EU to be dedicated towards EP/RM.

From outside the EU there is also some support to EP/RM in the Netherlands, however this is only limited compared to the large flows from the EU.

## 4. Analysis central government

In this chapter the analysis of central government with the detailed information of the relevant ministries and eventual agencies are described.

#### 4.1 Central government (ministries)

Central Government (In Dutch: 'Het Rijk') in the Netherlands is split in a number of ministries, principally subdividing the Central Governments' budget in chapters, the so called budget chapters. The EP&RM relevant ministries are first identified and second, for the ones with the EP/RM relevant expenditure and/or transfers, were individually analysed. Each will be discussed separately. As ministries transfer part of their tasks to their related agencies (In Dutch: 'Agentschappen'), these were also used as a data source.

Thus far Statistics Netherlands compiled and reported the EPE data for central government every two years. One of the challenges in compiling statistics for Central Government were the frequently changing structure, organisation as well as sometimes corresponding change in names of the ministries plus the continue reformatting of publication by the ministries. This has been especially true since 2010. Some of the for EP/RM most important ministries treated in this study, like the ministry of economic affairs and the ministry of Infrastructure and Environment (I&M), has only recently be established and both are mergers from two ministries. Much improvement has been achieved in the last few years by the Department of government finance statistics on the statistics for central government in terms of trying to get the communication with the individual ministries at the preferred level. In that process the department aimed to get more accurate, actual and detailed micro based data from the ministries, preferably relying on the more detailed internal data sources such as the ones that directly stem from the accounting (bookkeeping) systems in place. Previously, data analysis was mainly based on the official external publications by the governmental bodies with budgets (begrotingen), annual reports ('jaarrekeningen'), and additional governmental notes (i.e. 'voorjaarsnota' and/or 'najaarsnota') and for some ministries also aggregated information and for just a few ministries very detailed information. While, right now the government finance statistics rely upon the more detailed internal data sources for all ministries, which also allows for better classifications of economic activities. These sources and the translations to the database dealing with central government finances (expenses), are used extensively and formed the basis for the analysis in this study. It facilitates the process in which we distinguish environmental activities from more general activities and to classify these activities to the corresponding CEPA/CReMA categories in the best manner.

In the process, for each ministry transformation tables are established that distinguishes environmental (EP/RM) activities from non-environmental. This should allow for application in the forthcoming years enabling the compilation and to partially automation of the EPE / EPEA and eventually environmental transfers.

The focus in this study was on the central government. In 2013 the Dutch central government consisted of 11 ministries with 16 budget chapter, most including agencies, and a couple of 'funds' like fund for infrastructure. Clearly not all ministries and funds have expenses or receipts that are environmentally (EP) and/or resource management (RM) related, a few ministries dominate the EP/RM expenses. The main ministries where we expected substantial EP/RM related expenditure were: the ministry of Infrastructure and the environment, the ministry of

economic affairs (which includes agriculture), the ministry of foreign affairs (which includes foreign aid) and the ministry of finance. We decided to start working on one ministry to find a good work method and selected the ministry of Infrastructure and environment.

#### 4.2 Ministry of Infrastructure and the Environment (Ch. XII)

#### 4.2.1 The ministry

As the name Ministry of Infrastructure and the Environment indicates, environmental activities comprise a large share of total activities. The Ministry of Infrastructure and Environment was formed in a fusion between two independent ministries namely the former Ministry of Transport, Public Works and Water Management and the former Ministry of Housing, Spatial Planning and Environment in 2010 and so is still quite young.

This ministry was the first to be analysed and also in great detail. For the majority of COFOG classifications pertaining to environmental activities (COFOG 5), domains could readily be determined and there were no major problems reported. Even so, still 25% of activities ended up into the domain "other environmental activities", mostly because it was not possible to find more specific information even in the more detailed sources that have come available in recent years. The most important domains for this ministry are Air, Water and Soil. Biodiversity and Landscape is the least important domain for this ministry. Contrary to what might be expected, most activities related to Renewables Energy are not part of this ministry but are classified under other ministries.

Apart from the environmental activities already classified as such by COFOG 5, also some of the non-environmental COFOG classifications where reconsidered. The extra COFOG activities to be considered where mainly based on a proposal compiled by Statistics Sweden and disseminated as a guiding line to the other EU member states by Eurostat. This more elaborate study did not significantly change the overall results of the analyses for this ministry except for some minor contributions to some of the CREMA domains especially on energy savings. A much larger correction was obtained by separating that part of the total internal expenditure (operational costs) that is only related to environmental activities from total activities (infrastructure plus environment). To facilitate this, the same ratio was applied to total internal expenditure as the ratio of environmental activities to general activities. For the Ministry of Infrastructure and the Environment this resulted in about 66% of internal expenditure related to environmental activities as compared to all activities.

#### 4.2.2 Fund for Infrastructure

The infrastructural part of the Ministry of Infrastructure and the Environment is the largest component of this organisation, much bigger than the environmental branch. However, as the name implies, most environmental expenditures are not allocated to the Infrastructural division of the organisation. Most infrastructural projects consist of construction and maintenance of roads and railways. Nevertheless, some environmental activities and thus costs can be allocated to the infrastructural branch of the organisation. In our analysis we have followed the existing COFOG classification for the infrastructural part of this Ministry, more detailed information,

necessary to extent the original COFOG classification, was not available for this branch of the organisation.

#### 4.3 Ministry of Economic Affairs (Ch. XIII)

#### 4.3.1 The ministry

The Ministry of Economic Affairs (In Dutch: EZ, Ministerie van Economische Zaken; EZ) is the Dutch Ministry responsible for Economics, Agriculture, Fishery, Mining, Industry, Energy policy, Trade, and Tourism. The Ministry originally started over a century ago as the Ministry of Agriculture, Industry and Commerce and have had several organisational and name changes before it finally became the Ministry of Economic Affairs. In 2010 the Ministry of Agriculture, Nature and Food Quality was merged with the ministry of economic affairs at that stage into the Ministry of Economic Affairs, Agriculture and Innovation, Since 2012, again it is called the Ministry of Economic Affairs. Important issues the ministry of Economic Affairs is been dealing with are: Agriculture and livestock, Energy policy, Entrepreneurship and innovation but also Nature and biodiversity and other sustainability issues. The ministry of Economic Affairs is annotated as Chapter XIII.

The standardised steps as described in chapter 4 generally are followed. This comprises starting from the 'New Rijksdatabase', pre-select on records classified as COFOG 5 and other with 'potential to EP/RM, use detailed information to further score on YES/NO on the EP/RM and for further classification into CEPA/CReMA. The different sources, like the budget lines with '14 Efficient and Sustainable Energy, 16 Competitive, Sustainable, Safe agricultural, fisheries and food chains, 17 Green Education High Quality and 18 Nature and Region, and connected texts, as well as the OCM in different tasks, provide ground for classification to EP/RM and further into CEPA/CReMA. For some further classification, mainly towards detailed CEPA, CReMA also use is made of underlying micro information obtained from the ministries' accounting files. This provide additional information, but not automatically add to improve the CEPA/CReMA classification further.

As a last exercise, also an estimate is made for the operating costs and relevant related transfers for both the mother ministry as well as for the operation costs for the different agencies like Rijksdienst voor Ondernemend Nederland, RVO<sup>15</sup>.

For the ministry of Economic Affairs, primarily the departments' part dealing with agriculture, fisheries, nature & landscape, the monetary flows from the Rest of the World (ROW), particularly from the EU are of major interest and substantial in size. Although substantial and while the ministry of Economic Affairs reports in its budget documents and annual reports (See Annex 3 'Europese geldstromen' (European monetary flows) on the incoming EU-funds partly dedicated towards EP/RM, these data purposely are not recorded by the 'New Rijksdatabase', and thus missing in the procedure taken. We therefore will briefly get back on the monitoring of EU-funds to support EP/RM in the Netherlands in a separate chapter seven with an 'Analysis of cross border flows', which thus describe these flows stemming from the ROW.

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<sup>&</sup>lt;sup>15</sup> Rijksdienst voor Ondernemend Nederland, RVO, formerly known as Agentschap NL (Ag-NL), constituted from several formerly separated supporting agencies like: Agentschap NL (AG-NL), Dienst Regelingen (DR), Dienst Landelijk Gebied (DLG), Netherlands Patent Office, and so forth.

#### 4.3.2 Agencies

As referred to before, in the Netherlands a number of agencies take care for the different EP/RM related transfers, more precisely for executing and managing EP and RM relevant subsidy schemes and perform actual payments to the beneficiaries / receivers in the production sectors (non-financial corporations and financial corporations). These agencies have detailed information available in their tracking and accounting systems which potentially allow for further analyses. A first use of these detailed agency data would be, to further analyse how the operational costs of these agencies can be best allocated to the underlying programmatic costs / costs of budget lines, in this case costs primarily dedicated to EP/RM.

Looking after the step by step approach taken in the project as explained in chapter 4 on defining and identification of environmental (EP/RM) support, under point 9 we refer to the agencies relevant for the transfers and costs towards EP/RM. Important agency under the Dutch Ministry of Economic Affairs and main agency in the area of EP/RM support today, is the 'Rijksdienst voor Ondernemend Nederland (RVO)', formerly known as Agentschap NL (Ag-NL). RVO is a merger of a number of separate supporting agencies including Agentschap NL (AG-NL), Dienst Regelingen (DR), Dienst Landelijk Gebied (DLG), Netherlands Patent Office, and so forth. Among others, Agentschap NL was important for energy related and general EP support, Dienst Regelingen for EP support mainly in agriculture, and Dienst Landelijk Gebied for promotion of nature, biodiversity and landscape. These functions are now combined in RVO. Detailed information from RVO and eventual other agencies allows to improve the allocation of their operational costs towards EP/RM or not and once allocated to EP/RM towards the underlying CEPA/CReMA categories. This is not straightforward. But eventual an option for improvement in future as data from RVO and eventual other agencies has become available in the wanted detail.

As second use of the mentioned detailed data of the mentioned agencies would be on the best allocation of support provided to individual beneficiaries / receivers. The detailed micro data can potentially be used for further processing. Such micro data with detailed information on the receivers eventually can potentially be linked to the Statistical Business Register (SBR) at Statistics Netherlands <sup>16</sup>. This allows to use the NACE (ISIC) classification of units within the Statistical Business Register and allocate relevant transfers (subsidies) to NACE/ISIC. As a result this enables to generate transfers at NACE/ISIC aggregates, for either individual EP or RM support measures or for the support to EP or RM aggregates. Such an attempt for NACE classification of support to EP has been done before (Statistics Netherlands (CBS), 2011). It now would even be easier because several of the mentioned agencies has merged into a single large agency namely 'Raad voor ondernemend Nederland, RVO. To obtain the micro data from this large agency would be easier, also because communications on transfer has been developed since then and data transfer have got on a more developed level.

#### 4.4 Ministry of Foreign Affairs (Ch. V and Ch. XVII)

The Ministry of Foreign Affairs (In Dutch: Ministerie van Buitenlandse Zaken, BuZa) is the Dutch Ministry taking responsibility for Foreign Affairs, Diplomatic relations, European cooperation and International development and has a lasting history. The ministries' responsibility is demonstrated with explicit goals like strengthening European cooperation, increasing wealth

<sup>16</sup> Or 'General business register', and in Dutch: 'Algemeen Bedrijven Register' (ABR) at Statistics Netherlands (CBS).

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worldwide and fighting poverty, strengthening the international legal order and respect for human rights, promotion of security and stability, effective humanitarian assistance, and good governance and, among others, to protect and improve the environment. The ministries responsibility has recently been split into two main areas of concern. First the regular Foreign Affairs annotated as budget chapter V, and second the Foreign Trade and Development Cooperation activities in budget chapter XVII.

#### 4.4.1 Foreign Affairs (Ch. V)

First we analysed the part of the ministry dealing with 'regular Foreign Affairs issues, denoted as budget chapter V. In determining the EP/RM costs and transfers, generally the standardised steps described in budget chapter 4 are applied too. However as the ministry of foreign affairs constitutes two budget chapters namely chapter V and XVII and as a result have separate budgets and separate annual reports<sup>17</sup>, treatment of the relevant transfers in the 'New Rijksdatabase' is separate. This means analysis for both budget chapters was required in order to capture the full ministries' expenses.

Thus we started the analysis from the budget chapter V data processed and stored in the 'New Rijksdatabase'. What characterises this chapter V of the Ministry of Foreign Affairs are large cross border transfer. Large contributions to the Rest of the World (ROW) particularly to the EU or payments to outside EU. The latter contributions to anywhere in the world. The contributions to the EU relate to the GDP and tax revenues of the country. These are contributions to finance the EU's programmatic expenditures of various kind. Although substantial part of the EU payments will be dedicated to support EP/RM, the contributions to the EU are contributions to the general budget. This can contribute to imbalance between payments to and contributions from the ROW dedicated to EP/RM. However, so far the guidance from SEEA (2012) says that contributions to ROW, including to the EU, that are not earmarked are contributions to the general budget. In the opposite situation, once earmarked towards EP/RM, these flows to the ROW should be considered as contributions to EP/RM. We have further explored the relevant flows to the EU and to other rest of the world (ROW) based upon the ESA2010 classification to the rest of the world sector (S.2). We were not able to determine earmarked flows in there that were dedicated towards EP/RM. It can be contradictory as a member states or countries via its contribution to the general budget also tries to achieve certain EP/RM objectives abroad. As these cross border flows are large, another finding or decision on how to treat such flows could have major impact on the transfers towards EP/RM. For those and remaining flows under chapter V in the 'New Rijksdatabase', there appeared no COFOG 5 classified transfers, and the budget lines hardly pointed to any potentially EP/RM relevant transfers, while the OCM under Task 4: 'Strengthening of International Environmental Policy' with under budget item 2.4 'Promoting energy security and resource security', had eventually some potential. But the prime focus was on security of supply, not necessarily management of the resources. For this budget chapter no data at micro level was provided by the ministry. Concluded was that the full procedure didn't result in identification any EP/RM related transfers in budget chapter V for the budget lines. We get back later on the operation costs under chapter V, that relate to budget chapter XVII activities.

#### 4.4.2 Foreign Trade and Development Cooperation (Ch. XVII)

Secondly, the other 'budget chapter' under the foreign affairs ministry, namely the Foreign Trade and Development Cooperation activities denoted as budget chapter XVII was analysed.

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<sup>&</sup>lt;sup>17</sup> This separation is observed in 2013 for the first time. In previous years the ministry was represented by single reporting's and thus a single budget chapter.

The general procedure thus is repeated for the Foreign Trade and Development Cooperation activities reported in budget chapter XVII. In the expenses and relevant transaction, no transaction were classified as COFOG 5. The pre-selection resulted in several budget lines (beleidsartikelen) with potential expenses/transfers for EP/RM. In further analysis of transfers, the programmatic focus towards EP/RM is explicitly stated by the annual reporting's in the budget lines 4 (enhance prosperity, fairer distribution and fighting poverty) and more so in budget line 6 (Protecting and improving the environment), The focus of budget line 6 was confirmed by the OCM and several additional documents. The OCM categories classifies the parts of budget line 6 either under its Task 2: 'Sustainable production', Task 4: 'Strengthening of International Environmental Policy' and under Task 5: Quality of the living environment. Here similarly no data at micro level was provided by the ministry for budget chapter XVII too. By using the available data and descriptions in the annual report, the transfers were allocated to the CEPA/CReMA categories. Thus application of the compilation procedure, and in contrast to budget chapter V, for this chapter XVII didn't result in identification any EP/RM related transfers.

Finally regarding the operating costs, this chapter XVII doesn't represent any. The operating costs for the complete ministry combining budget chapter V and XVII together, are covered in chapter V. Therefore, for allocating the right part or share of the (non-programmatic or) operating costs to the relevant budget parts and transfers to EP/RM in this case chapter XVII an additional and dedicated calculation and allocation was required. For that purpose we took the operating costs of the ministry overall and distributed those over the two chapters V and XVII respectively, following the ratio in size of their respective programmatic costs / transfers. Finally this part of the operating costs (accounted for in chapter V) are distributed over the different CEPA/CReMA categories following the distribution of budget in chapter XVII.

#### 4.5 Ministry of the Interior and Kingdom Relations (Ch. VII)

As was expected environmental activities play only a minor role for the Ministry of the Interior and Kingdom Relations. The only environmental related activities for this ministry where found in the domain of energy savings. However, it is expected that energy savings play an even larger role than was found in this study because of insolation of governmental buildings and renewable energy provision having an impact construction wise which could not be separated from constructions on governmental buildings at large.

#### 4.6 Ministry of Finance (Ch. IX)

The Ministry of Finance (Dutch: Ministerie van Financiën; MinFin) is the Dutch Ministry responsible for Finance, Taxation, Financial economic policy and supervision of the Financial markets and starting as the Department of Finance has over 200 year history. The Ministry of Finance takes responsible for a well function country financially. Together with the treasury (part of the Ministry), the Ministry ensures via taxation for a large part the revenues of the Dutch government and at same time looks for efficient use of the public money, next to other responsibilities like functioning as regulator for and do the supervision of the financial sector. Only recently, from 2013 onwards in the relevant budget chapter IX, also the national debt of the Dutch government (formerly budget chapter 9A) is concerned. The National Debt is also

recorded following the European requirements of the ESA2010. With parts on cash and other elements on an accrual basis.

Although the main instruments of the ministry are fiscal policy and related legislation towards generating income for government with dedicated tax laws and regulation, there also is the need to look after a good spending of the national budget. In that context of major importance is the ministries' opportunity and competency to organise all kinds of fiscal facilities/exemptions/reduction/deductions, providing relief for tax payment like for income tax, for particular sectors, or starters or social organisations etcetera's. EP/RM related facilities & exemptions with major impact are for example the Energy (efficient) Investments (EIA), Environmental Investment (MIA), and accelerated depreciation of environmental investments (VAMIL). The relevant EP/RM facilities & exemptions are mainly in the policy domains which lie on the premises of the ministry of economic affairs (including agriculture) and of the ministry of infrastructure and the environment. They also take a role in evaluating these measures next ot the ministry of finance.

In one of the annexes ('Annex 5') to the Dutch 2013 Budget (miljoenennota 2013), the for Dutch Government Income reducing measures and tax expenses, are determined and quantified (in budgetary terms)<sup>18</sup>. This annually repeated annex give a yearly overview of so-called "tax expenditures" also is referred to as implicit subsidies (or as off-budget subsidies). The Annex shows the programming of particular 'tax expenditures' in central governments' budget for a particular year in a longer time series back and forth (2011 – 2017). For several measures aimed to promote EP/RM, the tax reliefs are quantified, such as for the mentioned EIA, MIA, VAMIL, as well as for forestry Exemption, tax exemption for forestry and nature conservation payments and relief for revenues from green investments.

Although the 'tax abatements' set by this ministry of finance, are highly relevant for the promotion of EP/RM measures, all these measures are on the income side (revenue side) of the central government, as it reduced the tax revenues that can be generated from the private sector<sup>19</sup>. This is equally relevant for the assessment of the overall support towards EP/RM, but are not observed 'transactions'.

While in contrast and seen in context of this study, we now solely look after the support to EP/RM gained at the expenditure side of the (central) government, which are limited to the observed transactions alone. For that purpose the ministry of finance appeared far less important. As referred to earlier, the ministry of finance in 2013 is represented in central governments' budget by budget chapter IX, which constitutes chapter IXA National Debt dealing with the budget line 'countries debt' and chapter IXB Finance dealing with a number of budget lines such as taxes, Financial Markets, Public Private sector, International Financial Relations, Export credit insurance and investment guarantees, VAT compensation, and tangible Assets Management. And then conclude with some 'operational costs' / non-budget lines expense for such the core department, general, and unforeseen.

The expenditures by the ministry of finance (both budget chapters IXA and IXB), following the standard procedure explained in chapter 4, appeared not to contain any transactions towards

<sup>&</sup>lt;sup>18</sup> Dutch 2013 Budget, 'Annex 5: Government Income reducing measures and tax expenses' (In Dutch: 'Bijlage 5: Inkomsten beperkende regelingen en belastinguitgaven'), For an explanation of the overall central government tax revenues itself we refer to the Annual Financial Report of central government (In Dutch: Financiael Jaarverslag van het Rijk 2013).

<sup>&</sup>lt;sup>19</sup> This is at least relevant and foreseen in context of assessing Environmental subsidies and similar transfers. In a 2013 test version of a 'Questionnaire for data collection on environmental subsidies and similar transfers' under 'other support measures' the for EP/RM relevant exemptions generally called 'tax abatements' are right so foreseen. That is besides the foreseen collection of 'current transfers' and 'capital transfers', the latter representing the EP/RM support that are based on observed 'transactions'.

support of EP/RM measures. These were no such indications found in either budget, annual report, the OCM, or additional documentation. The only exception in chapter IXB appeared not to be a relevant transactions (zero value for 2013).

#### 4.7 Ministry of Defence (Ch. X)

The Ministry of Defence (In Dutch: Ministerie van Defensie) is the Dutch Ministry responsible for the armed forces of the Netherlands, and also deals Veterans Affairs. The Ministry was created a century ago as the Ministry of War and later combined with the Ministry of the Navy, after a subsequent merger, separations and another merger half a century ago, the current ministry of defence was established. The ministry takes responsibility for: protection of the territory of the Kingdom of the Netherlands, for protecting and enhancing the international legal system and stability and for support to civil authorities in maintaining order, in case of emergencies and in providing national and international aid. The ministry of Defence is annotated as chapter X. The normal approach with standardised steps as described in chapter 4 also was applied. However for this ministry of defence didn't provide a result, as no COFOG 5 was found, although in the 'New Rijksdatabase', a small pre-selection was found. Further elaboration on the records from this selection, didn't result in any costs/ transfer to be dedicated to EP/RM either in or outside COFOG 5 for this ministry. Also the OCM didn't result in any EP/RM activity. Contrary, the ministries' annual report has an appendix that dedicates lots of text towards environmental, nature/landscape and biodiversity concerns, and attempts to raise awareness and improvement of the quality of it in the ministries daily activity. However, concrete monetary flows are hardly or impossible to be identified throughout the 2013 annual report. Following this dedicated annex, we have explored the micro data from the ministries' accounting files, this resulted in a limited amount of transfer (four categories) that are dedicated towards EP/RM, mainly to RM. To these dedicated flows, the connected operation costs are added and allocated towards CEPA/CReMA. This is done by taking the ministries' average share on operation costs related to the overall budget lines (not just the EP/RM ones). The result is a small volume of transfers dedicated to EP/RM.

#### 4.8 Ministry of Health, Welfare and Sport (Ch. XVI)

The main strategy in the analyses of environmental activities for the ministry of Health, Welfare and Sport (VWS) was to follow the COFOG classification because research into other environmental activities, not already classified by COFOG, turned out to be fruitless. Because of a lack of more specific information most environmental activities were classified into the domain "other environmental activities" but some minor Research and Development programs (CREMA) were also found.

#### 5. Results

Although in the ES-grant proposal (See ANNEX IV), for part 1: 'Classifying source data according to both CEPA/CReMA', it was proposed if possible to compile and present preliminary results for 2011, we have changed that to reporting year 2013. The reason why we have chosen for compilation of 2013 data as reporting year, is a consequence of the recently updated 'New Rijksdatabase', frequently referred to in the previous chapters. To use the 'New Rijksdatabase' for this project is done because it is fully aligned with ESA2010 concepts, required revisions are done, while the newest insights and data from the ministries are taken on board. This facilitates another objective namely easy and straightforward implementation for use in EPE(R) compilation as demanded in near future by the EU-regulation. For adding reporting years, back and forth (2012 and back and 2014 and forward, etc.), it is foreseen that it is a matter of generally repeating the procedure followed in this project and as has been described in the previous chapters (mainly ch. 4 to ch.6). The 'New Rijksdatabase', by the end of 2014, only contained completed data for reporting year 2013.

#### 5.1 Overview of results

Based upon the data collected and processed as described in the previous chapters we complied some of the tables of the Eurostat draft questionnaire for EPE legal module.

Table 5.1 Eurostat - Questionnaire for EPE legal module, table 1, Expenditure for EP (Central government only), 2013

DRAFT - QUESTIONNAIRE FOR EPE LEGAL MODULE		Table 1	. Gene	ral govern	nment	
MIO NAT CURRENCY Expenditure	CEPA 2	CEPA 3	CEPA 6	Sum of CEPA 1+4+5+7	Sum of CEPA 8+9	TOTAL
( O.1 ) EP output [P1] ( Onmk.1 ) + ( Omk.1 )	2	4	68	278	194	546
( Omk.1 ) Market output [P11] Includes P.11 (market output) of government local KAUs that are market producers	0,0	0,0	0,0	0,0	0,0	0,0
( Onmk.1 ) Non-market output [P13] Includes P.131 (payments for non-market output)	2,5	3,9	67,9	278,0	193,8	546,1
( GCF.1 ) Gross capital formation and acquisition less disposals of non-financial, non-produced assets for the production of EP services [P5 + NP]  ( A ) Investment expenditure	0	0	15	49	1	65
( F.1 ) Final consumption of EP services [P3] ( Onmk.1 ) less P.131 (payments for non-market output)	2,5	3,9	67,9	278,0	193,8	546,1

Table 5.1 shows that Questionnaire table 1 can be populated with the (central) government relevant data. It also makes clear the combination of CEPA 1 (air), 4 (soil), 5 (noise) & 7 (radiation) take the largest shares, while CEPA 8 (R&D) and CEPA 9 (other) together are also large, where CEPA 6 (biodiversity/landscape) alone is substantial too in (non-)market output.

We started the project with database with 2013 transactions data from central government classified to COFOG. Table 5.2 shows the total expenditure of 851 mln euro and this classified to the six COFOG categories where protection of biodiversity and landscape and pollution abatement get the highest scores, While around a quarter of the total was classified to the remaining category.

Table 5.2 Transactions of Central Government by COFOG, 2013

					Protection of	R&D	
	Environment	Waste	Waste water	Pollution	biodiversity and	Environmental	Environmental
Environment protection	protection	management	management	abatement	landscape	protection	protection n.e.c.
COFOG	CG05	CG0501	CG0502	CG0503	CG0504	CG0505	CG0506
	mln euro						
Total expenditure	851,0	2,0	7,0	255,0	318,0	61,0	208,0

After the classifications done in the project for the different ministries, the 2013 transactions data from central government were classified to EP/RM activities via the environmental domains described by CEPA and CReMA. Table 5.3 shows the total expenditure for the combined EP/RM activity after classifications done during the project. With 2479 mln euro, a substantial much larger part of the transactions are classified now compared o the previous figure of 851 mln euro. With CEPA totalling 1287 mln euro and CReMA 1192 mln euro.

Table 5.3 Total transactions of Central Government classified by domain (CEPA/CReMA) and domain totals, 2013

		Budget	CEPA 1	CEPA 1									CReMA							
Year	Ministry (or budget Chapter)	chapter	Climate	Air-poll.	CEPA 2	CEPA 3	CEPA 4	CEPA 5	CEPA 6	CEPA 7	CEPA 8	CEPA 9	10	11	12	13	14	15	16	Total
			mln euro																	
2013	Central Government total	Total	141	75	23	5	227	73	310	0	162	271	98	35	0	1001	18	0	40	2479
2013	Central Government total CEPA																			1287
2013	Central Government total CReMA																			1192
2013	Central Government CEPA & CReMA totals																			2479

Table 5.3 summarizes the results from the exercises done with the 2013 transactions data within the project. The transactions to CReMA 13 (Management of Energy) appeared by far the largest category, followed by CEPA 6 (biodiversity/landscape) here also large as with the COFOG classification, followed by a collection of general and not precisely known but EP categories combined in CEPA 9 (other), by CEPA 4 (soil & ground- & surface water), finally by the here split category CEPA 1 (air & climate), by CEPA 8 (R&D) and by the other categories. The table shows that CReMA 13 dominates the CReMA category. Only CReMA 10 (Management of water resources) and to less extend CReMA 11 (Management of natural forest resources) and 16 show as remaining CReMA category show some transactions. To the CEPA categories CEPA 7, CReMA 12, and CReMA no transactions were allocated, and CEPA 3 hardly any.

Table 5.4 Eurostat - Questionnaire for EPE legal module, table 1, Environmental Protection Expenditure (EP), by CEPA, and extension with CReMA, 2013

			CEPA_1-	CEPA_1 - Air-															
RfJaar	Transactie	◇ CEPA_1	Climate	poll.	CEPA_2	CEPA_3	CEPA_4	CEPA_5	CEPA_6	CEPA_7	CEPA_8	CEPA_9	CReMA_10	CReMA_11	CReMA_12	CReMA_13	CReMA_14	CReMA_15	CReMA_16
Capital Format	ion:																		
NP & P.5 (Sum	( GCF.1 ) Gross capital formation and acquisition less disposals of non-financial, non-					ľ													
	produced assets for the production of EP services [P5+NP]	31,7	31,7	0,0	0,2	0,0	0,8	12,1	14,2	0,0	1,0	0,3	0,8	0,3	0,0	3,8	0,2	0,0	0,1
NP	( GCF.1) acquisition less disposals of non-financial, non-produced assets for the					<u> </u>						ľ							
	production of EP services [P5 + NP]	31,1	31,1	0,0	0,0	0,0	0,0	0,0	9,4	0,0	0,1	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
P.5	( GCF.1) Gross capital formation	0,6	0,6	0,0	0,2	0,0	0,8	12,1	4,8	0,0	0,9	0,3	0,8	0,3	0,0	3,8	0,2	2 0,0	0,1
P.2 (sum)	( Pnep.1) Intermediate consumption (excluding EP services) [P2]	32,0	19,3	12,7	1,1	2,4	43,4	10,5	24,8	0,0	28,5	87,3	10,9	1,0	0,0	51,6	0,5	5 0,0	1,3
P.2A	( Pnep.1) Intermediate consumption (excluding EP services) [P2], (excl. FISIM)	32,0	19,3	12,7	1,1	2,4	43,4	10,5	24,8	0,0	28,5	87,3	10,9	1,0	0,0	51,6	0,5	0,0	1,3
P.2B	( Pnep.1) Intermediate consumption (excluding EP services) [P2], FISIM	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
	( P2ext ) Intermediate consumption of EP services																		
D.1	( D.1 ) Compensation of employees [D1]	39,5	26,5	13,1	1,4	1,5	31,5	14,8	40,8	0,0	26,3	79,7	5,0	1,3	0,0	38,8	0,6	0,0	1,5
D.29	(S.1) Other taxes less subsidies on production [D29-D39]: Taxes	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
	(S.1) Other taxes less subsidies on production [D29-D39]: Subsidies																		
	( K.1 ) Consumption of fixed capital [K1]																		
Output (marke	t output / non-market) for EP:																		
[ P.1 ]=P.2 & D.	1 ( O.1 ) EP output [P1]	71,5	45,8	25,8	2,5	3,9	74,9	25,3	65,6	0,0	54,8	167,0	15,9	2,3	0,0	90,4	1,1	0,0	2,8
P.11A	( Omk.1 ) Market output [P11]	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
	( Onmk.1 ) Non-market output [P13]																		
D-Codes: Trans	fers / Subsidies:																		
D.3	Subsidies (D.3)	12,1	12,1	0,0	3,4	0,0	3,4	4,3	9,1	0,0	49,0	4,7	0,0	0,0	0,0	844,9	0,0	0,0	28,2
D.73	Current transfers within general government (D.73)	51,4	1,7	49,7	0,1	1,4	42,7	0,0	57,8	0,0	56,6	70,0	0,0	0,0	0,0	6,0	0,0	0,0	0,0
D.74	Current international cooperation (D.74)	31,9	31,9	0,0	14,9	0,0	75,6	0,0	31,3	0,0	0,3	14,9	74,3	29,7	0,0	22,5	14,9	0,0	4,6
D.75	Miscellaneous current transfers (D.75)	2,9	2,9	0,0	1,4	0,0	7,2	0,0	25,3	0,0	0,0	1,4	7,2	2,9	0,0	2,3	1,4	0,0	0,0
D.9	Capital transfers (D.9)	15,3	15,3	0,0	0,0	0,0	22,1	30,8	74,2	0,0	0,0	13,0	0,0	0,0	0,0	30,1	0,0	0,0	0,0

Table 5.4 shows the results from the compilation exercise with the last available data for 2013. The table allows for comparison with the existing EPER compilation method applied for long time (2011 data), and discover what the effect is. It does not allow for comparison with data for the same year, because in this project we had to choose 2013 as reporting year, the only year with data available in the 'New Rijksdatabase'.

One aim of the project was to test whether the tested approach in the project would result in credible results in order to populate Eurostat's (draft) questionnaire for EPE legal module. Table 5.5 show the result from the project aligned with the requirements of the draft) questionnaire. Comparison with the corresponding 2011 data for central government is not provided in a separate table because substantial part wasn't separately available, while available for other governmental parts like the provinces and municipalities. Underpinning the improvement that has been achieved by the current project, embedding the data in the ESA transactions data. Here the transactions that has been allocated to the CReMA classes in the project, for the purpose of this table, are redistributed to the CEPA categories. CReMA 13, Management of Energy, as a large category obviously is redistributed to CEPA 1. CReMA 10 (Management of water resources) as a second large category is redistributed to CEPA 4 (soil & ground- & surface water), etcetera. The CEPA 1 category is tried to further split in CEPA 1 – 'climate change' versus CEPA 1 – 'else (air-pollution). The presented figures show that CEPA 1 (air & climate), with to less extent CEPA 6 (biodiversity/landscape) and CEPA 5 (Noise) dominate the capital formation. In the internal current expenditure towards EP, also most important is CEPA 1, and to less extent CEPA 9 (other), CEPA 4 (soil & (ground- & surface) water), CEPA 6 and 5. For the transactions the transfers/subsidies (D-codes) CEPA 1, particularly the part dedicated to (mitigating) climate change is by far the most important, and to less extent CEPA 6 (biodiversity/landscape), CEPA 7 (radiation), scored zero, as could have been expected because it is small. In this procedure we haven't identified the eventual possible small flows dedicated towards mitigating radiation.

Table 5.5 Eurostat - Questionnaire for EPE legal module, table 1, Environmental Protection Expenditure (EP), by CEPA class, 2013

		of which CEPA 1.1.2 and 1.2.2										
Year Expenditure (mln Euro)	CEPA 1	Climate change	of which CEPA 1.1.	CEPA 2	CEPA 3	CEPA 4	CEPA 5	CEPA 6	CEPA 7	CEPA 8	CEPA 9	Total
		mln euro										
( GCF.1) Gross capital formation and acquisition less disposals of non-financial, non-												
2013 produced assets for the production of EP services [P5 + NP]	35,5	35,5	0,0	0,2	2 0,0	1,6	12,1	14,5	0,0	1,0	0,4	65
2013 (Pnep.1) Intermediate consumption (excluding EP services) [P2]	83,6	70,8	12,7	1,1	2,4	54,3	10,5	25,8	0,0	28,5	87,8	294
2013 ( D.1 ) Compensation of employees [D1]	78,3	65,3	13,1	1,4	1,5	36,5	14,8	42,1	0,0	21,5	56,0	252
2013 ( B1 ) Internal current expenditure	161,9	136,1	25,8	2,5	3,9	90,8	25,3	67,9	0,0	50,0	143,8	546
( Pnep.1) + D1												
2013 ( P2ext ) Intermediate consumption of EP services	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0
( B2 ) Fees and purchases												
2013 (S.1) Other taxes less subsidies on production [D29-D39]	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0
2013 ( K.1 ) Consumption of fixed capital [K1]	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0
2013 ( O.1 ) EP output [P1]	161,9	136,1	25,8	2,5	3,9	90,8	25,3	67,9	0,0	50,0	143,8	546
(Onmk.1) + (Omk.1)												
2013 ( Omk.1 ) Market output [P11]	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0
Includes P.11 (market output) of government local KAUs that are market producers												
2013 (Onmk.1) Non-market output [P13]	161,9	136,1	25,8	2,5	3,9	90,8	25,3	67,9	0,0	50,0	143,8	546
Includes P.131 (payments for non-market output)												
2013 ( C ) Receipts from by-products	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0
2013 ( D ) Subsidies/transfers {D}	1019,6	969,9			3 1,4	232,4	35,1	230,3	0,0	105,8	120,3	1765
2013 Paid to other sectors												
2013 ( F.1) Final consumption of EP services [P3]	161,9	136,1	25,8	2,5	3,9	90,8	25,3	67,9	0,0	50,0	143,8	546
2013 (Onmk.1) less P.131 (payments for non-market output)												
2013 ( L.1) Labour input	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0
2013 Full time equivalents												

In table 5.6 we have compared the transfers as a major part of total transactions from central government, that dedicated towards EP and obtained by the current study (2013 data) and from the running EPE compilation (2011 data). Again, here the allocations made to CReMA classes in this study are reallocated to the most obvious CEPA categories.

The total transfers discovered in this study appear to be lower. The CEPA 1, CEPA 3, CEPA 4, CEPA 5, and the total are all in the same order of magnitude. But all show substantial (relative) differences. The CEPA 2 (wastewater), CEPA 6 (biodiversity/landscape), CEPA 9 (other), are principally out of range. The current study show much lower value for CEPA 2 and CEPA 6.

Table 5.6 Transfers from central government towards EP according to CEPA in the current study (2013 data) and from the existing EPE compilation (2011)

Year	Expenditure (mln Euro)	CEPA 1	of which CEPA 1.1.2 and 1.2.2 Climate change	of which CEPA 1.1	CEPA 2	СЕРА 3	CEPA 4	CEPA 5	CEPA 6	CEPA 7	CEPA 8		Total of CEPA 1 to 9
Current study													
201	3 ( D ) Subsidies/transfers {D}	1019,6	969,9		19,8	1,4	232,4	35,1	230,3	0,0	105,8	120,3	1764,8
EPE - 2011													
201	1 ( D ) Subsidies/transfers {D}	778,0			206,0	5,0	168,0	45,0	983,0			19,0	2204,0

Because the analyses on EPE for 2013 was based on the extensive analyses in the project based on COFOG, the current 2013 data needs to be compared to the 2011 figures for Central Government. In comparing results of past EPE analyses and (partly) based on COFOG classified transfer data, it is important to correct the COFOG data for transfers to other countries, say to the ROW. These transfers to the ROW have been attributed to Central Government in the EPE data because no further analyses of cross border environmental expenditures were performed. The cross border transfers in the current COFOG based reporting amounts to 260 million euro. However, as we decided in the current COFOG based study to no longer attribute part of the 2.5 billion euro transfers to the European Union general budget to EP activities, due to a lack of 'ear marking' of the relevant flows, the real cross border support to environmental activities elsewhere (ROW) could easily be many hundreds of millions euros higher than is reported here. This is the main source for differences and uncertainty in comparison of the two compilation methods.

The total (in-country) transfers amount to 1.4 billion euro for the COFOG based analyses and 1.6 billion for EPE, so also in this case EPE give a higher figure. Main explanation for the observed differences stem from attributing much more environmental activity by analysts' to 'other environmental protection activities', because of a lack of more detailed information compared to what has been made available from the joint effort in the underlying study. Analysts previously had to apply a percentage factor to much larger figures, leading to limited accuracy with large uncertainties. These kind of environmental contributions from such 'educated guesses' thus have been abandoned following this COFOG based approach and lower figures can therefore be expected. The difference here is around 400 million euro. Another (less clear) difference of 200 million comes from a much higher contribution to 'protection of biodiversity and landscapes' in the EPE analyses compared to the current COFOG based analyses. Although the contribution in 2013 to this domain could be much lower than that of 2011, this should be one of the issues for further analysis.

#### 6. Conclusions and Recommendations

#### **6.1** Conclusions

For central government, the COFOG classified transaction data in government statistics, provide a sound basis for the compilation of the data needed to fill table 1, and partially other tables, of the Eurostat questionnaire on EPE. Once the transactions are well monitored and classified (according to COFOG) in the existing government statistics, there is sufficient basis to add extra 'environmental' information to the COFOG classification 5 and add EP and also RM related transactions.

A positive experience in the project was the fact that the government data had recently been revised and updated, and was available for the project at the highest standards and of very high quality. At the same time the data was stored in a renewed and improved database, the 'New Rijksdatabase', with all the ESA2010 codings up-to-date for a recent year, namely 2013.

The procedures established in the project allowed to determine the transactions relevant for support to EP and RM measures. Moreover, it enables to a large extent the enrichment of those transactions as described by the existing data in the government statistics for a single reporting year (2013). The relative successful procedure of both identification of EP/RM supporting transactions and the subsequent classification tor CEPA/CReMa seems to provide a sound basis, to continue and extent, for subsequent reporting periods.

What was classified as environment in COFOG, function 5, was of course easiest to translate to CEPA/CReMA categories. For some other COFOG functions we found distribution codes we could use to translate to the specific related CEPA an CReMA classification. The remaining COFOG functions were the biggest challenge in classification. For that purpose, other additional and detailed information was explored in order to obtain a best possible but not always straightforward CEPA/CReMA classification.

For some ministries micro data was available and was, where possible, used to support the allocations to EP/RM.

The first step, the allocations towards either EP or RM, went relatively smooth. The second step, the further allocation towards the CEPA and CReMA categories, required sometimes more arbitrary choices or distribution keys had to be applied.

The classification of ESR transactions of central government (next to CEPA) to CReMA categories went reasonably well. It allows for much more detailed analysis of the data and far better motivated applications by potential users.

Close cooperation between the three groups within the NSI Statistics Netherlands, including *i*. Government statistics, *ii*. environmental statistics, and *iii*. Environmental accounts, was needed in order to share and combine the required data, as well as knowledge and experience to embed the EP & RM transactions and categories in the existing data of the government statistics, partly in sector accounts and national accounts. That worked out well.

The compilation procedure established, starting from the COFOG classified ESA2010 conform data, seems applicable to other reporting years. If so, compilation seems possible with less capacity.

A first comparison of the compiled data for 2013 to the 2011 data based upon the previous EPE compilation method, showed significant differences. The differences originate from a variety of reasons. For a large part previous arbitrary choices that had to be made, whether transfers were dedicated to EP and had to be allocated to CEPA classes, have been reduced. This resulted in much lower figures, of about 40%, for 2013 compared to 2011.

However, the picture for support to EP/RM activities isn't complete after such an exercise, for in the Netherlands substantial part of the support is provided via 'tax abatement' or 'fiscal' instruments. These are not covered by governments transactions data. For that purpose, additional analysis will remain necessary.

The outcome of this subproject has substantially contributed to the establishment of a sequence of working procedures. This enables Statistics Netherlands to compile the data as foreseen by Eurostat's data collection from national statistical institutes on environmental subsidies and similar transfers, as demanded by the legal base (EPE module).

#### **6.2** Recommendations

- 1. Further quality and consistency check on these first outcomes are needed.
- 2. We suggest the exercise done performed here will be repeated annually in order to: a. further facilitate and continue towards regular data compilation process, and b. to introduce further improvements and c. to see whether compilation indeed can be done with less capacity compared to current situation.
- 3. Transfers from the ROW (EU-Funds) to support EP/RM activity within the country, particularly the one that relate to agriculture and nature, need further analysis / research. These are expected to be substantial in size. The shares of incoming towards EP/RM should be estimated for that purpose.
- 4. ES Questionnaires on monetary flows (EPE, EPER, EPEA, 'Transfers&Subs', evt EGSS), differ in CEPA/CReMA classification: Some Questionnaires still apply just the CEPA classes, others have CEPA and CReMA. There is a need to make those consistent.
- 5. The quality and accuracy of the CEPA/CreMa classifications, is quite different. Large part is strong, but there is also a part that give room to debate, guidance on how to deal in such cases would be helpful.
- 6. Starting from COFOG 5 (environment), should COFOG 5 always define for the CEPA categories and other COFOG classes, like COFOG 4 and COFOG 6 define for the CREMA? A recommendation could be to allow, as done in this project, classification of additional transactions to CEPA categories beyond the existing records classified to COFOG 5.
- 7. We do not falsify the existing transactions classifications to COFOG. But we recommend to allow variation in the format of straight classification towards CEPA from COFOG 5. Although most often it did, we discovered some transactions (records) with COFOG 5 classification shouldn't get a CEPA score in the procedure taken. Obviously the CReMA classification from transactions classified as COFOG 4 and/or COFOG 6 (both up to three digit), shouldn't necessarily be classified to a CReMA category. This overcomes the eventual problem when in EP/RM terms the COFOG classifications is less adequate. Althought in

- itself understandable, because in the COFOG classification the full range of transactions need to be classified.
- 8. The large outgoing flows from the country to the ROW in particular the ones that benefit the EU's general budget generally are not earmarked for EP/RM at present. Part of these flows from member states to the EU subsequently will find its way back to the member states and then aimed to for contribute to certain EU-wide objectives, partly also destined for EP/RM. This contributes to a kind of imbalanced insight between the (potentially) large EP/RM related monetary flows to and from the EU with member states with regard to . There may be reason to evaluate whether a part of the large flows from member states to EU's 'general budget' can be allocated towards EP/RM purposes, i.e. by adding EP/RM-shares to these flows that are based upon the shares in EU-general budget destined for EP/RM in the end. Although these flows aren't earmarked that way right now.
- 9. Eurostat EPE questionnaire and others also asks for industry classification (NACE ..), Reason to develop a method that related to the chosen approach in this project with embedding in the running ESR classifications. Starting from the government statistics with recurring classification exercises and data collection it would be good to also test whether classification to NACE could be based on the data that comes available, particularly data from the agencies executing the different subsidy schemes that often have data to the level of individual beneficiaries / receivers.
- 10. Further analysis whether indeed it is correct no value was found for the zero scores for CEPA / CReMa categories, CEPA 7, CReMA 12 and CReMA 15.

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#### Annexes

# **ANNEX I:** The Classification of the Functions of Government (COFOG)

#### 01 - General public services

- 01.1 Executive and legislative organs, financial and fiscal affairs, external affairs
- 01.2 Foreign economic aid
- 01.3 General services
- 01.4 Basic research
- 01.5 R&D General public services
- 01.6 General public services n.e.c.
- 01.7 Public debt transactions
- 01.8 Transfers of a general character between different levels of government

#### 02 - Defence

- 02.1 Military defence
- 02.2 Civil defence
- 02.3 Foreign military aid
- 02.4 R&D Defence
- 02.5 Defence n.e.c.

#### 03 - Public order and safety

- 03.1 Police services
- 03.2 Fire-protection services
- 03.3 Law courts
- 03.4 Prisons
- 03.5 R&D Public order and safety
- 03.6 Public order and safety n.e.c.

#### 04 - Economic affairs

- 04.1 General economic, commercial and labour affairs
- 04.2 Agriculture, forestry, fishing and hunting
- 04.3 Fuel and energy
- 04.4 Mining, manufacturing and construction
- 04.5 Transport
- 04.6 Communication
- 04.7 Other industries
- 04.8 R&D Economic affairs
- 04.9 Economic affairs n.e.c.

#### 05 - Environmental protection

- 05.1 Waste management
- 05.2 Waste water management
- 05.3 Pollution abatement
- 05.4 Protection of biodiversity and landscape
- 05.5 R&D Environmental protection
- 05.6 Environmental protection n.e.c.

#### 06 - Housing and community amenities

- 06.1 Housing development
- 06.2 Community development

- 06.3 Water supply
- 06.4 Street lighting
- 06.5 R&D Housing and community amenities
- 06.6 Housing and community amenities n.e.c.

#### 07 - Health

- 07.1 Medical products, appliances and equipment
- 07.2 Outpatient services
- 07.3 Hospital services
- 07.4 Public health services
- 07.5 R&D Health
- 07.6 Health n.e.c.

#### 08 - Recreation, culture and religion

- 08.1 Recreational and sporting services
- 08.2 Cultural services
- 08.3 Broadcasting and publishing services
- 08.4 Religious and other community services
- 08.5 R&D Recreation, culture and religion
- 08.6 Recreation, culture and religion n.e.c.

#### 09 - Education

- 09.1 Pre-primary and primary education
- 09.2 Secondary education
- 09.3 Post-secondary non-tertiary education
- 09.4 Tertiary education
- 09.5 Education not definable by level
- 09.6 Subsidiary services to education
- 09.7 R&D Education
- 09.8 Education n.e.c.

#### 10 - Social protection

- 10.1 Sickness and disability
- 10.2 Old age
- 10.3 Survivors
- 10.4 Family and children
- 10.5 Unemployment
- 10.6 Housing
- 10.7 Social exclusion n.e.c.
- 10.8 R&D Social protection
- 10.9 Social protection n.e.c.

Source: Eurostat 2011.

#### **ANNEX II: CEPA / CReMA categories (CEA)**

**CEPA**, The Classification of Environmental Protection Activities, as recommended by SERIEE is composed of 9 classes.

The general structure is as follows:

- 1: Protection of ambient air and climate
  - (1.1 Protection of air & climate, prime focus on climate; only in this pilot project, with a test on the data)
  - (1.2 Protection of air & climate, prime focus on ambient air; only in this pilot project, with a test on the data)
- 2: Wastewater management
- 3: Waste management
- 4: Protection and remediation of soil, groundwater and surface water
- 5: Noise and vibration abatement
- 6: Protection of biodiversity and landscape
- 7: Protection against radiation
- 8: Research and development
- 9: Other Environmental Protection activities

**CReMA**, The Classification of Resource Management Activities. This preliminary classification has the following structure:

- 10: Management of water resources
- 11: Management of natural forest resources
  - 11 A: Management of non-cultivated forest areas
  - 11 B: Minimisation of the intake of forest resources
- 12: Management of wild flora and fauna
- 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 other use than energy production
- 14: Management of minerals
- 15: Research and development activities for natural Resource Management
- 16: Other natural Resource Management activities

Source: Eurostat, 2008; SEEA-CF (2014; partly), Classification of Environmental Activities (CEA), P.267; Ramon, 2014; Classification of Environmental Activities (CEA), 2011; Eurostat, 2012, 'Taskforce, special sub-group on Environmental activity classification; slight adjustments and additions by Statistics Netherlands (2014).

#### ANNEX III: Overview of data sources considered

- 1. Annual reports by the ministry of Infrastructure and the environment, Environmental program with budget lines (i.e. for 2013);
- 2. Budget of the ministry of Infrastructure and the environment, Environmental program with budget lines;
- 3. Similarly, Annual report and budgets of several ministries, like the Ministry of Economic Affairs, Ministry of Foreign Affairs, Ministry of Foreign Trade and Foreign Development Aid, Ministry of the Interior and Kingdom Relations, Ministry of Defence, Ministry of Finance, Ministry of Health, Welfare and Sport;
- Annex 2 to the annual Budget of the Ministry of Infrastructure and the Environment, representing budget lines for all relevant ministries with environmental motivation/purpose, 'Overzichtsconstructie milieu', OCM (2013 and several other years);
- 5. The Netherlands Budget Memorandum (Miljoenennota) for several years (i.e. 2013);
- 6. Ministry of Finance & general Overview of subsidies from Dutch Central Government, ('Subsidie Overzicht Rijksoverheid, SOR2010');
- As part of the annual Netherlands Budget Memorandum as for 2013 (Miljoenennota 2013), Ministry of Finance compiles in Annex an overview of the so-called 'tax expenditures', generally referring to the implicit subsidies (also referred to as 'offbudget subsidies);
- Ministry of Agriculture on her website reports details of the grants being paid to individual farmers (these include environmental and subsidies for nature and landscape conservation as well);
- 9. CBS statistics on government (government statistics / accounts), in particular obtained from the ministry of finance (classification sufficient and sufficiently detailed for the purpose of this project regarding the environmental grants?);
- CBS data on subsidies / transfers / budgets for central and local government to COFOG
   , 'Environmental Protection' compilation obtained from government accounts, being part of recurring data delivery to the IMF;
- 11. CBS data on the EPE as part of environmental statistics, i.e. with several EP subsidy schemes, including the main implicit / off-budget subsidies;
- 12. OECD Database on instruments used for environmental policy. Environmentally motivated subsidies Main characteristics for selected country Netherlands.