

Grant Agreement no NUMBER – 101022852 – 2020-EE-ENVACC

Development of environmental accounts

Activity 3. Developing environmental subsidies and transfers account.

D1.10 description of the methodology and methodological issues for environmental subsidies and transfers account

Methodological report

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1 Introduction to Environmental Subsidies and Similar Transfers

This methodological report describes work the development work done under Activity 3. “Developing environmental subsidies and transfers account” in the frame of the work on development of environmental accounts in 2021-2023 under grant “Grant Agreement no NUMBER – 101022852 – 2020-EE-ENVACC, Development of environmental accounts”.

Environmental subsidies or similar transfers are defined as current or capital transfer that is intended to support activities that protect the environment or reduce the use of and extraction of natural resources (Eurostat, 2015). All data within Environmental Subsidies and Similar Transfers (ESST) module are compatible with the concepts and definitions of the European System of Accounts (ESA) and System of Environmental Economics Accounts (SEEA).

Environmental policies aim to solve environmental problems caused by current production and consumption patterns. ESST statistics can be used to monitor and evaluate policies undertaken to achieve such goals. In particular, they could provide a cost/benefit analyses for new environmental policy proposals (Eurostat, 2015).

By the end of 2025, reporting of ESST to Eurostat is foreseen to become mandatory according to amending Regulation (EU) No 691/2011. This refers to subsidies and other current and capital transfers. Reporting of tax abatements will not become mandatory. The mandatory reporting starts for reference year 2022. The mandatory data should be classified by environmental domains according to Classification of Environmental Protection Activities and Expenditure (CEPA) and Classification of Resource Management Activities (CReMA) classification or the revised CEF classification. Institutional sector of the recipient and economic activity according to NACE classification system is assigned at NACE A*10 level.

For Statistics Estonia (SE), the current grant project is the first time to compile the ESST questionnaire. As such, relevant data sources had to be identified and methodologies developed. A study visit to Statistics Netherlands was organized, where Statistics Netherlands experts shared their experience, answered Statistics Estonia questions and provided help developing methodologies for this grant project.

This report will describe the data sources used, methodologies developed and summarize the results.

In the annex, there are the minutes from the milestone seminars (involving stakeholders) and a summary from a study visit to Statistics Netherlands.

Dataset on environmental subsidies and similar transfers is one of the deliverables (D1_9_ Dataset on environmental subsidies and similar transfers _101022852_2020-EE-ENVACC) for this grant project and will be sent to Eurostat along with this report.

2 Classifications and definitions

2.1 Environmental Subsidies and Similar Transfers

The Environmental Subsidies and Similar Transfers (ESST) module comprises of transfers intended to support activities environmental protection and resource management activities. This definition covers current and capital transfers according to ESA 2010.

Current transfers include subsidies (D.3), social contributions and benefits (D.6) and other current transfers (D.7). Current transfers directly affect the level of disposable income and are all transfers that are not transfers of capital.

According to ESA 2010 “subsidies (D.3) are current unrequited payments which general government or the institutions of the European Union make to resident producers.” Objectives of giving subsidies are influencing levels of production, influencing the price of products or influencing remuneration of the factors of production.

If there was no other way to classify the transaction, the objective of the transaction was used and determined if it fits one of the three criteria mentioned above.

Social contributions and benefits (D.6) transfers with environmental motive were not identified during this grant project.

Other current transfers (D.7) in scope for this grant project were mainly current transfers within general government (D.73), current international cooperation (D.74) and miscellaneous current transfers (D.75).

Capital transfers (D.9): acquisition or disposal of fixed assets. The main focus was on investment grants (D.92) and other capital transfers (D.99). Capital transfers are transfers linked to the acquisition (or disposal) of fixed assets and they can be in cash or in kind.

Tax abatements are not part of ESST. Although they might have similar effects on policies as ESST, tax abatements do not involve any flows from general government in cash as measured by the National Accounts (ESA 2010). Additionally, Potentially Environmentally Damaging Subsidies (PEDS) are also not part of the ESST.

ESST focus is on flows from general government (S.13) to other sectors, plus transfers from and to the rest of the world (RoW). Transfers from other sectors to the general government (fines, donations and legacies, etc.) are out of scope of these guidelines. Loss of revenue due to environmental protection (CEPA) and resource management (CReMA) activities are included in the ESST account.

Environmental protection activities (CEPA) are all activities which aim to prevent, reduce and eliminate pollution or any other degradation of the environment.

Resource management (CReMA) activities are preservation, maintenance and enhancement of natural resources and protecting them against depletion.

The emphasis is on the purpose of given subsidy or similar transfer for protection or preservation of environment. Activities having a favorable impact on the environment, but which serve other goals, do not fall under CEPA or CReMA. There are two requirements in order to define the transfer environmentally related: the legislators’ motive and technical nature of the activity or product. General subsidies and similar transfers received by the producer of environmental goods and services are not ESST.

2.2 Consistency with other environmental accounts

Compared to other environmental accounts ESST has the biggest relation with Environmental Protection Expenditure Account (EPEA). Transfers recorded in EPEA are also part of ESST and both accounts record transfers in line with ESA transaction codes and principles.

Still there are some differences of recording environmental transfers in these accounts:

ESST records both CEPA and CReMA transfers while EPEA covers only CEPA

EPEA groups together S.13 and S.15 while ESST shows all institutional sectors of the receiver of transfer separately

ESST also covers D.6 (Social contributions and benefits) transfers and EPEA does not, still D.6 transfers have very small relation with environmental transfers

Transfers in EPEA are consolidated

ESST classifies the receiver of transfer in addition to institutional sector (as does EPEA) also by NACE for S.11

As the overlap between ESST and EPEA is large and reporting of ESST will be mandatory it is possible that reporting of transfers in EPEA could be dropped by the Eurostat (subject is discussed in Expert group on monetary environmental statistics and accounts in May 2023).

EPEA in Estonia has been compiled regularly since 2018 and data of 2020 was compiled and transmitted in 2022. After the ESST account of 2020 data was compiled, it was possible to analyze compliance of these accounts.

The biggest difference between coverage of EPEA and ESST was under CEPA 4 that is also the largest CEPA category in ESST. The largest transfers were made for organic farming that has not been included in EPEA since now as it is mandatory in EPEA to record the output of environmental services and capital formation to produce EP services and according to EPEA handbook "EPEA only records environmental protection transfers to the extent they are not already captured as expenditure on environmental protection products or expenditure related to the production of environmental protection products, including the gross capital formation. This is to avoid double-counting. The EP transfers without a counterpart seem to be very small, in general less than 1% of total environmental protection expenditure."

After discussion on the subject with colleague from Statistics Finland and contact from Eurostat it was decided that EPEA should be updated and include also transfers for organic farming.

It was seen that ESST covers also some more CEPA transfers that are not included in EPEA. That is due to more resources that could be devoted to further analyze of different databases of transfers that was done under development of ESST. Additional transfer data is also important information to improve another environmental account – Environmental goods and services sector (EGSS) that uses transfer information to estimate the production of some environmental activities and products. Overlap of EGSS and ESST is not very important as the focus of these accounts are different.

Previous experience of using transfer data in EGSS and compiling transfer flow in EPEA gave a good basis to start developing ESST. In general transfers in EPEA and ESST are reported using same principles and should be compliant. Thorough analyze of possible data sources done during the development of ESST gave very important information to update EPEA.

2.3 Consistency to National Accounts

To keep ESST consistent with National Accounts (NA), ESA 2010 and other materials regarding NA was studied by environmental statistics. In SE, NA is responsible for managing Public Sector Financial Statements (PSFS) and assigning transaction codes to transfers. Since ESST are out of NA's scope, a colleague from NA was consulting environmental statistics during this grant project. The main objectives were to teach environmental statistics how to assign transaction codes to transfers and consult environmental statistics on other issues in regards with PSFS. Finally, all environmental subsidies and transfers were submitted to NA to check the results and ensure that the transactions outside of PSFS were correctly classified according to ESA. Due to the different data composition between PSFS and other data bases available to environmental statistics, some transactions were classified on slightly other grounds and differ from NA. The problems regarding classification of transfers will be discussed in the "remaining issues" chapter. However, these appear to be minor issues in the grand scheme and in general ESST is consistent with National Accounts

3 Compilation of Environmental Subsidies and Similar Transfers Account

3.1 Previous experience

Current grant project is the first attempt for Statistics Estonia (SE) to compile ESST account. As there was some experience of transfers in EPEA concerning CEPA categories but not with CReMA, approaches and methodologies from other countries had to be studied first. The main partner for Statistics Estonia in this grant project was Statistics Netherlands. In the fall of 2022, study visit was held in Netherlands on the topic of ESST.

As this was the first attempt for Statistics Estonia to compile ESST account, data sources had to be identified and relevant data had to be obtained. It became clear from the start, that the data available from National Accounts was not detailed enough.

3.2 Cooperation with data holders

There was little data that was readily or easily available from National Accounts. Public Sector Financial Statements (PSFS), with data on government transfers classified according to COFOG, offered some data on environmental subsidies and transfers. Some data was available through EGSS and EPEA accounts, but that covered just one part of the potential subsidies and transfers related to environmental protection or resource management activities. As such, a list of potential data sources was compiled by examining funds and programs available in Estonia (Figure 1).

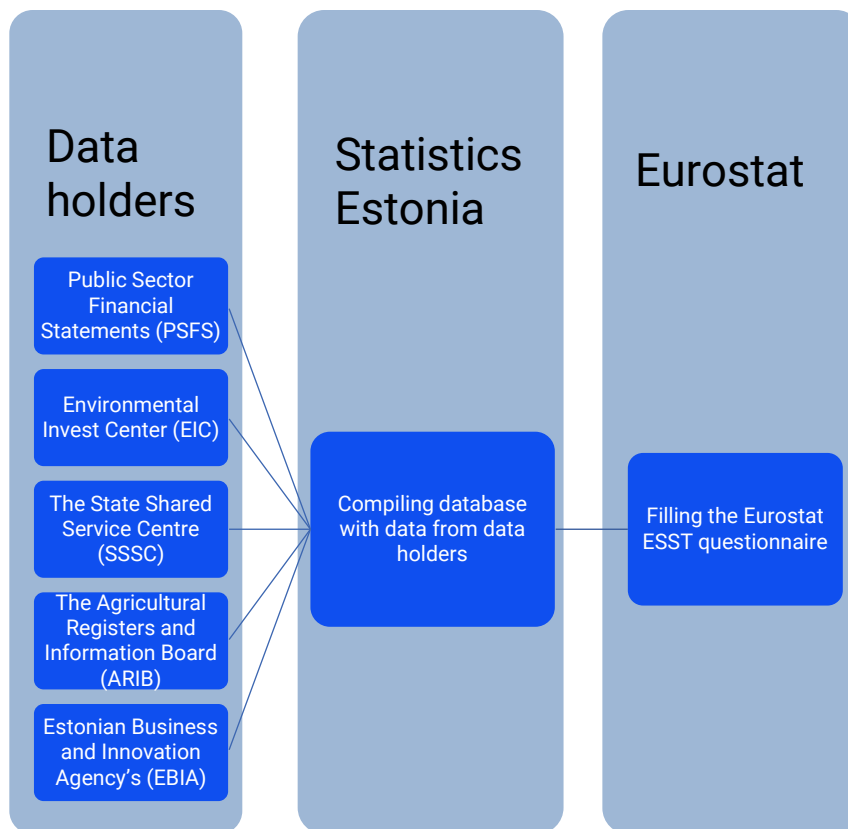


Figure 1. ESST account data flow in Estonia, 2020

3.2.1 Transfers from Rest of the World

The data holders are mainly foundations that are responsible for diverting and distributing RoW and General Government funds. RoW payments can be found in the State Shared Service Centre (SSSC) database (SFOS) and in dataset the Agricultural Registers and Information Board (ARIB) provided to SE. They both show the final beneficiary for the transfers in such detail, that it was possible to identify institutional sector and the economic activity (NACE) of the final recipient.

SSSC data also includes transfers to local governments, but in such case, it was not possible to identify the final beneficiary nor the exact CEPA/CRema activity. As the number of such transfers was not significant, such transfers were excluded from ESST account for this grant project. Solving this issue will be part of the grant project.

In case the origin of funding remained unclear, the origin was classified as 100% from RoW. It was mainly the case for co-financed support measures. Such measures usually originate 75% to 95% from RoW. To simplify things and not to create some odd distributions, it was decided to count them 100% as coming from RoW. This was mainly the case for ARIB support measures. In the future, with new datasets, this problem should be fixed as the new datasets should provide information about the exact origin of financing.

For the transfers to Rest of the World, Public Sector Financial Statements data was used.

3.2.2 Data parameters

When requesting data from different data holders, a list of parameters were given that the dataset had to contain. Parameters were as follows:

1. Recipient's business registry code and name (does not apply for S.14 households)
2. Name of the project
3. Description of the project
4. Name of support measure
5. Name of fund
6. Financing institution
7. Sum of subsidy or transfer
8. Sum of self-financing
9. Does the transfer contain state aid

When in contact with data holders, it was found that not all data is available. For example, some support measures do not require self-financing, hence this parameter is not applicable. For households (S.14), name and personal identification code was not needed either. For identifying households as a recipient, it was enough to have a marker stating that the recipient was a household. Description of the project was not available for some support measures as these were general subsidies. State aid requirement was there to identify transfers from RoW that could potentially contain General Government component. Overall, the communication between SE and data holders was productive and good. During the meetings between SE and data holders, forementioned exceptions were identified along with the reasoning behind it. Such cooperation was the key to understand the datasets available for SE and enabled SE to request data suitable for this grant project without asking irrelevant data.

Depending on the data holder, the list of transfers requested varied: from some data holders all transfers were made available for SE. For others, a list of support measures or transfers, that could possibly contain transfers relevant to ESST, was filtered out by SE, and then requested from data holders. This comes down to how different data holders store and manage their data, but also legal agreements and contracts between SE and data holders.

3.2.3 Public Sector Financial Statements (PSFS)

Public Sector Financial Statements (PSFS) data was readily available for ESST analysis from National Accounts. COFOG_05 was of main interest in PSFS database. Although COFOG covers part of ESST, it was not detailed enough. This mainly concerns transfers that occur outside of COFOG_05. With the lack of detailed description for transfers, it is very difficult to identify and classify transactions according to CEPA/CreMA. CEPA/CreMA component for anything outside of COFOG_05 should be estimated. However, when comparing COFOG transactions with the data sources listed below, it was possible to identify transactions relevant to ESST account.

3.2.4 Environmental Investment Center

Environmental Investment Center (EIC) provides grants and is one of the main grant mediator and supervisor of environmental projects in Estonia, distributing RoW and General Government funding. EIC belongs to the administration area of the Ministry of the Environment. EIC provides SE yearly data on environmental subsidies and transfers, which are then used for compiling EGSS and EPEA accounts. The data from EIC is also suitable for compiling ESST account. However, it was discovered that not all subsidies and transfers were covered in the yearly data. Only projects funded by general government

were included in the dataset of the EIC. Rest of the World funds distributed by EIC could be found in the State Shared Service Center (SSSC) database and SSSC database was used to identify transfers originating from RoW and made by EIC.

3.2.5 The State Shared Service Center

The State Shared Service Centre (SSSC) is a government agency under the administration of the Ministry of Finance. The SSSC performs the function of the managing and paying authority for the EU structural funds and cross-border programs, etc. SSSC also provides yearly data to SE concerning environmental subsidies and transfers. Previously the data has been used for EGSS and EPEA accounts, but the data is also suitable for ESST. As with EIC, it was discovered that some of the funds and programs containing CEPA/CRema activities were not included in the annual data reports to SE. As such, SE and SSSC reached an agreement, in which SE personnel connected to the development and compilation of ESST, gain access to SSSC database. This allows SE to fill the data gap concerning EIC payments, but also allows to analyze each transfer for CEPA/CRema component as the description of funded project is also available. SSSC database is the largest and most detailed data source available that SE can use for EGSS, EPEA and ESST accounts. However, it mainly contains transactions related to EU and other foreign funds. Not all support measures paid by the general government are represented here.

3.2.6 The Agricultural Registers and Information Board

The Agricultural Registers and Information Board (ARIB) is another government agency responsible for organizing the granting of national and EU subsidies. As with the agencies mentioned above, ARIB provides SE yearly data of subsidies and transfers, which are used for EGSS and EPEA accounts. The data is also suitable for ESST, but a large under coverage of potential CEPA/CRema transfers was identified here, too. As such, it was necessary to identify the data available from ARIB and request new data sets, which included more support measures and data fields. In order to improve the dataset ARIB transmits to SE first the measures that are important for ESST were identified with collaboration with ARIB to determine the goal that each measure serve.

3.2.7 Estonian Business and Innovation Agency

Estonian Business and Innovation Agency's (EBIA) main focus is to support entrepreneurship and living conditions in Estonia. EBIA measures include direct subsidies/transfers, loans and grants, risk capital investments. EBIA data was not available to SE before compiling ESST account. Only data for direct subsidies and transfers was requested from EBIA for this grant project.

3.3 Methodology for creating ESST account in Estonia

3.3.1 Compilation of integrated database

After obtaining available, relevant data from different data sources, it was necessary to compile them into a single database for assigning CEPA/CRema category, NACE A*10 and to identify whether the transaction was a subsidy, other current transfer, or capital transfer. Having all the data in a single database was also necessary for making calculations in order to fill out the ESST questionnaire. The dataset must be uniform and contain filtered and corrected data. Raw data from different data sources is not fit for processing.

3.3.2 Assigning CEPA/CRema

Assigning CEPA/CRema category for each transaction was done according to Eurostat's guidelines. If possible, project description was used to determine the exact CEPA/CRema category. In case the project description was not available, financing source and its description was used to decide CEPA/CRema category. In some cases, requirements set by the financing source were so narrow, that all projects funded fell under a single CEPA/CRema category. For some financing measures, the scope was so wide that it could become extremely difficult to assign a project to a single CEPA/CRema category. This was mainly a problem for support measures which allow broad range of activities under a single project. In such case, the legislator's motive, field of the subsidy, recipient and project's technical description was considered, and the project was assigned to CEPA/CRema category deemed closest to it. Exception to this are measures for water management. Often fresh, drinking water systems (CRema 10) and wastewater sewage (CEPA 2) are built or upgraded simultaneously and funded as a single project. For such cases, 60% of the share is assigned to CEPA 2 and 40% to CRema 10, based on an expert opinion. For other cases it proved to be too difficult to separate each investment and assign them to different CEPA/CRema category. Such cases are an exception and do not have large effect on the final outcome, but they do skew the results enough to make the results an estimate and not an absolute value.

3.3.3 Assigning recipient's institutional sector

The datasets received do not contain institutional sector of the recipient. Assigning institutional sector was done by linking recipient by its registry code with business register for statistical purposes database. This database contains business registry code, name, NACE, institutional sector, etc. Linking the data and assigning said values to the recipients could be one process for automatization in the next grant project.

3.3.4 Assigning recipient's NACE

The datasets received do not contain institutional sector, legal form nor the NACE activity of the recipient. Assigning NACE A*10 was done by linking recipient by its registry code with business register for statistical purposes database. This could be one process for automatization in the next grant project.

3.3.5 Assigning transactions codes according to ESA

In order to keep the ESST account aligned with National Accounts (NA), transfers were classified by transaction codes used in Public Sector Financial Statements (PSFS). Transaction codes were assigned by the rules described in ESA2010 and NA expert in SE was consulted during the process. However, for all the subsidies and transfers, not all necessary data was available to assign transaction codes by ESA2010 rules, so other methods had to be used to estimate the right transaction code. For example, some agencies have supporting measures which are focused only on capital transfers. In such case, transactions were classified as capital transfers (D.9). Another way was to assign transaction code by analyzing the transfer's detailed description and estimate the transaction code based on available data. In some cases, data available for ESST could be more detailed and yield more accurate result when assign transaction codes.

3.3.6 Excluding Public Sector Financial Statements (PSFS) data from calculations

On the last minute, it was decided to exclude almost all PSFS data, except for transfers to Rest of the World (S.2). After reviewing the calculations and comparing PSFS data against other data sets, it was concluded that most, if not all, transfers in PSFS are covered in datasets from other data holders. This means that including the whole COFOG_05 would have caused double counting in the final results. The sum of ESST relevant transfers in COFOG_05 was 56 million euros. The sum of General Government payments across other datasets was 53 million euros. These numbers also point at the fact that COFOG_05 and other datasets double each other. Transfers from General Government to RoW were not available from other datasets, as such these transfers were included from COFOG_05.

4 Results

Results show, that in Estonia, 2020, large part of environmental support measures are financed from foreign funds – from European Union Structural funds or other cross-border programs such as The European Economic Area (EEA) and Norwegian Financial Mechanisms. Out of the 361 million euros dedicated to environmental and resource management activities, 308 million came from RoW, whereas general government financed 53 million euros worth of CEPA and CReMA activities. This shows that roughly 85% of the funds were paid by RoW (S.2) (Figure 2).

Transfers by Rest of the World and General Government, 2020

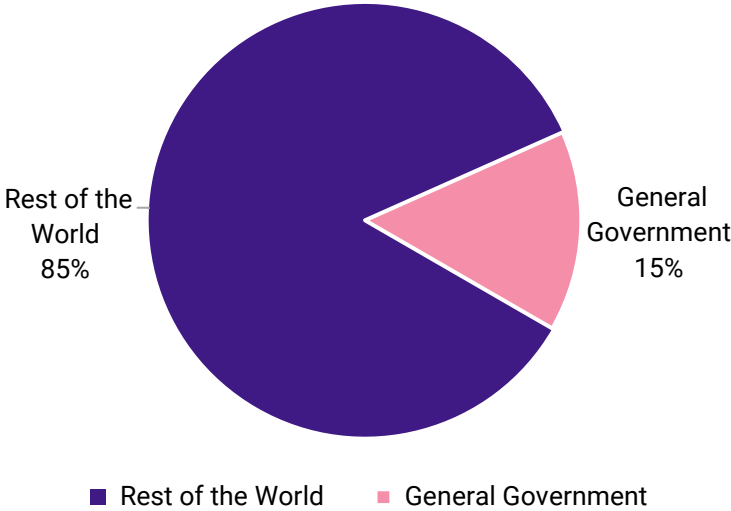


Figure 2. Percentage of current and capital transfers by Rest of the World and General Government, 2020.

However, the figures above are slightly skewed. For certain financial measures it was not possible to determine the exact share of RoW and general government correctly. Because the main funding originated from RoW, all the share was assigned to RoW. For the next grant project this will be fixed as new, more detailed data will be available to determine the shares of funding more precisely.

Breakdown by receiving institutional sector (Figure 3) reveals that large part of the funds were distributed to corporations (S.11).

Transfers by recipient insitutional sector, 2020

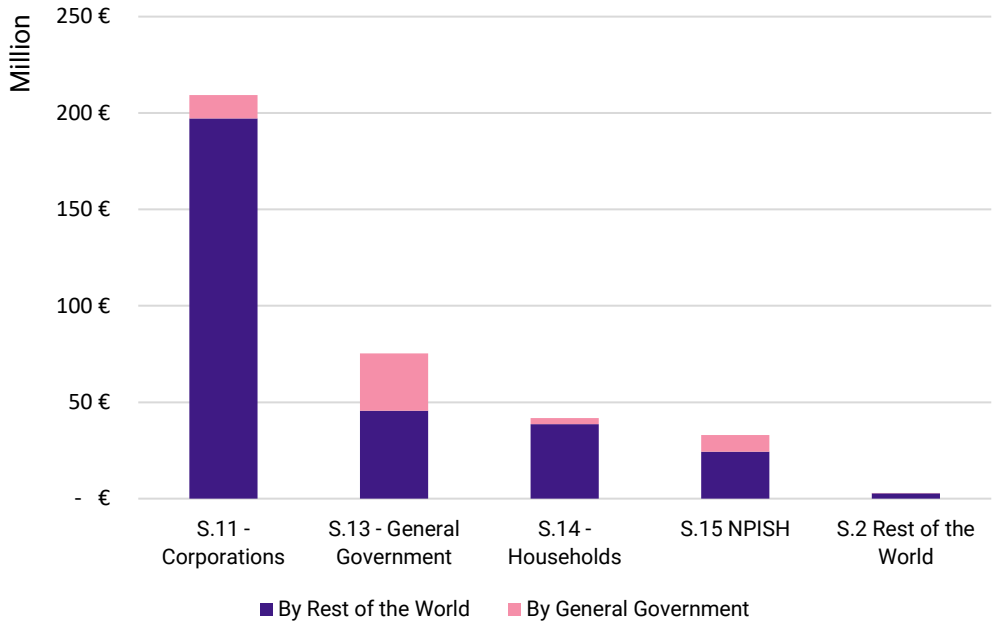


Figure 3. Breakdown of subsidies and transfers by institutional sector, given by RoW and General Government, 2020

Total funds distributed to CEPA and CReMA, 193 million euros, or 56%, was given for CEPA and 168 million euros, or 46%, was given for CReMA activities (Figure 4).

Distribution between CEPA/CReMA, 2020

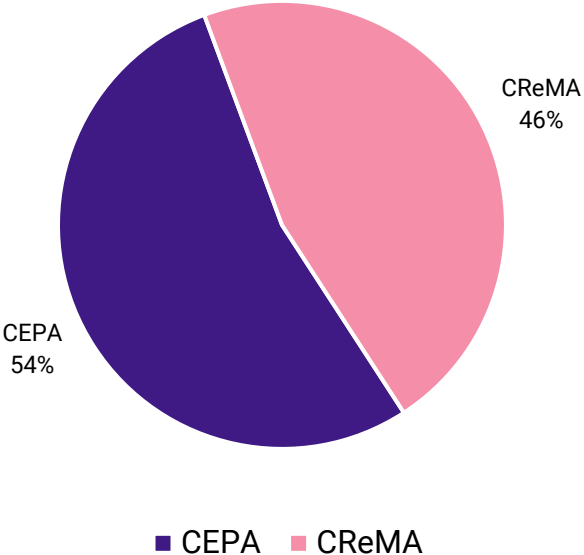


Figure 4. Distribution of funds between CEPA and CReMA activities, 2020

The funds were distributed between all CEPA/CRema categories (Figure 5). Most of the transfers went towards protection and remediation of soil and water (CEPA 4), heat/energy saving and management (CRema 13B) and wastewater management (CEPA 2). Organic farming made up most of the transfers towards CEPA 4.

Rest of the World and General Government transfers by CEPA/CRema, 2020

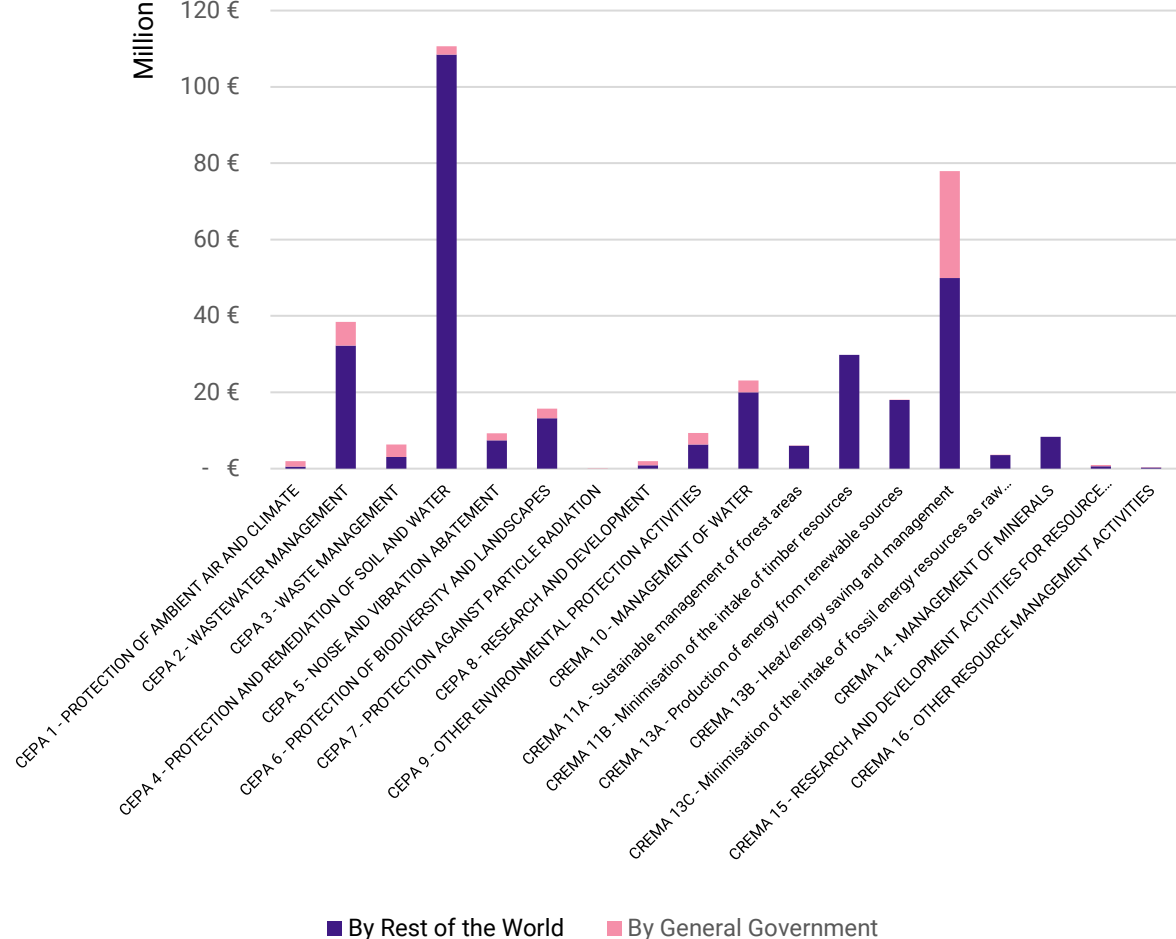


Figure 5. Rest of the World and General Government transfers by CEPA/CRema, 2020

Breakdown by the industry of the recipient (Figure 6) shows that the NACE I-U (scientific and technical activities, education, public administration, etc) received the largest amount of funds. Local governments and NPISH receive a substantial amount of subsidies and transfers for environmental and resource management activities – mainly for renovating buildings and heat/energy infrastructure. Agriculture, forestry and fishing industry (NACE A) received a little bit less and manufacturing (NACE C) being third largest receiver. For agriculture, CEPA 4 activities (organic farming) is the largest contributor.

Breakdown of the entities receiving the transfers by industry, 2020

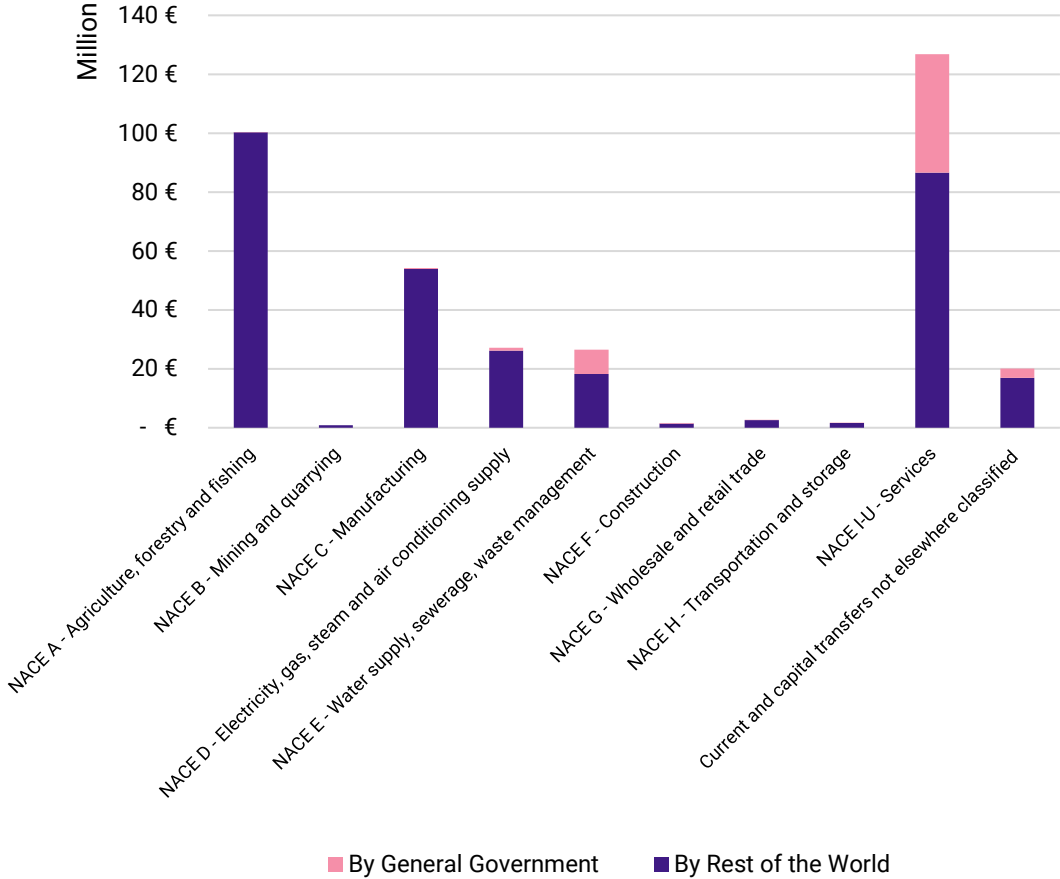


Figure 6. Breakdown of the entities receiving the transfers by industry, 2020

4.1 Subsidies and transfers by transfer type

Other current transfers (D.7) and capital transfers (D.9) made up most of the transfers (Figure 7). Amount of subsidies (D.3) paid is relatively low compared to D.7 and D.9 transfers. No D.6 transfers with environmental motive were identified during this grant project. Most of the transfers originated from RoW. General Government contributes mostly towards capital transfers, whilst paying out almost no subsidies. This aligns with the results showed in later chapters, where investments towards heat and energy (CReMA 13B) savings make up for large part of General Government payments.

Transfers by transfer type, 2020

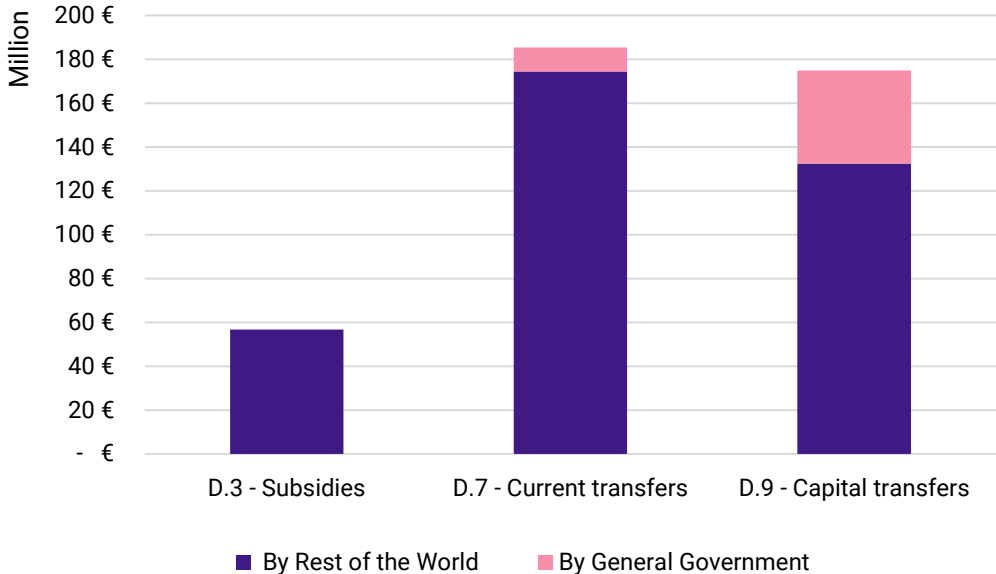


Figure 7. Transfers from Rest of the World and General Government by transfers type, 2020

4.1.1 Subsidies

In the reference year of 2020, 63 million euros worth of subsidies (D.3) were paid for CEPA/CReMA activities by Rest of the World. Subsidies paid by General Government amounted to 34 000 euros.

4.1.2 Other current transfers

In 2020, 129 million euros worth of current transfers was paid for CEPA/CReMA activities. 118 million of other current transfers originated from RoW, , transfers from general government amounted to 11 million euros, with most of it going towards CEPA activities (Figure 8). Other current transfers made by General Government are broken down in detail in this chapter.

Amount of other current transfers paid by General Government, 2020

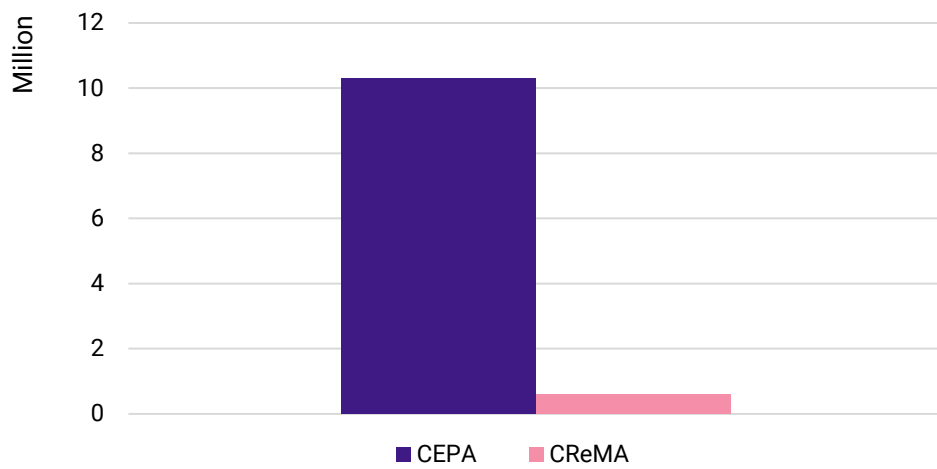


Figure 8. Other current transfers paid by general government for CEPA/CReMA activities, 2020, million euro

Research & development and other environmental protection activities (CEPA 8 + CEPA 9) received the largest amount of transfers, worth of 3.8 million euros (Figure 9).

Breakdown by CEPA, 2020

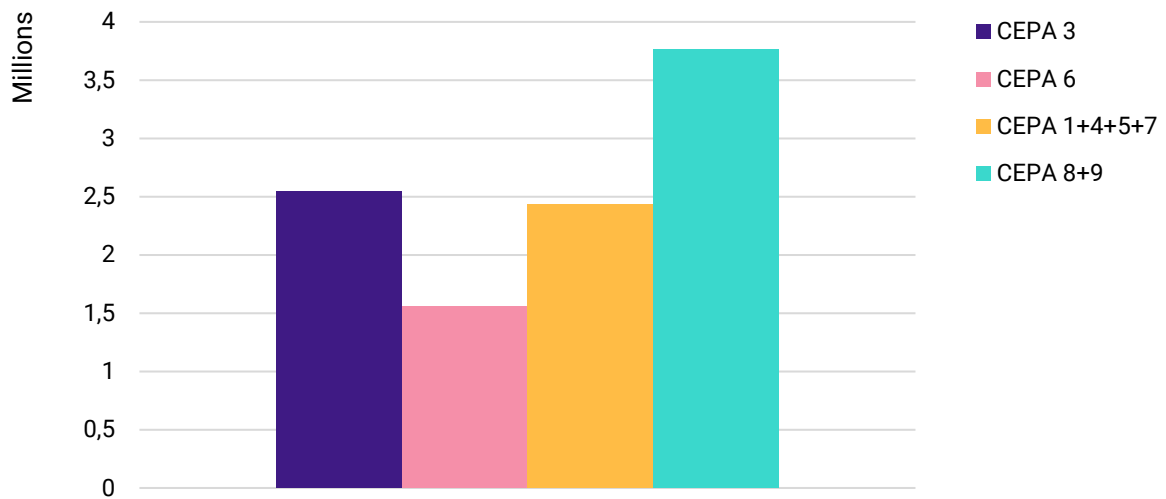


Figure 9. Other current transfers breakdown by CEPA, 2020, million euro

CReMA activities received just 0.6 million euros worth of other current transfers from general government. Again R&D and other activities received the largest amount of transfers (Figure 10) at 0,4 million euros. Management of forest resources + wild flora and fauna (CReMA 11 + 12) making up 0,1 million and 0,1 million euros going towards management of energy resources (CReMA 13).

Breakdown by CReMA, 2020

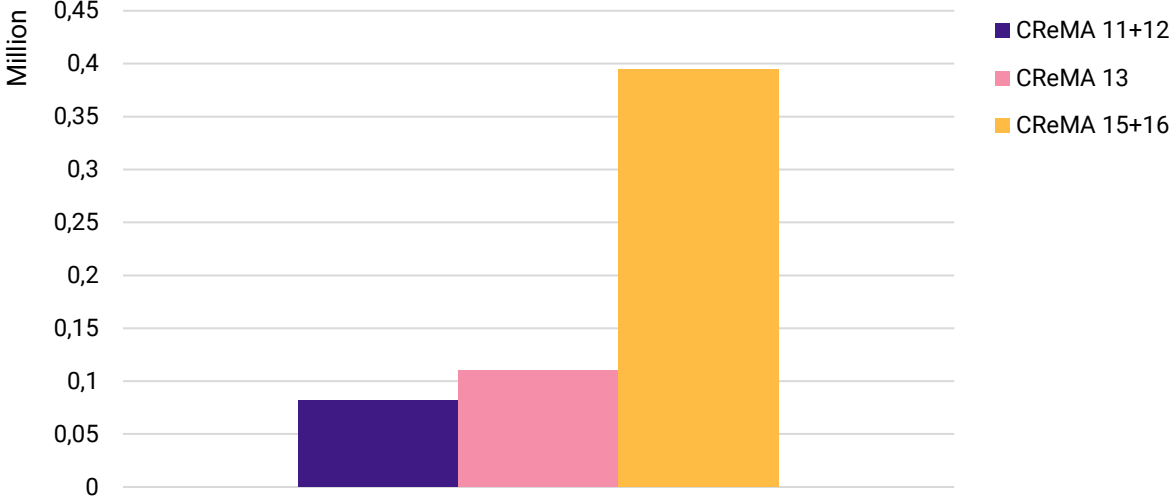


Figure 10. Other current transfers breakdown by CReMA, 2020, million euro

By breaking down the transfers by institutional sector (Figure 11), we can see that by far, general government (S.13) received the largest amount of transfers with 9.6 million euros from General Government. Small amounts went towards corporations (S.11) and NPISH (S.15).

Other current transfers breakdown by institutional sector, 2020

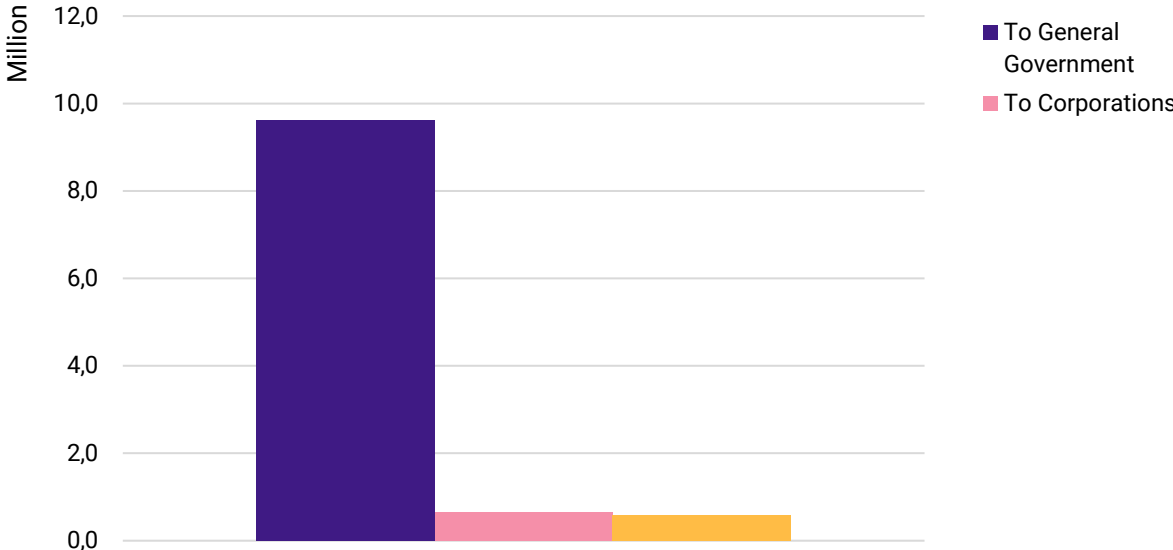


Figure 11. Other current transfers breakdown by institutional sector, 2020, million euro

Breakdown by NACE is even less complex, with just services sector (NACE I-U), NACE E and not elsewhere classified receiving transfers (Figure 12).

Breakdown by NACE, 2020

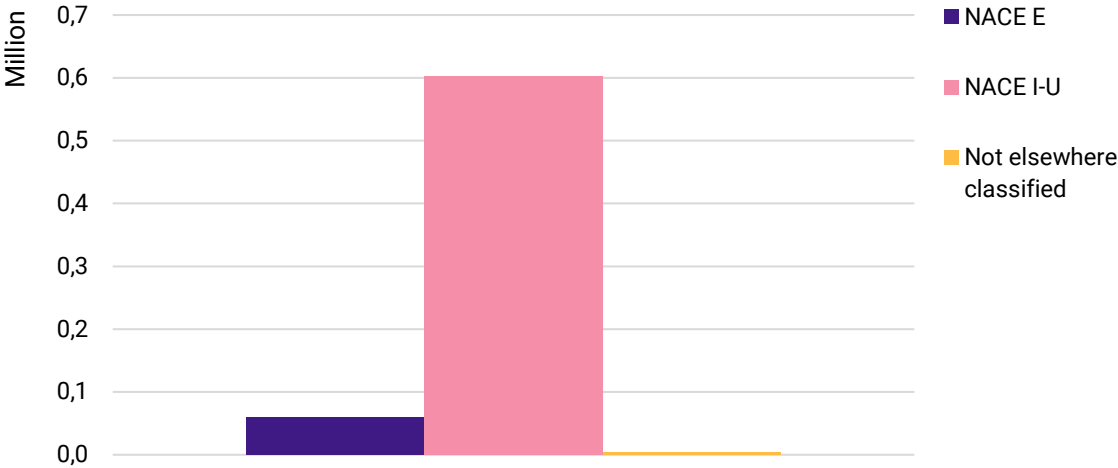


Figure 12. Breakdown by NACE, 2020, million euro

To conclude, most of other current transfers made by the general government (S.13) were to general government (S.13) and focused on CEPA activities, with R&D and other environmental protection activities (CEPA 8 + CEPA 9) receiving the largest amount of transfers.

4.1.3 Capital transfers

Capital transfers amounted up to 174 million euros in 2020, with 132 million euros originating from Rest of the World and 42 million euros coming from general government (S.13). While most of the current transfers from General Government went towards CEPA, capital transfers were mainly directed towards CReMA activities. Of the 42 million euros coming from General Government, 31 million euros was given for CReMA activities and 11 million euros for CEPA activities (Figure 13).

Amount paid by General Government, 2020

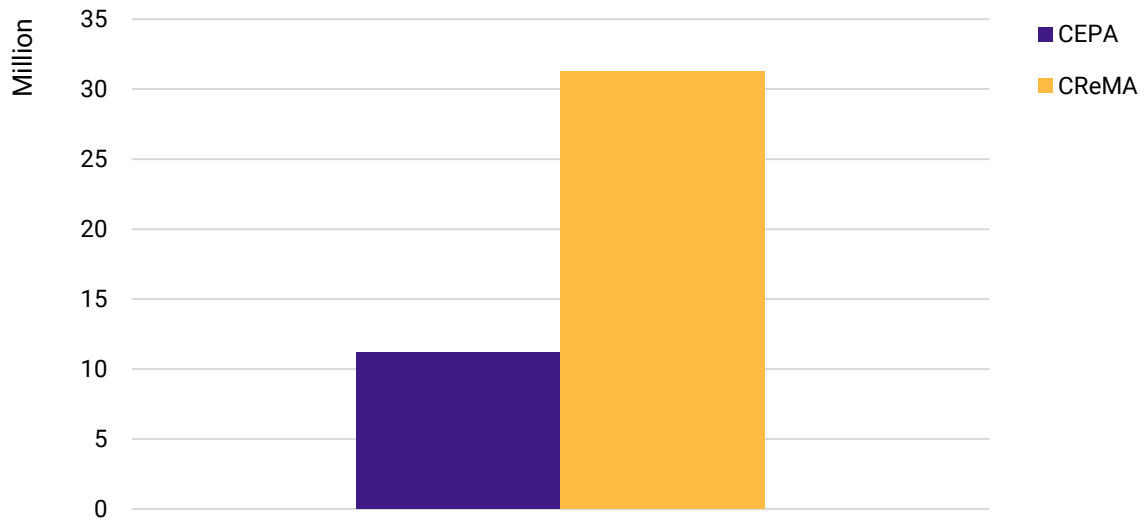


Figure 13. Amount paid by General Government for CEPA/CReMA activities, 2020, million euro

CReMA 13, management of energy resources made up most of the capital transfers by general government (S.13) with 28 million euros out of 31 million euros given for CReMA activities. Management of water resources received a small amount of capital transfers, whilst other CReMA categories received close to zero or no capital transfers at all (Figure 14).

Breakdown by CReMA, 2020

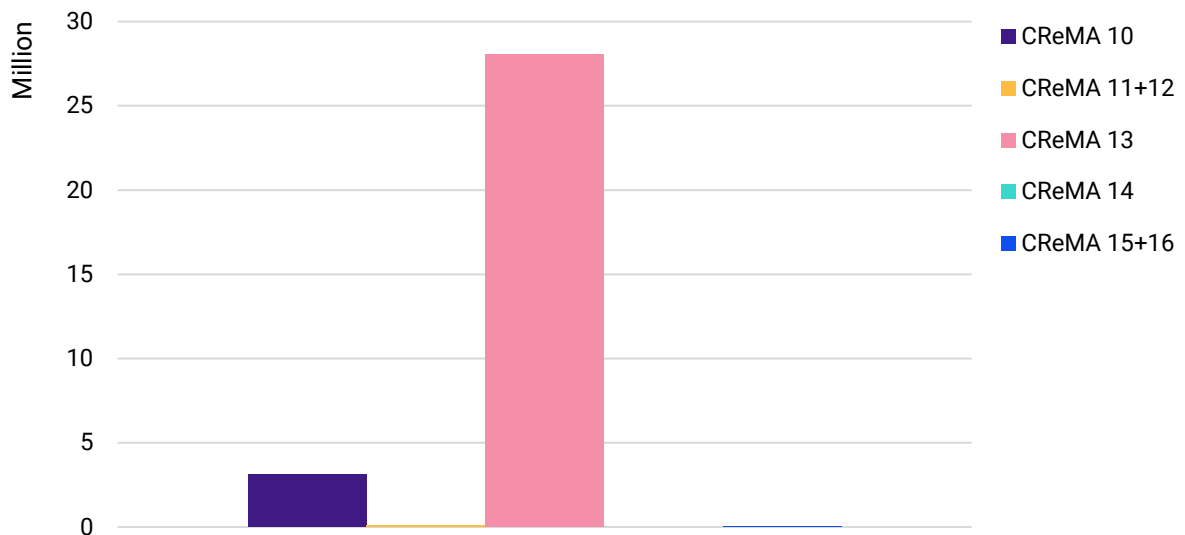


Figure 14. Breakdown by CReMA, 2020, million euro

For CEPA activities, General Government made capital transfers of 11 million euros in 2020. Although CEPA activities received less capital transfers than CReMA activities, the breakdown by CEPA shows that the transfers were more spread along different CEPA categories. Wastewater management (CEPA 2) received little over 6 million euros, which is little more than half of the capital transfers for CEPA activities. The remaining capital transfers were divided between other CEPA categories (Figure 15).

Breakdown by CEPA, 2020

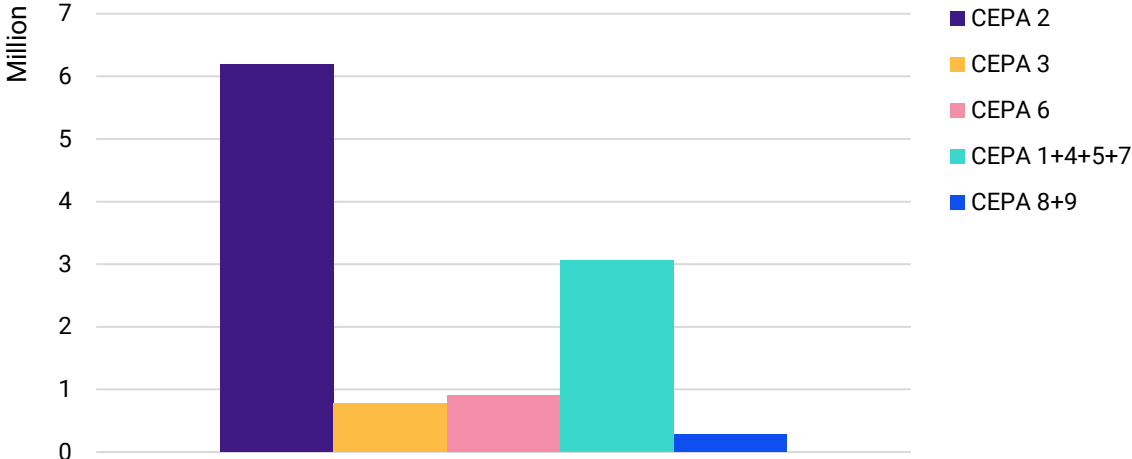


Figure 15. Breakdown by CEPA, 2020, million euro

Breakdown of capital transfers paid by general government by institutional sector show that, as with current transfers, the largest receiver of transfers was general government (S.13), receiving 20 million euros out of the 42 million euros, almost half the capital transfers (Figure 16). Rest of the transfers were divided between corporations (S.11), NPISH (S.15) and households (S.14). RoW (S.2) received no capital investments from Estonian General Government.

Breakdown by institutional sectors, 2020

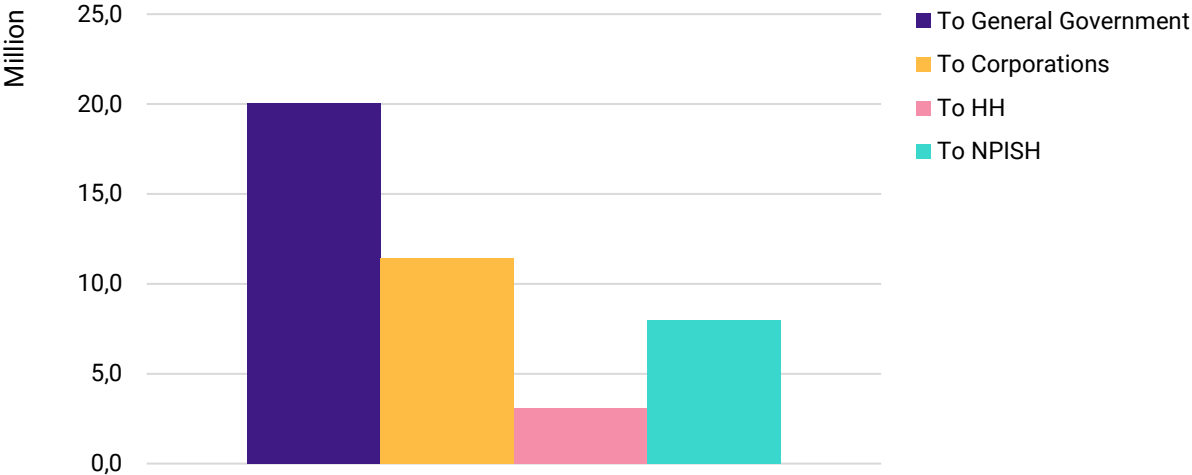


Figure 16. Capital transfers paid by General Government breakdown by institutional sector, 2020, million euro

Capital transfers breakdown by NACE show that most of the capital transfers were received by water supply, sewerage, waste management sector (NACE E). Other NACE categories received only small amounts of capital transfers (Figure 17).

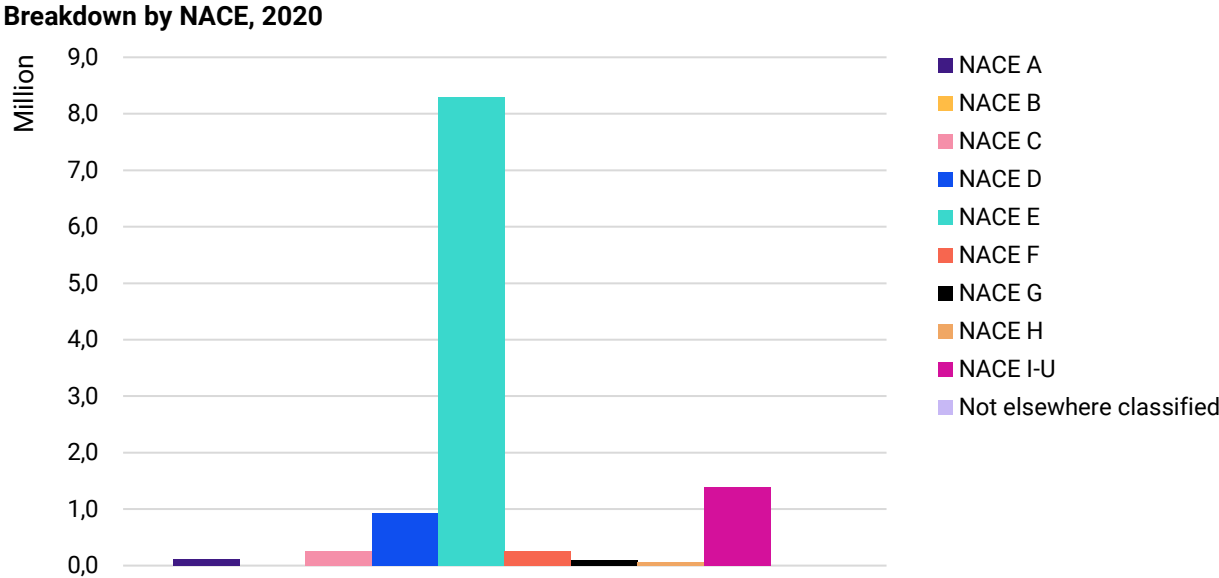


Figure 17. Capital transfers paid by general government, breakdown by NACE, 2020, million euro

4.2 General Government subsidies and similar transfers summarized

General Government (S.13) provided 53 million euros for environmental protection (CEPA) and resource management activities (CReMA) in 2020. Capital transfers made up most of that with 42 million euros and current transfers tallied up to 11 million euros.

Environmental protection activities (CEPA) received 21 million euros and resource management activities (CReMA) received 32 million euros (Figure 18). Management of energy resources (CReMA 13) received the largest amount transfers across all CEPA/CReMA categories with 28 million euros.

Total amount of subsidies and similar transfers paid by General Government, 2020

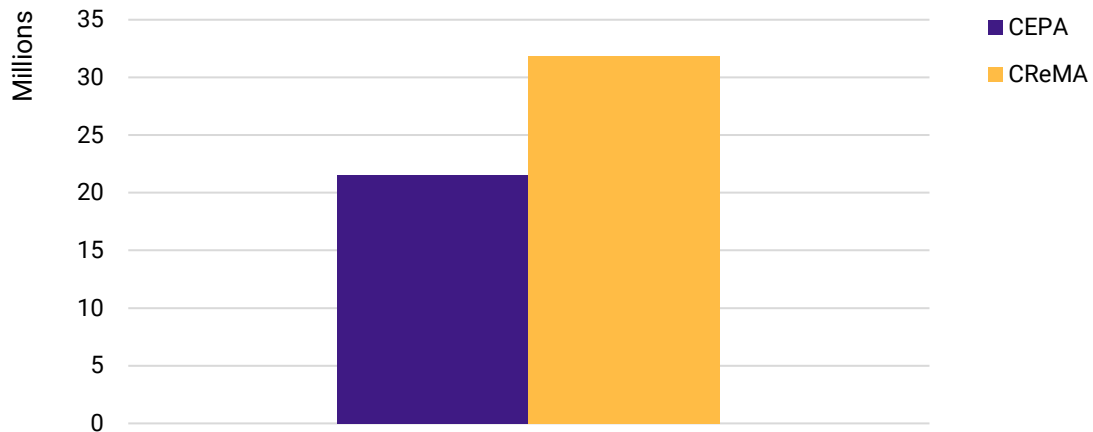


Figure 18. Amount paid by General Government for CEPA/CReMA activities, 2020, million euro

Breakdown by institutional sector shows that most of the transfers paid by general government was to general government (S.13). General government received 30 million of the total 53 million paid by general government. This means it received more than half of the transfers. Corporations (S.11) received 12 million euros and NPISH (S.15) 8 million euros, households (S.14) 3 million. Transfers to RoW (S.2) amounted up to just 14 000 euros (Figure 19).

Breakdown by institutional sectors

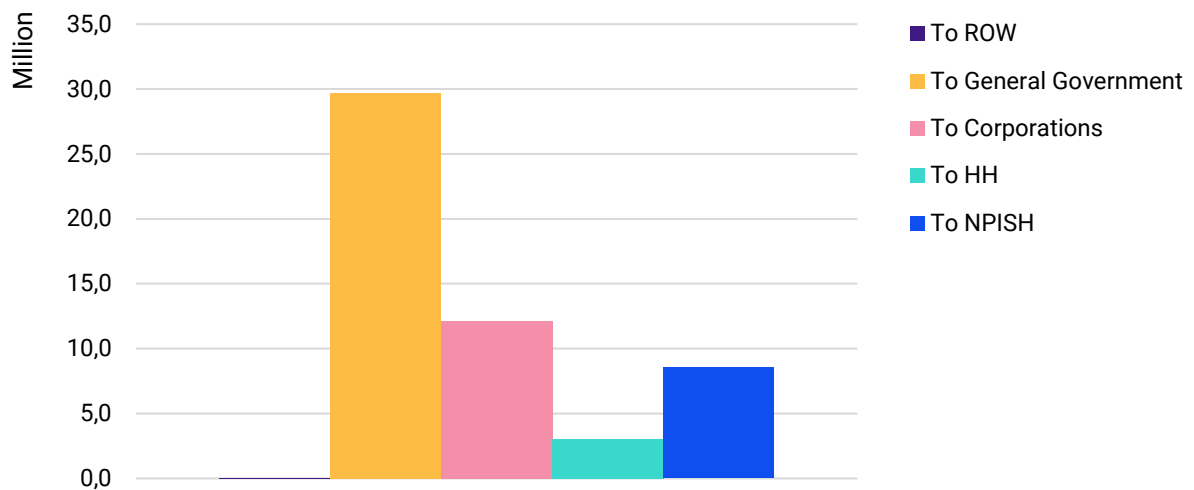


Figure 19. Breakdown by institutional sector, 2020, million euro

Breakdown by NACE reveals very similar sight to capital transfers made by General Government. Water management (NACE E) received 8 million euros of total transfers by General Government. Services (NACE I-U) and energy production (NACE D) combined received 3 million euros and rest of it was distributed between other sectors (Figure 20).

Total transfers paid to corporations, breakdown by NACE, 2020

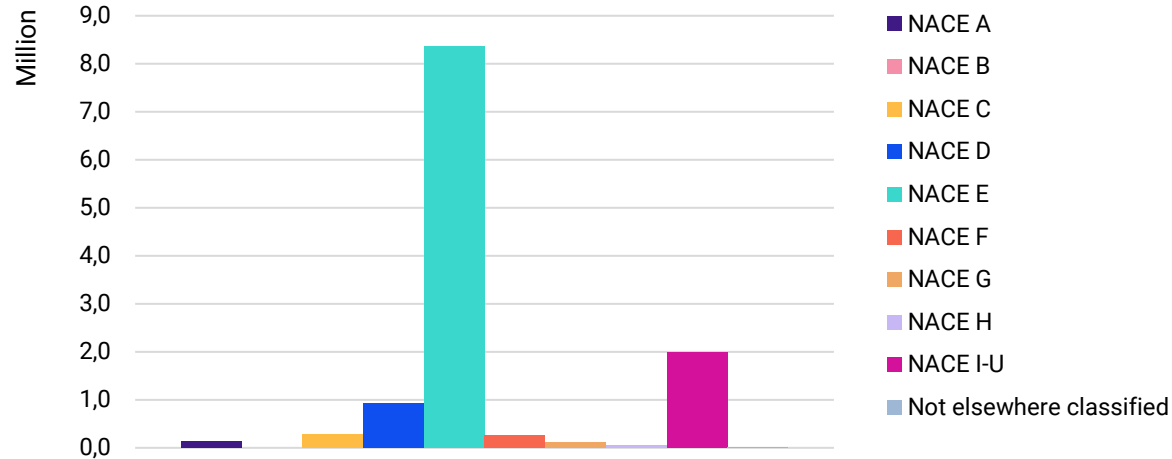


Figure 20. Transfers paid to corporations, breakdown by NACE, 2020, million euro

Environmental tax abatements are not compulsory part of ESST. Nevertheless, the topic of tax abatements was looked in to. A single case of tax abatement was identified for the year 2020, worth of ~2000 euros. SE will keep researching the topic of tax abatements in the future, but right now tax abatements are not an integral part of environmental subsidies and transfers account.

5 Conclusion

The ESST account for Estonia was compiled.

To compile the ESST account for Estonia, several agencies were contacted and data on environmental subsidies and transfers was requested. This allowed the mapping of available databases and to identify individual transfers related to environmental and resource management activities.

It was clear from the start that using Public Sector Financial Statements (PSFS) data from National Accounts was not detailed enough nor did it cover all the RoW transfers.

In general, SE managed map almost all available data sources and transfers related to CEPA/CRema activities.

5.1 Remaining issues regarding compilation of ESST in Estonia

Although SE achieved the goals set in the grant project, there were several problems along the way. Some of the problems need to be addressed in the next phase of development, - next grant project.

5.1.1 EU and General Government co-funding

During the grant project, SE observed that some support measures include both EU and General Government funding. However, SE was unable to identify all such measure and determine exactly how much of the funding originated from EU and General Government. In this grant project, all such transfers were attributed to RoW 100%. This means that the RoW shares are overestimated, and General Government payments are underestimated. This mainly effects the transfers paid by The Agricultural Registers and Information Board (ARIB).

This issue could be fixed in future, as new data has been requested from ARIB with appropriate data.

5.1.2 Transfers from General Government to local government

Not all transfers from General Government to local governments (D.73) were included in this grant project. The issue being that while it was possible to determine the transfers between General Government and local government, it was not possible to identify the transfer flows from local government to final recipient (corporations, households, etc). Although in some cases such data is available from local government website, it is not presented in a way that's suitable for data analysis - e.g., formatted in PDF, html, etc., or missing relevant data fields. It would also require searching through every local government website for such data or contacting all local governments individually. During this project, SE did not manage identify a database, where all local government transfers are gathered.

SE is open to suggestions on how to fill this data gap or how to include such transfers in the ESST account in the next phase of development, - next grant starting in 2023.

5.1.3 Overlap between Public Sector Financial Statements and other databases

Although Public Sector Financial Statements (PSFS) is missing some data on environmental and resource management transfers, there is also the problem of overlap with other databases. In some case it was possible to filter out the transfers occurring in both PSFS and other databases and therefore avoid double counting. However, since PSFS contains consolidated data, it is possible that some transfers are double counted – from PSFS and from some other database.

SE is planning to address this issue in future.

5.1.4 Aligning data between Public Sector Financial Statements and other databases

In addition to potential double counting between PSFS and other databases, aligning data between them proved to be problematic. As mentioned above, PSFS data is consolidated, but also classified using different rules and classification. PSFS does not follow CEPA classification to same detail as environmental accounts do. In theory, National Accounts and ESST follow the same procedures for classifying transfer types. In reality it was clear that this is not always the case. For assigning transaction code, NA do not have and don't use the detailed description of projects to assign the transaction code like Environmental Statistics. This creates the situation, where for example, NA has classified a certain transfer as D.751 in PSFS, but similar transfer, in another database, is classified as D.92 by environmental statistics. This comes down to the fact, that environmental statistics has different or more detailed descriptions available in another database.

It raises the question whether all transfers in ESST account should be classified strictly according to NA rules or follow environmental statistics/ESST guidelines where possible?

Transfers outside of COFOG_05 is another point of discussion. In this grant project, environmental transfers outside of COFOG_05 were not searched for. However, this does not mean that transfers outside of COFOG_05 were completely left out of the current ESST account. As SE was looking for overlaps between PSFS and other databases, it was observed that some transfers outside of COFOG_05 appeared in other datasets as environmental transfers. This means that rest of the COFOG categories in PSFS were not completely ignored and left out of this grant, but also proves that there are transfers related to CEPA/CREMA activities outside of COFOG_05.

As such, should SE try to search and identify environmental transfers outside COFOG_05 in the future or would it be feasible to cover other COFOG categories in PSFS by comparing them to other databases?

In the end it was decided to remove COFOG_05 data from calculations (apart from General Government to RoW transfers). Going through the results and transfers only increased the suspicion that COFOG_05 included the same transfers already covered in other datasets. In the case of Estonia, using PSFS, and especially COFOG_05 data for ESST account should be carefully considered and analyzed further, as it will make a big difference in the final results.

At the moment, SE finds that removing COFOG_05 data from calculations to be the right move. But the consistency with NA is still important and needs to be addressed in a future again.

5.1.5 Assigning institutional sector and NACE

In this grant project institutional sector and NACE were assigned manually to each single transfer by linking the recipient's business registry code with National Accounts data. This created some errors, as typos and other mistakes could happen during the process. This also meant that such errors had to be manually fixed. This is something that could be avoided in the future by creating an automated process for assigning institutional sector and NACE.

The ESST guidelines states that NACE should be applied only to corporations (S.11 + S.12). However, in case of Estonia, it was possible to assign NACE to almost all institutional sectors and this was done in this grant project. This is not so much an issue, rather than observation, that it is possible to include more detail in the final report.

5.2 Further research

Further research continues to develop the ESST account in Estonia. This involves improving the methodology to the potential automatization of certain parts of the ESST account. Cooperation with Statistics Netherlands is set to continue – especially on the topic of automatization and switching to R programming language. Some key points for moving forwards are listed below.

5.2.1 Improving data quality for more accurate results

During this grant project SE was able to identify the problems and data gaps in its data sets. Some of the issues were solved during this grant project, some need to be addressed during the next grant project. The issues are mainly related to the data available from different data holders (e.g., EIC, ARIB, etc.). Each agency has its own database with data sets built to the agency's specific needs. This means that the data SE received has variable degree of detail. For the next grant project, details for the data from different agencies should be more uniform and more detailed where necessary. This will be achieved updating data requests and contracts between SE and data holders.

Transfers from local governments to the end users need to be studied as currently there are flows from local governments are unaccounted for.

When it comes to Public Sector Financial Statements (PSFS) data, cooperation with NA should continue to filter out transfers that can be found in other data sets and improving the methodology to assign transaction codes to transfers outside of PSFS database.

5.2.2 Automatization for collecting and/or adding data to ESST account database

Although a lot of data must be analyzed and worked through manually (such as determining CEPA/CRReMA) for creating ESST database, some parts could be up for automatization. Especially values such as industry sector and NACE classification. Such automatization will save workhours and reduce the number of mistakes in the process. Such automatization could be feasible for determining the transaction code to a certain extent, as the rules for determining the transaction code are described fairly detailed. With a person doing a check-up afterwards to identify transfers that could possibly fit in to another category, this would speed up the process and offer better consistency between ESST and NA.

5.2.3 Creating a uniform database for ESST

This grant project is the first time SE has compiled ESST account. As such, there wasn't a proper database for integrating all the data from stakeholders. Building one, uniform database during the creation of ESST account proved to be a challenge, since new data needs were identified along the way and database had to be modified and brought up to date constantly. For the new grant project, one of the objectives is to build a database to accommodate all the necessary data, based on the experience gained from the current grant project.

ANNEX 1. Milestone meeting 1, summary: meeting with stakeholders, 23.05.2022

Participants: Kaia Oras (Statistics Estonia) ; Grete Luukas (Statistics Estonia) ; Raigo Rükkenberg (Statistics Estonia) ; Eike Lepmets (Ministry of Rural Affairs) ; Reelika Päädam (Ministry of Rural Affairs) ; Marika Ruberg (Ministry of Rural Affairs) ; Helene Eenlo (Ministry of Rural Affairs) ; Mari Lahtmets (Ministry of Finance) ; Cris Tina Turkson (Estonian Environmental Research Centre); Velda Buldas (Ministry of Finance) , Irje Möldre (Ministry of Economic Affairs and Communications) , Kadri Kask (Ministry of Rural Affairs) ; Anu Altermann (Ministry of Finance)

Statistics Estonia (SE) goal: Discuss and determine the possibilities to create datasets for environmental subsidies and similar transfers account.

Introduction: Statistics Estonia (SE) is putting together a database which includes all environmental subsidies and similar transfers. Mr. Raigo Rükkenberg from Statistics Estonia presented preliminary results based on the subsidies and transfers known to Statistics Estonia at present time. Those results included data from the following datasets:

- European Structural and Investment Funds
- Environmental Investment Centre
- KREDEX
- The Agricultural Registers and Information Board
- COFOG

As such, stakeholders were brought up to date with datasets accessible to Statistics Estonia and methodology used to conform the data into single dataset. Representation of environmental subsidies is adequate in the datasets listed above. As for subsidies concerning resource management, Statistics Estonia has a strong belief that there is a large under coverage. As such, the stakeholder participating in the meeting were asked to weigh in how to improve the data coverage and which funds or pillars were possibly unknown to Statistics Estonia.

Discussion: Statistics Estonia expressed its need for regular data collection. The data should be up to date and detailed enough for Statistics Estonia to produce environmental subsidies and similar transfers account.

During the discussion, stakeholders provided some useful information about the funds, pillars and datasets available, but not yet included in Statistics Estonia environmental subsidies account and shared contacts to gather more information or access on such data. Also, the structure of how the subsidies are distributed in Estonia by various institutions was clarified, therefore making it easier to identify possibly missing datasets and subsidies. Statistics Estonia also clarified how stakeholders would categorize certain subsidies and transfers in relation to CEPA/CREMA. However, final decision on how to assign CEPA/CREMA category, would be made by Statistics Estonia following Eurostat guidelines.

A possibility of a joint database, where environmental subsidies and similar transfers were to be collected, was discussed. The issue of who should own and manage it remains an issue and creating such database is not feasible in near future. In principle, the stakeholders agreed, that such database could be useful for gathering and analyzing data, especially for policy makers.

Further discussions will be held with stakeholders bilaterally and according to need.

Questions:

- Ministry of Finance (MoF): how do you solve the issue of overlapping data between different datasets?

Statistics Estonia (SE): We compare different datasets against each other to determine overlapping. We will keep the record in the database which is more detailed and remove the record from the other dataset(s). We are open to better solutions as such methodology requires comparing all datasets against each other and checking each entry.

- MoF: So you plan to separate foreign funds and government funds?

SE: Yes, we will separate rest of the world and general government payments.

- MoF: Do you plan on including Recovery and Resilience Facility (RRF) data?

SE: We are not familiar with it. Please forward use more information on it.

- MoF: Are you aware of subsidies provided by local governments and municipalities?

SE: Yes. However, we have not identified subsidies to our interest due to lack of detailed information. Please forward us more detailed information or a contact on this matter.

- MoF: Do you plan on including financial instruments with beneficial environmental effect?

SE: Subsidies, capital and other similar transfers and tax abatements are in our scope. Please specify which foundation/instrument applies measures of beneficial environmental effect.

- MoF: Do you not include tax measures?

SE: Environmental tax abatements are in our scope. According to you and other ministries there are no tax abatements related to environment or resource management. According to Ministry of Environment there was a single case of tax abatement in 2020.

- MoF: Are the transfers including deposit on packaging considered for this this account?

SE: No. Deposit on packaging is not a subsidy for environmental product or service.

- MoF: For the European Structural and Investment Funds, do you include both EU and government co-finance?

SE: Yes. But we will separate foreign and government stake.

ANNEX 2. Milestone meeting 2, summary: meeting with stakeholders, 25.05.2023

Participants: Raigo Rükkenberg (Statistics Estonia), Kaia Oras (Statistics Estonia), Grete Luukas (Statistics Estonia), Evelin Ahermaa (Statistics Estonia), Taavi Dubinin (Statistics Estonia), Kerli Ojakivi (Ministry of the Environment), Kristi Loit (Ministry of the Environment), Liis Kilk (Ministry of Economic Affairs and Communications), Kristjan Lepp (Ministry of Economic Affairs and Communications), Marika Ruberg (Ministry of Rural Affairs), Helene Eenlo (Ministry of Rural Affairs), Velda Buldas (Ministry of Finance)

Statistics Estonia goal: presenting the results and methodology of grant project “Subsidies and similar transfers in Estonia”.

Introduction: Statistics Estonia has compiled a report on subsidies and similar transfers (ESST) in Estonia for the year 2020. Raigo Rükkenberg, Kaia Oras and Grete Luukas from Statistics Estonia gave a presentation on the topic ESST and answered questions and comments from stakeholders. The discussed topics were:

- Introduction to environmental monetary accounts and ESST role
- Proposed changes to regulation (EU) No 691/2011 and ESST mandatory data transmission to Eurostat from the year 2025
- Introduction to ESST grant project and its aims
- Data sources and methodology for compiling ESST account
- Problems related to compilation of ESST account
- Results
- Future activities and further methodological developments regarding ESST account

Presentation: During the presentation aforementioned topics were covered in more detail. Stakeholders were made aware of proposed changes to regulation (EU) No 691/2011 which make ESST data submission mandatory starting from year 2025 (for reference year 2023).

About the current grant project, the aim, groundwork, methodology, problems, results, and future activities were described.

The current grant project is the first time ESST account has been compiled in Estonia. As such methodologies from other countries had to be studied along with guidelines from Eurostat (ESA 2010, ESST handbook, etc). It was important to identify and get in touch with data holders, as Public Sector Financial Statements (PSFS) is not detailed enough for compilation of ESST account, nor does it contain enough data about Rest of the World transfers. Data from Environmental Investment Center (EIC), The State Shared Service Center (SSSC), The Agricultural Registers and Information Board (ARIB) and Estonian Business and Innovation Agency (EBIA) was used instead to compile a central database for subsidies and similar transfers in Estonia. Data diversity in terms of quality and formatting was one of the main problems when creating such central database. Another problem was to assign certain environmental protection/resource management activity (CEPA/CRReMA) category to transfers since the descriptions were vague or missing but also containing too many activities. Such transfers were not included in ESST calculations. Distinguishing General Government and Rest of the World transfers proved to be problematic at times as well. In such case all the funds were marked as flows from Rest

of the World and therefore presenting over coverage of funds originating from RoW. This problem should be solved in the future as new contracts with data holders are being arranged.

Assigning the receivers institutional sector, economic activity and transaction code was done according to SE guidelines and in cooperation with National Accounts.

From the results, it was clear that most of the subsidies and transfers originated from Rest of the World (361 mln € compared to 53 mln € from General Government). 85% of the subsidies originated from RoW and 15% from General Government. Funds were divided fairly equally between CEPA/CRema activities, with 54% (193 mln €) of the funds going towards environmental protection activities and 46% (168 mln €) to resource management activities. Protection and remediation of soil and water received the most funding with ~110 mln €, almost all of it was for organic farming. Heat/energy saving and management received ~80 mln €.

Most of the subsidies and other similar transfers were received by corporations (~210 mln €), with general government, households and NPISH sharing the rest of 150 mln € between them.

Transfers classified as other current transfers (D.7) made up ~130 mln €, other capital transfers (D.9) ~90 mln € and subsidies (D.3) ~55 mln €.

General Government provided 53 mln € for CEPA/CRema activities with ~21 mln € going towards CEPA activities and ~31 mln € for CRema activities. Activities for heat/energy saving and management was the priority for general government, with total of ~28 mln € invested in such activities.

Tax abatements in Estonia were studied during this grant project, but only single transaction worth of ~2000€ was identified. It was for a wastewater processing company. As reporting tax abatements is not compulsory part of ESST nor was the single case of tax abatement a significant part of total transactions, it was left out of ESST calculations.

For the future, cooperation with local stakeholders and foreign experts continues to improve data quality, methodology and solve the issues regarding ESST account. Cooperation between environmental statistics and National Accounts should be tighter in the future to improve the consistency with National Accounts. Identifying tax abatements will continue in the future, even if it does not make a big contribution towards ESST account.

ANNEX 3. Netherlands study visit 3.11.2022

Participants:

On the third day of the study visit the main subjects were subsidies and similar transfer account (ESST), EPEA and EGSS.

ESST

Raigo gave an overview of subsidies flowchart in Estonia – current situation and desired workflow. The biggest problem for Estonia is to get access to source database that is currently on pause due to juristic problems.

Sjoerd and Marieke introduced how the subsidies and similar transfer account is compiled in the Statistics Netherlands. By the end of this year, they will compile grant project report that describes how COFOG data for ESST and how data on subsidies and tax abatements from Netherlands Enterprise Agency are used.

In 2023 Statistics Netherlands will work on next grant project which aim is to analyze database of local governments subsidies and transfers, data on EU subsidies and how to develop new production system in R for compiling ESST.

Statistics Netherlands mainly uses two large data sources for ESST: COFOG statistics and RvO Netherlands Enterprise Agency. Major part of subsidies is done by the government and smaller part comes from the rest of the world

To distinguish environmental and resource efficient subsidies and transfers in COFOG statistics they identify each year (using budget analysis):

- Which expenditures are environmentally related?
- To what extent? If COFOG 5 -> 100%. COFOG 1, 4, 6, ... may be lower %
- Which environmental domains (breakdown to CEPA/CREMa)
- Are these expenditures also environmental subsidies/ transfers?

Currently RvO sends summary of data on subsidies and tax abatements which are already broken down to NACE. In the future:

- Access to RvO data at business unit level, and individuals
- More other subsidies/programs (ISDE, IKC-ETS)
- Own assessment of the basis data instead of assessment by RvO
- Potential improvement in break down to NACE -> link to CBS data ABR/BDK

Statistics Estonia asked further questions how to distinguish CREMA and CEPA categories from COFOG categories. It was explained that CEPA categories are mainly in COFOG 05 but little part comes also from other COFOG categories. CREMA categories are mainly found in COFOG 04 but also in other categories. Sjoerd will send the overview how COFOG categories are distributed to CEPA and CREMA.

Tax abatements are important in the Netherlands. Sjoerd sends the list of tax abatements they had identified in the Netherlands to Statistics Estonia to get more possible ideas where to identify those in Estonia as these seem to be very marginal. Tax abatements in the Netherlands are mainly related to investments – if enterprise makes favorable environmental investment, it reduces its taxes.