

**14th Meeting of the London Group on
Environmental Accounting
Canberra, 27 – 30 April 2009**

SEEA transfers related to the environment

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Revision of SEEA 2003:

Draft outcome paper: SEEA transfers related to the environment. Part 1.

– Document to the London Group meeting in spring 2009

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We would like to thank the participants at the UNEP workshop on subsidies and the reflection group at Eurostat for discussions and input.

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1 Introduction

This paper has the purpose to suggest a SEEA definition for environmentally related transfers that will both be aligned with the SNA and still cover the environmental economic aspects that are of interest for the SEEA. The main questions to be answered in this paper are what items seen as subsidies are to be included and how to define certain aspects of 'related to environment'. We will start on the environmentally motivated transfers in the Part 1 paper.

This outcome paper presents environmentally related transfers (subsidies), which are mentioned in chapter 5 *Accounting for economic activities and products related to the environment* and chapter 6 *Accounting for other environmental related transactions* of the SEEA 2003. Transfers are mentioned mainly in chapters 5 and 6 of the SEEA 2003 (such as in chapter 5.54 on forest management, chapter 5 in relation to environmental protection expenditure accounts, chapter 6 in a fiscal type of accounts (§6.33) and in relation to income/capital accounts in section E of chapter 6). It would be good to discuss these issues in one chapter in the coming standard.

An earlier issue paper has discussed some definitions that can be used when revising these chapters, and related country experiences. Since that issue paper was discussed at the London Group meeting in Brussels, a Eurostat reflection group has been formed where several issues have been further investigated. A Task Force is now foreseen where the methods will be tested. The work on finalizing methods for the potentially environmentally damaging transfer will be continued in the Task Force but will not be dealt with in this outcome paper. It is our intention to continue the work and hopefully to be able to bring also that part to an outcome paper, part 2.

The need for providing an internationally comparable data set, regardless if it is transfers that are environmentally motivated (EM) or potentially environmentally damaging (PED), is very apparent. There is a further need to standardize definitions that can open up for a statistical approach, leading to time series that are comparable between nations. In particular, it is important to be clear on what type of transfers that can be identified within the SNA and the SEEA system.

This issue may also include the suggestions for terminology that can ease the use of accounts data. To use the term environmentally related transfer (instead of subsidy), as has been suggested for the SEEA standard, will probably need to be tested in practical work, to see if it possible to communicate with the users. In this paper they will be called SEEA transfers for short.

2. State of the art

2.1 Current definitions on subsidies

2.1.1 OECD, WTO and UNEP definitions

The OECD and WTO are examples of institutions that study subsidies, and have suggested their own definitions. The expertise and knowledge of these institutions is of great value for understanding the issue and what types of analyses are conducted. These user needs should preferably be translated to a plan of data requirements for data providers to try and match. None of these organisations have regular collections of data series that can be used for new studies in the area. It is not always easy to understand the differences between the different definitions, and how it translates into different data sets. Still, we will mention some of them here, to get a flavour of what is intended to be covered by the term.

From the OECD a subsidy is defined as *'any measure that keeps prices for consumers below market levels, or for producers above market levels, or that reduces costs for consumers and producers'* (OECD, 1998).

The World Trade Organisation definition of subsidies contains three basic elements (WTO, 1994):

- a financial contribution, including direct transfers of funds (e.g. grants, loans, and equity infusion) and potential direct transfers of funds or liabilities (e.g. loan guarantees). A financial contribution also exists where government revenue that is otherwise due is forgone or not collected (e.g. fiscal incentives such as tax credits); where a government provides goods or services other than general infrastructure, or purchases goods; or where a government entrusts or directs a private body to carry out these functions;
- the financial contribution must be made by a government or any public body, including sub-national governments and public bodies such as State-owned companies;
- it must confer a benefit.

To be more concrete about what are the main cash flows that are of interest, we turn to the literature that has measured environmental subsidies, with energy as the main focus. In *Energy subsidies* (UNEP, 2004) the following transfers or mechanisms are considered: Direct transfers to producers and households, public R&D, preferential tax treatments, price controls and loans. Other mechanisms mentioned are trade restrictions and infrastructure.

The SNA can be expected to cover the direct transfers to industries, to public authorities and to households. However, only the transfers to industry would be labelled subsidies in the SNA. The SEEA thus need to extend to encompass also public authorities and households in the SEEA transfers definition.

The preferential tax treatments, at least for fuels, can be visualised with data from the SEEA, by comparing how different products or emissions are taxed. The other mechanisms, trade restrictions and loans and insurance guarantees, will not be covered in this paper.

In the SNA 93¹ subsidies are included in the primary distribution of income accounts (chapter 7, section D3). The income account consists of two accounts: the generation of income account and the allocation of primary income account. The primary allocation of income account show how primary incomes are distributed among institutional units and sectors. This account includes compensation of employees, taxes on production and on imports, subsidies, operating surplus or mixed income, and property income.

The meaning of a subsidy in the SNA is very specific, as defined below. In order to get closer to what the users of environmentally related subsidy data would want, it will therefore be necessary to create a SEEA-transfer combining this information with other parts of the SNA, notably with capital transfers and transfers to households.

2.1.2 SNA definition

When it comes to defining what a **subsidy** is, the SNA1993 states in section D.3:

*§7.71 Subsidies are current unrequited payments that government units, including non-resident government units, make **to enterprises** on the basis of the levels of their production activities or the quantities or values of the goods or services which they produce, sell or import. They are receivable by resident producers or importers. In the case of resident producers they may be designed to influence their levels of production, the prices at which their outputs are sold or the remuneration of the institutional units engaged in production.*

*§7.72. Subsidies are not payable to final consumers, and **current transfers that governments make directly to households as consumers are treated as social benefits**. Subsidies also **do not include grants** that governments may make to enterprises in order to finance their capital*

¹ <http://unstats.un.org/unsd/sna1993/toclev8.asp?L1=7&L2=4>

formation, or compensate them for damage to their capital assets, such grants being treated as capital transfers

(...)

§7.78 *Other subsidies on products.*

Other subsidies on products consist of subsidies on goods or services produced as the outputs of resident enterprises that become payable as a result of the production, sale, transfer, leasing or delivery of those goods or services, or as a result of their use for own consumption or own capital formation. The most common types are the following:

(a) *Subsidies on products used domestically: these consist of subsidies payable to resident enterprises in respect of their outputs which are used or consumed within the economic territory;*

(b) ***Losses of government trading organizations:*** *these consist of the losses incurred by government trading organizations whose function is to buy and sell the products of resident enterprises. When such organizations incur losses as a matter of deliberate government economic or social policy by selling at lower prices than those at which they purchased the goods, **the difference between the purchase and the selling prices should be treated as a subsidy.** Entries to the inventories of goods held by such organizations are valued at the purchasers' prices paid by the trading organizations and the subsidies recorded at the time the goods are sold;*

(c) *Subsidies to public corporations and quasi-corporations: these consist of regular transfers paid to public corporations and quasi-corporations which are intended to compensate for persistent losses - i.e., negative operating surpluses - which they incur on their productive activities as a result of charging prices which are lower than their average costs of production as a matter of deliberate government economic and social policy. In order to calculate the basic prices of the outputs of such enterprises, it will usually be necessary to assume a uniform ad valorem implicit rate of subsidy on those outputs determined by the size of the subsidy as a percentage of the value of sales plus subsidy.*

The definition in §7.72, stating that ‘current transfers that governments make directly to households as consumers are treated as social benefits’, may not be helpful for the users of the SEEA. See chapter on suggested methods below, where this is suggested to be included.

The SEEA 2003 refers to the definition of System of National Accounts 1993 (SNA) subsidies on production. The SEEA presents environmental protection expenditure accounts (EPEA) type environmental² subsidies in the income/capital accounts: Table 6.3 in SEEA, divided into Environmental subsidies and Non-environmental subsidies (the rest).

SERIEE gives guidance on the motive being the selection criteria (Eurostat, 2007, page 83, specific transfers). The so-called Joint questionnaire, a biennial survey from OECD/Eurostat is adapted to this definition.

(...)

§7.79b *Other subsidies on production:*

Subsidies to reduce pollution: these consist of subsidies intended to cover some or all of the costs of additional processing undertaken to reduce or eliminate the discharge of pollutants into the environment.

² Environmental subsidy is equivalent to what we term environmentally motivated subsidy

2.2 Capital transfers

In discussions with the broader public, that is, with researchers and national or international agencies, the terminologies for subsidies are not within the limits of the SNA-definition for subsidies. Often, investment grants are included, which in the SNA are placed elsewhere in the system compared with subsidies.

Investment grants are included in the capital account (chapter 10) of the SNA, that is, the accumulation accounts and balance sheets. These form a group of accounts that are concerned with the values of the assets owned by institutional units or sectors, and their liabilities §10.1. The capital account includes gross capital formation, consumption of fixed capital and capital transfers (in which investment grants are included).

Investment grants D.92 §10.137

Investment grants consist of capital transfers in cash or in kind made by governments to other resident or non-resident institutional units to finance all or part of the costs of their acquiring fixed assets. The recipients are obliged to use investment grants received in cash for purposes of gross fixed capital formation, and the grants are often tied to specific investment projects, such as large construction projects. If the investment project continues over a long period of time, an investment grant in cash may be paid in instalments. Payments of instalments continue to be classified as capital transfers even though they may be recorded in a succession of different accounting periods.

To conclude, the state of the art points to a need for SEEA users to complement the SNA-subsidy definition with several other items in the SNA.

2.3 Preferential tax rates

In some countries, for reasons such as preventing fuel poverty, the tax rates can be lower for fossil fuels than other products. In the SNA, differentiated tax rates are used as a part of the calculations of the GDP. However, the differing tax treatments are not explicitly shown as results from the national accounts. Preferential tax treatments can be used both as part of environmental policy, such as tax reductions for bio fuels, or for other purposes such as tax/VAT reductions of fossil fuels for social reasons.

The tax exemptions are not explicitly mentioned in SEEA 2003. Instead, they are shown as the visual difference, as percentages of the country total, e.g. between the energy taxation by industry and their use of energy (SEEA 2003 page 479).

3. Suggested methods

3.1 SEEA transfers (subsidies)

The starting point is to add on more items from the SNA to form the SEEA transfers. By adding several variables of the SNA that are related to the environment a better overview is given to government activities. The suggestion includes more transfers than the ordinary subsidy definition of the SNA. This is due to the fact that also current transfers to households, to non-profit organisations in the local and government owned sector, to municipalities/county councils and to international receivers are of interest for the analysts of environmentally related subsidies, as well as all capital transfers given to for example government-owned enterprises, municipal and private companies, households and

international receivers. None of which, in its entity, are included in the SNA definition of a subsidy today.

The transactions that are visible in the accounting framework and in government budgets are termed “on-budget”. In the table below, we outline the accounting identities that are planned to be part of the SEEA transfers.

A. The on-budget SEEA transfers are formed by adding the SNA-subsidies, the current transfers, not included in the SNA-subsidy (for example to municipalities and to households), and to also include the capital transfers. Both on-budget and off-budget items are of interest to cover.

Discussion: In order to capture the more general scope of subsidies that users are discussing, like e.g. the OECD definition ‘any measure that keeps prices for consumers below market level’, the transfers to households, municipalities and international receivers must also be considered. The off-budget items are specifically mentioned in the WTO definition: ‘A financial contribution also exists where government revenue that is otherwise due is forgone or not collected’.

The definitions that constitute what part of ordinary transactions that are related to environment can be constructed in several ways. Two main points of departure are to understand what is done in order to promote environmental activities (the active decisions to use subsidies as environmental policy instruments) and what is being done to promote other goals but that has non-wanted environmentally damaging consequences (like subsidising mining of coal or purchases of fossil fuels). A third category will be the transfers that are neither environmentally motivated, nor given to environmentally intensive activities.

This means finding reference values for what activities are regarded as better, worse or neutral (or at least less easy to distinguish along these lines).

Transfers can be categorised in several ways. In relation to environment-economic assessments there are environmentally related transfers and general transfers.

We will divide the transfers into two categories; on-budget and off-budget (), where on-budget, environmentally motivated are those that are of main concern in this paper. For the transfers recorded on-budget there is further subdivision in current transfers and capital transfers (investments). These are assumed to be part of the SEEA standard. See Table 1 for the on-budget subsidies. For the off-budget transfers there are two categories; the preferential tax treatments and an external cost reference value estimate. These are assumed to be part of Volume two of the SEEA.

The external costs are not suggested to be part of official statistics or thought to be included in the standard. However, for the sake of clarity, we maintain this category in the discussion here. It will make it possible to discuss what type of official data that the users can obtain to make such estimates. A step-wise approach is recommended whereby countries interested in these types of assessment test the modules suggested here. These activities are taking place parallel to the process of writing the SEEA standard, with the help of interested people in the coming Task Force and in the reflection group that Eurostat has created³.

³ Eurostat created in 2008-2009 a reflection group on subsidies to assist Eurostat in planning the future work in this area. The project description and report is available on circa:
http://circa.europa.eu/Public/irc/dsis/pip/library?l=/environmental_expenditur/environmental_statitisti&vm=detailed&sb=Title

Table 1. Main on-budget categories of environmentally related SEEA transfers.

1. Current transfers to industry, households, organisations and non-profit organisations, municipalities and international receivers.
•Environmentally motivated (EM)
•Potentially environmentally damaging (PED)
2. Capital transfers to industry, households, organisations and non-profit organisations, municipalities and international receivers.
•Environmentally motivated (EM)
•Potentially environmentally damaging (PED)

The environmentally related transfers are divided into environmentally motivated (EM) transfers and potentially environmentally damaging (PED) transfers. Here we consider the direct “on- budget” transfers which are environmentally motivated. They are called on-budget, as they are recorded in the national accounts and in the state budget.

Indirect transfers, so called off-budget transfers, such as preferential tax treatments will not be discussed in this paper. These transfers are not directly shown in the national accounts, and have to be calculated.

B. Environmentally related transfers are suggested to be divided into two groups

Discussion: The revised SEEA needs to address transfers that are environmentally related at large, both the environmentally motivated and those which are motivated by other criteria but have a potentially environmentally damaging character.

B1. It is proposed that the environmentally related transfers are divided into two groups: The environmentally motivated transfers and the potentially environmentally damaging transfers.

3.2 Environmentally motivated transfers

C. Selection criteria for SEEA-transfers is suggested to be the motive

Discussion: A subsidy given by a government to a receiver is clearly defined. Depending on the selection criteria to single out the environment part of the identification the results can differ. §7.79 identify subsidies *undertaken* to reduce or eliminate the discharge. From this paragraph it can be deducted that it was the *motive behind* the subsidy that was of importance when allocating the expenditure to the accounting framework and not the *results* of the actions.

C1. It is proposed that it is the motive behind the transfer that is taken as the primary criteria for the inclusion of a transfer as an environmental economic policy instrument. As a second step subsidies with a less clear environmental motive can be examined and included in the total environmentally motivated transfers, following a clear guidance.

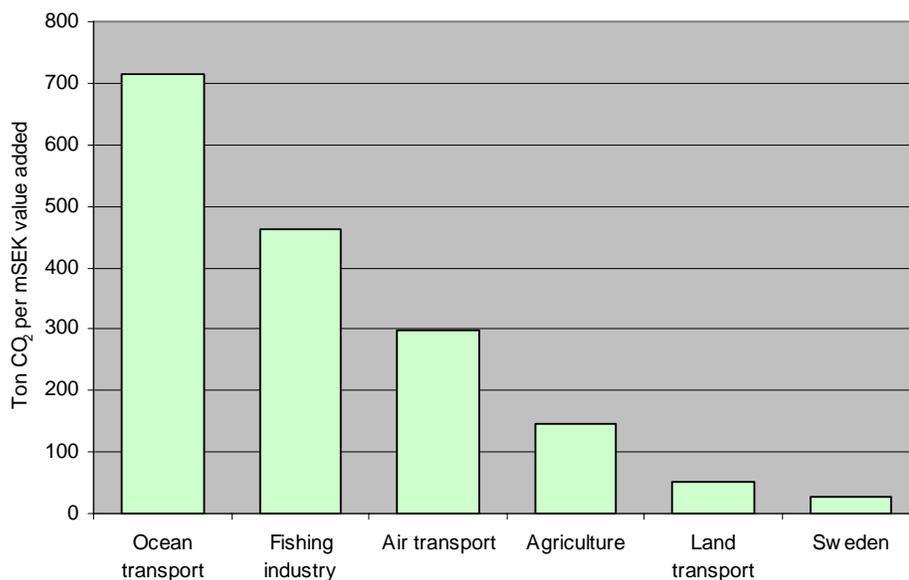
3.3 Potentially environmentally damaging SEEA-transfers

There is a demand for a follow up of the amount of potentially damaging transfers. These economic instruments are designed for other motives, but as an indirect effect they change the

incitements for environmentally intensive activities. The criteria for potentially environmentally damaging SEEA transfers need to be set. We will propose criteria for assessing this in an objective way. The method is similar to what was tested in a study of the environmentally related transfers from the Swedish state budget.

In the study, the transfers in the budget were divided according to which industries were receiving them. Then, the emission intensity (CO₂/value added) for the industries in question was compared to the mean intensity for Sweden⁴. For those industries that had emission intensities above the mean, the transfers were analysed in more detail. The industries in question were e.g. agriculture and transport (Figure 1). If the transfers were directed to activities that could be seen to increase the activity in the industry (and thus the emissions), it was labelled potentially environmentally damaging.

Figure 1. Emission intensive industries above the Swedish mean. MIR2008:1



In countries where price controls of certain products are used, it is suggested that the transfers to the authority or organisation that pay the resulting difference should also be regarded as a potentially environmentally damaging transfers, particularly if the product is a fuel.

It is suggested that the same list that defines the tax bases for environmental taxes (Table 2) is used and be included on-budget. Here, the first analysis would thus be to find the yearly lump sum paid out to control the price for a fuel. Further analysis of SEEA data could make it possible to assess how that transfer is distributed over the industry, public authorities and households.

⁴ Denmark suggests that emission/production value could be a better choice. This could be tested in Task Force work. For the result of the study, this would not change the types of transfers included.

Table 2. Tax bases included in the environmental tax statistics framework (Eurostat 2001)

Measured or estimated emissions to air

- Measured or estimated NO_x emissions
- SO₂ content of fossil fuels
- Other measured or estimated emissions to air

Ozone depleting substances (e.g. CFC or halon)

Measured or estimated effluents to water

- Measured or estimated effluents of oxydizeable matters (BOD, COD)
- Other measured or estimated effluents to water
- Effluent collection and treatment, fixed annual taxes

Certain non-point sources of water pollution

- Pesticides (Based on e.g. chemical content, price or volume)
- Artificial fertilisers (Based e.g. on phosphorus or nitrogen content or price)
- Manure

Waste management

- Waste management in general (e.g. collection or treatment taxes)
- Waste management, individual products (e.g. packaging, beverage containers)

Noise (e.g. aircraft take-off and landings)

Energy products

- Energy products used for transport purposes
 - Unleaded petrol
 - Leaded petrol
 - Diesel
 - Other energy products for transport purposes (e.g. LPG or natural gas)
- Energy products used for stationary purposes
 - Light fuel oil
 - Heavy fuel oil
 - Natural gas
 - Coal
 - Coke
 - Biofuels
 - Other fuels for stationary use
 - Electricity consumption
 - Electricity production
 - District heat consumption
 - District heat production

Transport

- Motor vehicles, one-off import or sales taxes
- Registration or use of motor vehicles, recurrent (e.g. yearly) taxes

Resources

- Water abstraction
- Extraction of raw materials (except oil and gas)
- Other resources (e.g. forests)

D. Selection criteria for Potentially Environmentally Damaging SEEA-transfers is suggested to be the list on tax bases from the environmental tax area, combined with an intensity criteria for different industry support.

Discussion: The selection criteria need to be established for selecting appropriate items of transfers. It is necessary to identify criteria for what is to be considered as potentially environmentally damaging. In order to make international reporting possible the criteria need to be based on a limited amount of data.

D1. It is proposed that the emission intensity of an industry, as compared to the country mean, or to a region mean, is used to single out what transfers should be regarded as PED as a first step. When the state supports products or services through the transfers to another receiver (through an authority or direct), the same list that defines what is regarded as an environmental tax is suggested to be used.

4. Points for discussion

The major shortcoming today is the lack of internationally comparable and available data on the transfers that are driving forces for the environmental problems. The issue on subsidies is a topic that is discussed in many international organisations. The lack of common definitions and information hampers negotiations and analyses in the field. This is an area where the SEEA is particularly well suited to bring forward some reliable definitions and comparable data.

As environmental pressure can be expressed in many ways, we are faced with the dilemma to find criteria that can be used in many countries and so will not be very data-demanding, but that will allow coverage of the sectors that are of most concern. A step-wise approach is recommended. If CO₂ can be the first criteria used, then gradually other criteria such as land use or use of chemicals could be included as the data become available.

In the preparation of this paper, the wish to set the definitions on the grounds of a full *impact analysis* has been raised. However, such analysis will need valuations that are likely to be difficult for statistical bureaus to use as parts of official statistics. Instead, the suggestions here will be based on more pragmatic solutions, using the data at hand in the SEEA as well as the written material from the budget process.

The principal selection criteria for finding the environmental economic policy transfer have been the motive of the government as main stated driver for a transfer. Thus, transfer to farmers for keeping meadows with production practices that maintain biodiversity, is an example of such transfers. Other can be government expenditure for R&D that is allocated for wind power.

As many subsidies have more than one purpose, and often used to support a region or an activity in general terms, this can seem like a difficult criteria to use. Mentioning environment as one motive out of several, where regional development and increased wealth are being motives, as is frequent in motivations for new roads, is not seen as a strong enough motivation. Also, in several countries transfers to biofuels can be seen as motivated as a substitute for fossil fuels, but as a potentially environmentally damaging transfer if the rainforest is being cut down as a consequence. What the aim is here, is to make it possible to show how transfers are used as economic steering instruments in the environmental policy. The term environmentally motivated is thus not to be mistaken for “environmentally beneficial”. Thus, it is possible for the users to argue for more optimal subsidy schemes or other more suiting economic instruments, based on separate assessments.

Subsidies/transfers are common economic instruments, and to discuss them only in terms of being damaging in general is probably not going to help the collection of data. By presenting different transfers in some groups helps the non-specialists to get a grasp of the situation and makes international comparison easier. *The motivation itself is not an assessment of the impact, but a statement of the reported intention of the state.* A transfer could potentially be labelled both as environmentally motivated and as a potentially environmentally damaging subsidy. The categories are not mutually exclusive. The effect of double classification will also need to be tested in the coming Task force.

The users can take the resulting transfers and make the impact analysis with environmental pressure data from the SEEA or from other statistics, e.g. social statistics. Based on their valuations and assumptions there will then be possibilities to assess the usefulness of the transfers at hand.

We have also learned from the discussions in preparing this paper that the users need to have a transparency in the reporting of the transfers. Thus, the table suggested at the end of this paper is aimed at summarising the outcome and boundaries of the SEEA transfers. For the users, it will be important to be able to have underlying information on what items used in the preparation of the tables.

Another strong recommendation from the user community is to be clear in the communication that the on-budget transfers are not the total amount of transfers in a country, but that the off-budget part is often at the same size or larger.

As is shown above, the SNA covers many of the mechanisms that are of interest. With the extra data available in the SEEA, some of the indirect transfers can also be assessed. As a new and possible interesting feature in the environmentally related subsidy discussion, the separation between current transfers and capital transfers can also be made.

A. The on-budget SEEA transfers are formed by adding the SNA-subsidies, the current transfers, not included in the SNA-subsidy (for example to municipalities and to households), and to also include the capital transfers. Both on-budget and off-budget items are of interest to cover.

B. Environmentally related transfers are suggested to be divided into two groups

C. Selection criteria for environmental policy SEEA-transfers is suggested to be the primary motive, as a first step

D. Selection criteria for Potentially Environmentally Damaging SEEA-transfers is suggested to be the list on tax bases from the environmental tax area, combined with an intensity criteria for different industry support. To be tested in coming Task Force

E. Preferential tax treatments are calculated and reported separately as off-budget SEEA transfers. To be tested in coming Task Force.

Discussion: Preferential tax treatments are an important off-budget support to economic activities. The SEEA has possibilities to combine the information on taxes with the information on resource use and emissions, and thus to create information about these economic instruments in a harmonised way. This item need to be tested in international studies, and so is suggested to be part of Volume 2 of the SEEA.

Figure 3. Tentative table for SEEA on-budget transfer reporting

Suggested table for SEEA transfer reporting, in monetary units. Example of nace/istic groups

NACE and final demand categories	Agriculture, fishing, forestry	Industry	Energy	Transport	Public expenditure	Private consumption
A. On-budget						
Current transfers						
-EM						
-PED						
-G						
Capital transfers						
-EM						
-PED						
-G						
Total EM SEEA transfers						
Total PED SEEA transfers						
Total G SEEA transfers						

EM: Environmentally motivated, PED: Potentially environmentally damaging, G: General: Other transfers, nor EM nor PED.

Current transfers: Subsidies (D.3), other transfers and Social transfers in kind Ch 8 §D.63 §899.

Current transfers consist of all transfers that are not transfers of capital; they directly affect the level of disposable income and should influence the consumption of goods or services.

Capital transfers: Investment grants

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