



Material Flow Monitor 2016 - technical report

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1. Introduction

1.1 Background

In recent years, there has been more focus on the Circular Economy (CE) in policies and society. The aim of the Government-wide programme for a Circular Economy is to use half of the abiotic raw materials that we currently use in 2030. In 2050, the aim is to have a fully Circular Economy, meaning that there is zero waste and all materials are reused. To monitor the transition to a Circular Economy, the Material Flow Monitor (MFM) can be used. The MFM is a macro-economic database of all material flows within the economy, imports and exports and flows between the economy and the environment. The MFM has been financed by the Ministry of Economic Affairs and Climate Policy for the years 2008, 2010, 2012 and 2014. This report shows the methodology used for the 2016 version, also commissioned by the Ministry of Economic Affairs and Climate Policy. This is the first MFM that is compiled after the 2015 revision of the national accounts and energy accounts. This way, MFM figures are perfectly comparable and complementary to the most recent economic statistics such as the gross domestic product (GDP) and its components. However, this makes comparison between MFM 2016 and MFMs of previous years difficult. To cope with this, it is planned to revise MFM 2014 to make comparison possible. At the end of 2019 a report will be published that discusses developments of CE indicators between 2014 and 2016. The MFM plays a central role in measuring efficient raw material use, environmental effect of material use and many other indicators to monitor the transition to a circular economy.

This report focuses on the methodology of compiling MFM 2016. This includes the conversion of the monetary supply and use tables to tables with physical units, adding and replacing source data and balancing of the supply and use. The results of MFM 2016 are shown in an aggregated table and a Sankey diagram. The conclusions of this project are given and the future plans of compiling new years and revising existing years of the MFM are explained. First, a brief explanation of what the MFM covers and the goal of this report is given.

1.2 Material Flow Monitor

The MFM describes the physical material flows, measured in million kilos, to, from and within the Dutch economy. Supply and use of different goods by different sectors are shown. All goods in the economy are covered, there are around 500 goods including raw materials, food, chemical products, energy carriers, waste, CO₂ and more (see annex 6.3). All economic sectors are also covered in the MFM, namely around 130 industries and sectors such as agriculture, construction sector and government (see annex 6.4). Also households, import, export and the environment are covered.

Information in the physical supply and use tables of the MFM can be used to calculate different physical, economic and social indicators. Examples of indicators are resource efficiency, resource dependency, production of solid waste and recycling, pressure on the environment and footprints.

Physical supply and use tables are compiled according to the same standards as the monetary supply and use tables of national accounts. This creates the possibility to compare these statistics with their economic counterpart on GDP, employment, consumption and other economic figures. Additional information on emissions and the extraction show the relationship between the environment and the economy.

1.3 Goal

The goal of this report is to provide a technical description of the compilation of MFM 2016. The 2016 version will be the basis of a new MFM time series (2014-2016) that will be compiled in 2019. A CBS background report containing CE indicators will also be published in 2019. In the end, derived indicators will be part of a report on monitoring the circular economy that is due in 2020.

2. Methodology

2.1 Introduction

This section elaborates on the methodology used for compiling MFM 2016. There are two ways MFM can be made, namely using developments in time or using unit value information. The development method is used for the MFM of 2014, 2012 and 2008. The unit value information is used for the MFM of 2010 and now 2016. Using the development method means using 2010 as a base year and applying annual changes in volumes of the monetary supply and use tables on this base year to calculate previous or following years. When using this development method for many years, the results can start to differ to much from reality. The reason for this is that monetary volume changes also included changes in quality and, thus, not only physical changes. Besides the limitation of using developments for a long time, the revision of the National accounts source data and energy accounts for 2016 makes it no longer possible to use developments in time. Therefore, we have chosen to set a new base year 2016. So, just as with 2010, the unit value information method is used for the compilation of MFM 2016. This methodology will elaborately be explained in this chapter. Also, the data sources used will be mentioned.

First, monetary supply and use tables are compiled. The monetary values are divided by price per kilo information. This gives a base supply table and use table in physical units (paragraph 2.2). These tables are enhanced using extra information as is the case for energy carriers from the energy accounts or it can add additional information such as waste statistics (paragraph 2.3). Lastly, the supply and use tables are balanced using rules of thumb and additional information (paragraph 2.4).

2.2 Step 1: Conversion of euro to kilo

2.2.1 Monetary supply and use tables

Step one is to compile monetary supply and use tables in basic prices. Monetary supply and use tables are taken from the National accounts (UN *et al.*, 2009). Supply tables are already in basic prices. The use table needs to be converted to basic prices (excluding margins, subsidies etc.) in order to make the table most suitable for the conversion to kilos by applying unit values.

Our aim is to estimate physical (kilo) flows within, to and from our economy as close as possible. As a result **step two** is to reverse all changes made to the monetary supply and use tables of the national accounts as a result of goods sent for processing and production abroad. Goods sent for processing are goods that are sent abroad by, e.g., a Dutch company, for processing and that return to the Netherlands after processing. The owner of unprocessed and processed goods remains Dutch. Since the 2008 SNA revision these flows are no longer recorded in the national accounts as import and export flows but, in this case, import of a processing service. At the same time, instead of production and use of goods only a service is recorded. On behalf of the MFM these flows are put back to the monetary supply and use tables. In case of production abroad, the Dutch principal does not send semi-manufactured goods abroad to be processed, but decides to board out the whole production process. In the case of production abroad, according to SNA2008, import and export flows need to be imputed. In the MFM these flows are removed again. Goods sent for processing and production abroad play a substantial part in the Dutch economy because the Netherlands is a small country with an

open economy. For larger countries goods sent for processing and production abroad might not play a substantial role and any corrections might not be necessary.

2.2.2 Unit values

Unit values are used to calculate physical supply and use tables using monetary tables as a basis. Unit values of a set of goods is the price per kilo. Unit values can be heterogeneous within one product group. For example, the sector meat processing may ask a different price for meat than the sector slaughterhouse due to quality differences. These differences per sector are taken into account when compiling the unit values. The unit values also differ on the supply side and use side. Different sources are used to compile the set of unit values of the supply table and use table: Prodcum production statistics, International trade statistics and data on agriculture. It occurs that different sources have unit value information on the same product group and sector. Therefore, we have set out a priority based on the quality of the source. The source agriculture is considered the strongest source on the supply side, followed by Prodcum and lastly international trade. On the use side is less source information available, here only unit values derived from international trade are used.

Prodcum

Production statistics (Prodcum) give information on the supply unit values of the industries. The advantage of this source is that it provides data on heterogeneous goods for the different sectors. This means that different unit values are found depending on the sector that is supplying this product. The data of Prodcum on kilos and values are based on a sample. This means that not all companies in a sector are represented. This does not affect the information on unit values much, but data on kilos simply added up would result in an underestimate the total amount.

International trade

Unit values of international trade statistics cover all different goods (excluding a few non-traded goods). Unit values of international trade statistics are a quantity-weighted average of the different prices at which the product is purchased or sold. These are used for all sectors. As explained above, international trade unit values are all used for the use table. For the supply table, these unit values are used when there is no information in the Prodcum or from agriculture statistics. Unit values of imported goods are used on the use side and unit values of exported goods are used on the supply side. The reason for this is that goods that industries use come partly from import and supplied goods partly go partly to export.

Other unit values

A different source is available for unit values of agricultural goods such as grain, potatoes and flower bulbs. Using these three sources (Prodcum, international trade and agricultural unit values), still leaves a few cells empty. These unit values - for example raw milk and cannabis - are found using available websites.

2.3 Step 2: Adding addition information

2.3.1 Replacing first estimates with primary physical data

The result after finishing the first step is the base supply and use table in million kilos. Some extra steps are taken to enhance these figures. Additional sources are used with better quality to replace some of these first estimates. These sources have physical data on import and export and energy carriers. Some other adjustments of the figures are also described in this paragraph.

Import and exports

Statistics on international trade have information on different goods that are imported and exported in kilos. This data is considered to be more accurate than calculated import and export figures using monetary supply and use tables and unit values. Therefore, these figures overrule the import and export of the first estimates in the base table. Import can be directly inserted in the supply table. Export is divided between re-export and export from domestic production using the ratio of these variables from the monetary use table. Re-export cannot exceed the import since re-export by definition needs to be imported first. Therefore, throughout the whole process of compiling MFM, this rule taken is into account. It occurs that monetary data on export and re-export is not available as a result of production abroad, but physical material flows do exist. In this case, all of the export is allocated to export excluding re-export.

Energy carriers

Outcomes of the unit value estimations of energy carriers are also replaced. There is additional information available from the energy accounts. The main difference of the energy accounts compared to MFM is the breakdown in the sectors and goods. These are not available at a level of detail that is used in the MFM. Therefore, some adjustments have to be made to get to the classification used in the MFM.

Flows of energy carriers are derived from the Physical Energy Flow Accounts (PEFA). There are three adjustments necessary to make this dataset compatible with the MFM. First, units in the PEFA are terra joule (TJ) and need to be converted into million kilos. The conversion factors differ per energy carrier. The conversion factors are taken from the Eurostat MFA handbook 2018. Some energy carriers, such as electricity, have no physical entity and are set to zero.

Second, PEFA categories of energy carriers need to be converted into the energy carrier classification that are used in the MFM. Three extra energy carriers (goods) are added to the supply and use tables compared to the previous MFM. These are solid, liquid and gas biomass used for energy production.

Third, sectors in the PEFA need to be disaggregated to the level of sectors in the MFM. The MFM detailed sectors are categorised according to NACE used in the PEFA. For example, 'Agriculture' in the PEFA is divided into arable farming, horticulture, livestock farming, other agriculture and agricultural services in the MFM. To break these figures down correctly, multiple sources are used as a proxy for the division among which MFM 2014, monetary tables and the "Energy balance sheet" from StatLine. The result of these steps is data on supply and use of energy carriers in the detailed categories of MFM 2016.

Other adjustments

Some additional adjustments are made on the first estimate supply and use tables to better represent actual material flows. Fodder supply estimates by agricultural sectors are replaced by harvest data. Also, waste goods, like wastepaper, are set on zero to avoid double counting with waste that is added separately to the tables (see paragraph 2.3.2). The supply of the sector 38.3 recycling is set on zero to avoid double counting with the recycling goods also added separately (see paragraph 2.3.2).

2.3.2 Adding non-monetary physical data

Additional data is added to complement the physical supply and use tables. The addition of waste, recovered products and extraction are explained further in this paragraph. In paragraph 2.4.1, additional balancing items such as CO₂ are described.

Waste

Data on the production of waste is taken from the waste accounts. These data are similar to the data on waste collected from all EU countries by Eurostat. NACE codes should be at the same level of detail as in the MFM. This means more detail is needed than the level of detail in the waste statistics published by Eurostat. With regard to the production of waste, NACE codes are broken down on the basis of monetary production figures from the national accounts and expert guesses.

On the use side, only type of waste treatment is published by Eurostat. The allocation of waste use by NACE category is based on expert information. Most waste is used by the “waste recovery” industry, incineration plants and landfills.

In the Netherlands, import and export figures are taken from the waste accounts. Trade of waste on the red and orange list needs to be reported by companies. Trade of “green” waste is taken from trade statistics. Eurostat compiled a set of CN codes that can be considered “green” waste.

Recovered products

In NACE 38.3 “Materials recovery” waste is collected and prepared for recycling. The physical (kilo) input of waste and the production of products by NACE 38.1 are taken from an individual statistic at CBS. Thus, in the Netherlands figures on NACE 38.1 are not derived from monetary data and unit values. The use of NACE 38.1 products by sector are estimated on the basis of expert guesses. Due to a lack of data we make the assumption that there is no import or export of products from NACE 38.1.

Extraction

Many of the production processes use resources that are extracted from the environment. Harvest by agriculture is also considered extraction. The environment is included in the MFM as a separate sector. Extraction is divided in crops, livestock crops, wood, fish, salt, limestone, clay, sand, gravel, natural gas and crude oil. Data on extraction is taken from Material Flow Accounts (MFA). Allocating totals of crops and livestock crops to the relevant agricultural sectors is done by using detailed information of these crops. The source of this data are the harvest statistics.

Intra unit crops use are included in the extraction figures. However, intra unit use is not recorded in the MFM as supply and use by the same farmer.

Allocating the use of salt into the relevant sectors is done by looking at microdata. There are a few companies in the Netherlands that extract salt. These are allocated to the mineral and quarrying sector and the chemical sector. Other kinds of extraction are used by only one sector, for example wood by forestry.

Some rules of thumb are followed during the process of compiling the MFM regarding extraction. Extraction calculation rules imply that the supply of a good may not exceed the extraction and use of the same good. The reason for this, is that it is not possible to produce more of a product than goes into the production process. For example, the supply of agricultural goods should not exceed the extraction of crops and use of agricultural goods. Also, the supply of crude oil and natural gas should not exceed the extraction and use of crude oil and natural gas.

2.4 Step 3: Balancing

The physical tables follow the balancing rules of the monetary supply and use tables. This means that supply equals use for each good, because all materials supplied in the economy have to be used. Likewise for each sector, the amount of materials used, is also supplied in one form or another (taking stocks into account). The balancing of supply and use of goods and sectors are explained in paragraph 2.4.2. First, adding additional balancing items to the physical supply and use tables are explained in 2.4.1.

2.4.1 Adding balancing items

Combustion processes (O₂, H₂O, CO₂)

During combustion processes, emissions of water (H₂O) and carbon dioxide (CO₂) are released into the environment and oxygen (O₂) from the ambient air is needed for the combustion process. These flows are incorporated into the MFM to create a full picture of the material flows and to balance the use of energy carriers.

CO₂

Data on CO₂ emissions come from the annual air emissions accounts. CO₂ is supplied by sectors and used by the environment. Source data is available on an aggregated sector level. The allocation to the detailed MFM sectors is carried out by using the ratio of the different emission relevant energy carriers, taking stationary and mobile emitters into account. Stationary energy carriers are coal, crude oil, natural gas and natural gas condensate and coke products. Mobile energy carriers are gasoline, jet fuel, diesel, fuel oil and LPG. Additionally, monetary supply and use tables are used for the allocation. Additional information on CO₂ emissions in the chemical sector replace the original figures.

O₂

The environment supplies O₂ which is used by industries when combusting energy carriers. There are two ways O₂ intake occurs, the first is from the combustion of carbon (C) and the second is from combustion of hydrogen (H). To calculate O₂ use from C combustion, the

conversion factor of the input of O₂ per emission of CO₂ is used. In the production process of iron, O₂ in the iron ore interacts with C causing the emissions of CO₂. In this case, O₂ is not taken from the ambient air, and this part is subtracted from the O₂ use.

More steps are taken to calculate the O₂ input for combustion of H. First, water vapour per energy carrier is calculated and multiplied with the conversion factor of O₂ to H₂O. Conversion factors are taken from the Eurostat MFA handbook 2018. Second, emission relevant energy use is calculated per energy carrier. These figures are multiplied per energy carrier resulting in O₂ input for H₂O combustion per sector. These two values of O₂ (from CO₂ and H₂O) are added.

H₂O

H₂O emissions occur during combustion processes in two ways. On the one hand, the water content of the energy carrier evaporates. On the other hand, H interacts with O₂ during combustion processes causing emission of H₂O. There are two different conversion factors for these two ways of H₂O emissions per energy carrier. The conversion factors are added and multiplied by the emission relevant energy carriers and the H₂O supply is summed up per sector. The conversion factors are taken from the Eurostat MFA handbook 2018.

Respiration (O₂, H₂O, CO₂)

The respiration of humans and farm animals cause the use of O₂ from the environment and supply of emissions of H₂O and CO₂ to the environment. Humans and domesticated animals are accounted for as being part of the economy, and therefore the material flows are included in the balancing items. The number of farm animals are multiplied by their respective O₂ use per year and allocated to the sector livestock farming. The population of people in the Netherlands is also multiplied by the O₂ use per head per year. This is allocated to the sector households. The source for the number of humans and number of livestock are compiled by CBS.

The same method is applied in calculating the CO₂ and H₂O supply of livestock and humans. The emission per animal and person of CO₂ and H₂O are multiplied by the number of animals and people and allocated to the supply of CO₂ and H₂O by livestock and households.

Nitrogen for Haber-Bosch process

Nitrogen is taken from the ambient air for the industrial production of ammonia (for fertiliser) in the Haber-Bosch process. The production of ammonia is multiplied by the conversion factor of ammonia to nitrogen. The nitrogen is used by the fertiliser industry and supplied by the environment. Data on the production of ammonia comes from Prodcom. The factor to convert ammonia to the amount of nitrogen input is taken from the Eurostat MFA handbook 2018.

Water loss and addition

Bulk water is not part of the MFM. As a result, bulk water added during the production process causes an imbalance in the supply and use of a sector. For example, in the beverage industry, bulk water is added to produce beverages. As a result, use (that does not include bulk water input) is much smaller than supply (that includes bulk water incorporated in the product). On the other hand, loss of water during a production process, for example as a result of drying, can also occur. This is similar to the loss of water incorporated in energy carriers during the combustion process.

In order to determine the amount of water that is added or lost during the production process we have made an estimate, based on literature, of the water content of all products groups. These coefficients are multiplied with the physical supply and use tables at the time the supply and use of goods were balanced by hand (differences less than 10% remain). The result is a coarse estimate of the water balance (loss or gain) for each sector. Due to the lack of data quality, this balance is only used as a reference figure while balancing the supply and use of the sectors.

Other balancing items

One final row is added to the physical supply and use tables to enable balancing the supply and use of the sectors. This residual post encompasses more than one kind of good. For example, construction sectors use a lot of materials such as sand and gravel. However, on the supply side there is barely any output because construction work like buildings are not recorded as a physical output but as a service in the national accounts. Services have no material component. Thus the use surplus is added to the supply of these sectors in the residual post. In the agricultural sectors there is a lot of use of manure and fertilisers that is not seen on the output side, this is also accounted for in the residual post. In the service industry, for example repair service or restaurants, the use surplus is added to the supply of the sector in the residual post.

2.4.2 Balancing supply - use and input – output

Balancing by hand

The result of the methodology as described in this chapter is a complete physical supply and use table. However, due to differences in sources and in quality of the data, the supply does not always equal the use, even with the balancing items. The final step in completing the MFM is to balance the supply and use of goods and the input and output of sectors. The large differences are investigated and solved by hand. Large differences are considered to be larger than 10 percent of the supply and larger than 10 million kilos for both good and sectors. When the differences are analysed and reduced to sufficient amounts, the balancing machine gets involved.

Balancing by machine

Reducing differences between supply and use of goods and input and output of sectors to zero by hand is a difficult puzzle. Therefore, the balancing machine is used to solve the remaining differences. The balancing machine is also used to balance the monetary supply and use table of the national accounts. The same rules of the national accounts apply to the MFM and additional calculation rules are added. The standard rules are as follows. Supply equals use of the goods and input equals the output of the sectors. Also, all the values should be positive with the only exception of the stock which is a balance item and can be negative. Moreover, the import should equal or exceed the re-exports since re-exports need to be imported first. Additional calculation rules are inserted to create logical material flows. For example, the supply of processed meat may not exceed the use of livestock and use of processed meat by the slaughterhouse. The other additional calculation rules are explained in paragraph 2.3.2 on extraction.

2.4.3 Data quality and confidentiality

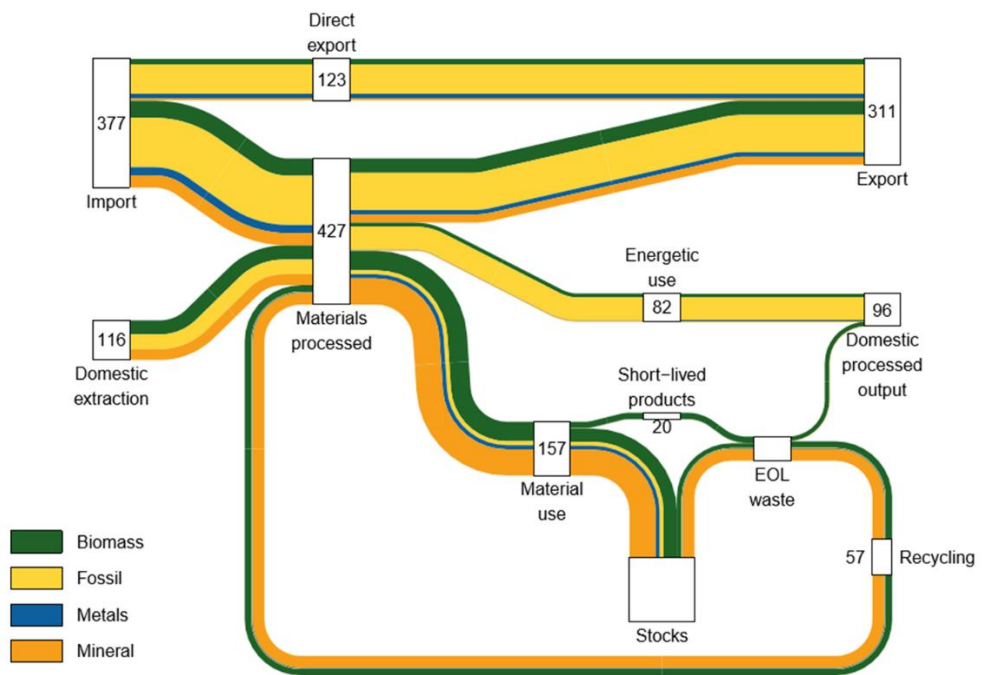
The physical supply and use tables are compiled at a high level of detail in order to maintain a sense of the processes underlying the data (around 500 types of goods and 130 sectors). This level of detail is much higher than the level of detail published in this report. The reasons why the most detailed data are not made publicly available are twofold. First, the most detailed tables contain data that is confidential. Second, it is difficult to judge the plausibility of all the data in the tables. The reason for this is that data are collected from sources of different quality, and often cannot be verified with alternative data sources. Variables that do not occur in the aggregated tables are not guaranteed to be of good quality and should be used with care and are prone to improvements. Therefore, the detailed MFM tables can be not be regarded as official CBS data.

The most detailed tables can be used for analytical purposes and to derive indicators. In order to use the most detailed data (apart from some aggregates in order not to breach confidentiality) the tables are made available by CBS on request (milieurekeningen@cbs.nl).

3. Results

Results consists of physical (kilos) supply and use tables of around 500 goods and 130 sectors (see annex 6.3 and 6.4). These detailed tables are available on request (see section 2.4.3). Annex 6.1 and 6.2 show aggregated supply and use tables for 2016 that are derived from the detailed tables. These figures cannot be compared to MFM of other years due to revision of the source data. This particularly apparent for the energy carriers. The Sankey diagram gives an overview of all material flows within, to and from the economy. It also shows the feedback of secondary materials into the Dutch economy.

Material flows in the Netherlands, 2016



4. Conclusion and future prospects

This report provides a technical description of the methodology applied in developing the Material Flow Monitor (MFM) of the year 2016. The results show flows of materials within, to and from the economy of the Netherlands. MFM 2016 is compiled on bases of revised source data and therefore no longer comparable with previous MFMs.

Detailed physical supply and use tables (around 500 goods and 130 sectors), that are the basis of the aggregated tables presented in this report, are available by CBS on request (milieurekeningen@cbs.nl). The reason for this is to make sure that users of the data understand the limitation of the most detailed figures. The physical supply and use tables are compiled at a high level of detail. Different sources are used and the quality of some of the detailed information in the physical supply and use tables cannot be guaranteed.

The MFM 2016 will be the basis of a new MFM time series. As a start of this new time series, in 2019, the MFM 2014 will be revised in order to ensure comparability with the MFM 2016. If the revision of the MFM 2014 provides new insights that improve data quality, these new insight will also be applied to the MFM 2016. Also, as part of the Dutch Circular Economy programme, research will take place on several aspects that relate to material flows. One of them being the input of secondary materials in the production process. Outcome of these research projects might provide the opportunity to improve data in the MFM. Therefore, results presented in this report (and the underlying data) can change due improvements in de data in the course of 2019. At the end of 2019 CBS will publish a report on the 2014-2016 MFM time series in which CE indicators are discussed. The indicators in this report will be input to the progress report on monitoring the circular economy that is due in 2020.

5. References

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UN (United Nations), EC (European Commission), IMF (International Monetary Fund), OECD (Organisation for Economic Co-operation and Development) and World Bank (2009), System of National Accounts 2008, New York.

6. Annex

6.1 Physical supply table (million kilos)

	Agriculture, forestry and fishing	Mining industry	Manufacture of food products, beverages and tobacco products	Manufacture of textiles, wearing apparel and leather products	Manufacture of wood and paper products	Manufacture of coke and refined petroleum products	Manufacture of chemicals and pharmaceutical products	Manufacture of rubber and plastics products	Manufacture of other non-metallic mineral products	Manufacture of basic metals	Manufacture of metal products, except machinery and equipment	Manufacture of computer, electronic and optical products	Manufacture of electrical equipment	Manufacture of machinery and equipment n.e.c.	Manufacture of transport equipment	Manufacture of furniture and other manufacturing a	Electricity, gas and steam supply	Water treatment and supply; sewerage; waste treatment	Construction	Services	Total collum 1-20	Consumption households	Accumulation	Import	Flows from the environment	Total		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26		
1 Products of agriculture, forestry and fishing	25 772		1													11					25 784				29 861	55 645		
2 Products of cattle breeding	17 398																				17 398					1 319	18 717	
3 Energy carriers	1 849	42 715	364		525	373	1 540											202	1 382		49 070			125 910		174 980		
4 Other mining products		27 143					4 461	593	1											626	32 915			40 990		73 905		
5 Fish and meat products	94		4 928																		5 038			2 777		7 815		
6 Potato, vegetable and fruit products			4 132																		4 348			216		3 603	7 951	
7 Diary products	43		6 008																		6 123			72		8 766		
8 Grain mill and starch products			3 972																		4 001			29		3 266	7 267	
9 Other food products			29 601		5		167														136			29 909		9 996	39 905	
10 Beverages and tobacco products			5 693																		5 724			31		3 223	8 947	
11 Textiles, wearing apparel and leather products				683	21		9	2			9			13		13					56			13		1 653	2 459	
12 Wood products, except furniture				7	2 481		3	4	6		1					72					75			1		4 767	7 417	
13 Printing and paper products				9	5 442			19		2	6					16					59			59		6 107	11 660	
14 Coke and refined petroleum products						80 035	3 947			3 207											87 189			82 568		169 757		
15 Chemical and pharmaceutical products	14	308	280		5	1 232	45 364	213	25	24	12		25	8				2 821			427			35 157		85 915		
16 Rubber and plastic products				3	35		69	2 699		2	39		5	35	3	34					16			16		2 502	5 442	
17 Other non-metallic mineral products		17		4			22	41	23 833	43	6	6	48			1					24			71	263	24 355	8 675	
18 Basic metals			19				4	11	4	8 721	665		3	18							24			24		9 469	13 541	
19 Metal products, except machinery			6	2	2		25	6	111	4 727	5	6	120	6	34						87			18	87	5 155	6 867	
20 Machinery and equipment					5		2	7	7	49	86	245	954	4 129	23	105					170			170		5 782	12 664	
21 Transport equipment							23	39	1	23	39	1	93	3 773	43						164			10	164	4 146	7 930	
22 Furniture and other manufactured goods				6	1 172		26				4		2		923						853			853		2 987	4 632	
23 Total row 1-22	45 170	70 183	55 004	714	9 693	81 640	55 614	3 614	23 882	12 182	5 594	257	1 043	4 416	3 806	1 252	202	4 203	726	2 905	382 100				392 581		774 681	
24 Waste and recycled products	4 933	60	7 820	49	767	767	881	146	568	1 878	388	17	57	159	119	267	2 036	16 301	18 817	5 870	61 900	8 201		11 475	27 874		109 450	
25 Extraction																											115 850	115 850
26 Balancing item	63 883	3 229	21 300	284	2 410	18 050	29 100	471	3 081	11 242	749	570	194	376	334	1 160	78 150	15 456	63 537	71 564	385 140	59 501			259 511		704 152	
27 Total	113 986	73 472	84 124	1 047	12 870	100 457	85 595	4 231	27 531	25 302	6 731	844	1 294	4 951	4 259	2 679	80 388	35 960	83 080	80 339	829 140	67 702	11 475	420 455	375 361	1704 133		

6.2 Physical use table (million kilos)

	Agriculture, forestry and fishing	Mining industry	Manufacture of food products, beverages and tobacco products	Manufacture of textiles, wearing apparel and leather products	Manufacture of wood and paper products	Manufacture of coke and refined petroleum products	Manufacture of chemicals and pharmaceutical products	Manufacture of rubber and plastics products	Manufacture of other non-metallic mineral products	Manufacture of basic metals	Manufacture of metal products, except machinery and equipment	Manufacture of computer, electronic and optical products	Manufacture of electrical equipment	Manufacture of machinery and equipment n.e.c.	Manufacture of transport equipment	Manufacture of furniture and other manufacturing a	Electricity, gas and steam supply	Water treatment and supply, sewerage, waste treatment	Construction	Services	Total column 1-20	Consumption households	Accumulation & other final demand	Export	Flows to the environment	Total
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	23	24	22	26	27
1 Products of agriculture, forestry and fishing	3 983		28 954	24	548		11	33											9	1 159	34 721	3 605	- 776	18 095		55 645
2 Products of cattle breeding	444		16 213	4																77	16 738	135	134	1 710		18 717
3 Energy carriers	3 531	628	1 766	55	794	59 929	11 974	87	460	5 162	125	11	251	56	47	27	19 573	521	162	3 335	108 494	7 907	-1 213	59 792		174 980
4 Other mining products	729	4 979	124	73	131		2 433	237	12 790	9 981	154	5		6		107				23 953	57 882	170	695	15 158		73 905
5 Fish and meat products			1 461	48																454	1 963	1 260	- 6	4 598		7 815
6 Potato, vegetable and fruit products	4		639				1													695	1 339	1 964	5	4 643		7 951
7 Diary products	6		2 652				250													693	3 601	2 056	71	3 038		8 766
8 Grain mill and starch products	92		3 564		47		47	1												201	3 974	843	67	2 383		7 267
9 Other food products	12 331		8 879	1	15	9	377	25			2		2	2		1	17	3		1 064	22 728	4 074	194	12 909		39 905
10 Beverages and tobacco products	4		434				3					4	3	2						6	2 562	3 024	2 360	3 563		8 947
11 Textiles, wearing apparel and leather products	7		5	260	36		2	20	2		5	6	15	13	5	38		2	11	160	587	452	90	1 330		2 459
12 Wood products, except furniture	85	2	312	45	975		135	109	64	58	118	21	14	105	60	382	3	2	1 152	1 140	4 782	232	160	2 243		7 417
13 Printing and paper products	18	7	1 150	10	3 367		190	90	36	7	39	30	15	134	34	77	1		8	1 200	6 413	352	58	4 837		11 660
14 Coke and refined petroleum products	645	7	54	3	31	25 462	13 504	8	46	2 479	22	1	2	11	19	72	827	63	1 054	10 767	55 077	6 143	-494	109 031		169 757
15 Chemical and pharmaceutical products	1 335	89	635	222	378	193	25 830	2 083	133	77	119	517	72	55	35	348	8	441	469	1 978	35 017	487	429	49 982		85 915
16 Rubber and plastic products	73	6	399	11	141		146	244	99	13	86	7	101	106	112	84	5	6	572	615	2 826	257	118	2 241		5 442
17 Other non-metallic mineral products	68		845		71		82	11	4 535	302	96	11	76	19	28	81	86	29	18 479	2 091	26 910	517	208	5 395		33 030
18 Basic metals	6			5	25		82	124	142	1 186	4 598	46	132	1 405	733	330		4	716	248	9 782		255	12 973		23 010
19 Metal products, except machinery	5	3	254	2	41		60	10	5	3	586	21	10	475	274	338	29	3	1 539	400	4 058	90	440	2 279		6 867
20 Machinery and equipment		25	21		1		1	2			85	109	207	1 687	325	161	2	2	546	522	3 696	300	2 935	5 733		12 664
21 Transport equipment	2	1	4		1				1		3		3	7	2 302	0	0	2	12	350	2 688	393	824	4 025		7 930
22 Furniture and other manufactured goods	2	2	46	4	9		21	4	2	4	15	12	9	17	18	78	6	2	87	1 353	1 691	1 222	550	1 169		4 632
23 Total row 1-22	23 370	5 749	68 411	767	6 611	85 593	55 149	3 088	18 315	19 272	6 057	800	911	4 098	3 998	2 124	20 557	1 081	48 796	33 244	407 991	34 819	4 744	327 127		774 681
24 Waste and recycled products	9 183	224	5 714	56	3 942		873	771	3 070	1 732	85			539			2 397	26 692	30 815		86 093		1 189	22 168		109 450
25 Extraction	41 156	65 012					5 541		4 141												115 850					115 850
26 Balancing item	40 277	2 487	9 999	224	2 317	14 864	24 032	372	2 005	4 298	589	44	383	314	261	555	57 434	8 187	3 469	47 047	219 158	32 506	100 743		351 745	704 152
27 Total	113 986	73 472	84 124	1 047	12 870	100 457	85 595	4 231	27 531	25 302	6 731	844	1 294	4 951	4 259	2 679	80 388	35 960	83 080	80 291	829 092	67 325	106 676	349 295	351 745	1704 133

6.3 Sectors in MFM 2016

A link to international (English) classifications are available upon request at CBS (milieurekeningen@cbs.nl).

Sector	Sector omschrijving		
		23600	Beton/cementprod.
1109	Akkerbouw	24159	YzerStaalFerroleger.
1209	Tuinbouw	24459	Non-ferrometalen
1400	Veehouderij	25100	Metal.bouwconstr.
1500	Overige Landbouw	25290	Vervaard.Ov.metaalpr
1600	Agrar.dienstverlen.	26000	AudioVideoCompOptis.
2000	Bosbouw	27000	Elektr.mach&huish.ap
3000	Visserij	28000	Ov.Machines&appar.
6000	Aardolie/gaswinning	29000	AutoCarr&Onderd.ind.
8000	Winn.Ov.delfstoffen	30100	Scheepsbouw
9000	Dnstverl.Delfstofwin	30230	Tram/trein/vliegtuig
10112	Slachterijen	30490	Ov.transportmiddel.
10130	Vleesverwerking	31000	Meubel-/matrasprod.
10200	Visverwerking	32129	Prod.v.Ov.goederen
10310	Aardappelproducten	32500	Medis.instrum&hulpm.
10329	Groente-/Fruitprod.	32991	Sociale werkvoorz.
10400	Vervaard.OliënVetten	33000	RepOndInstalMach&app
10500	Vervaard.Zuivelprod.	35109	Prod./Handel Energie
10670	MeelBroodDeegwaren	35123	ExpITransp.net/Distr
10813	KoffieTheeSuiker	36000	Waterwinn./-distrib.
10820	Cacao/choc.bewerk.	37890	Milieudnstverl.Part.
10849	Vervaard.Ov.voeding	38300	Recycling/Sloop
10900	Vee-/diervoederverv.	41100	Projectontwikkeling
11000	Vervaard.dranken	41200	Burgerl.&Utilit.bouw
12000	Vervaard.tabaksprod.	42000	GrondWaterWegenbouw
13450	TextielConfectieLeer	43100	Slopen/Bouwrijpmaken
16000	Hout(-producten)	43200	Bouwinstallatie
17000	Papier(-waren)	43319	Bouwafwerking
18000	DrukkerijReprod.	43390	Overige bouwactiv.
19000	AardoliePekCokes	45129	Autodetailhand/Repar
20130	Anorg.prod/Splijst.	45431	AutoMot.ImportGrooth
20140	Petrochemische prod.	46100	Handelsbemiddeling
20150	Kunstmest/stikstof	46203	Gr.hd.LandbDierVoedG
20199	Basischemie	46409	Gr.hd.Cons.art(n-fd)
20900	Eindchemie	46460	Gr.hd.FarmaMedOrthop
21000	Farmaceut.industrie	46510	Gr.hd.CompRandapSoft
22000	RubberKunststof	46520	Gr.hd.ElectroTelecom
23199	Ov.bouwmater.prod.	46600	Gr.hd.Mach/Ap.ind&hd

46710	Gr.hd.Brandst/Ov.min	71100	Ingenieurs&Archit.
46770	Recup.afval/schroot	71200	Keuring&controle
46979	Ov.(nt-)gespecial.GH	72000	Speur&Ontwikkeling
47199	Detailhandel	73000	Reklame&marktonderz.
47300	Benzineserv.stations	74000	ConsultFotoInd.ontw.
49120	Spoorvervoer gd/pers	75000	Veterinaire dnstverl
49319	Ov.openbaar vervoer	77100	LeaseVerhuurVoertuig
49320	Taxivervoer	77234	LeaseVerhuurOverig
49450	Goed.vervr.weg/pijpl	78000	Uitz.DetachArb.bemid
50120	Zee-/kustvaart	79119	Reisbemid&reserver.
50340	Binnenvaart	79120	Reisorganisaties
51000	Luchtvaart	80000	Beveiliging&opspor.
52129	Opslag/Ov.dnst.verv.	81000	ReinigFacilitHoven.
52220	Dnstverl.verv.water	82000	Ov.zakel.dnstverlen.
52230	Dnstverl.verv.lucht	84000	Openbaar bestuur
53000	Post&Koeriers	85234	Gesubsid.onderwijs
55000	HorecaLogiesverstrekk	85560	Particulier onderwijs
56000	Horeca Eten/drinken	86000	Gezondheidszorg
58000	Uitgeverijen	87889	Welzijnszorg
59000	ProdDistribFilmTVRad	88199	Overig welzijn
60000	Uitzenden TV/Radprog	90000	KunstTheaterEvenem.
61000	Telecommunicatie	91000	CultuurMuseaNat.beh.
62000	Computerservice	92000	Gokwezen
63000	WebhostingPersburo's	93000	SportOntspanning
64199	Bankwezen	94000	Werkg.Werkn./Fondsen
64200	Byzond.Financ.Instel	95000	Repar.comp.&cons.art
65000	Verzekeringswezen	96000	Begraaf./Wellness/Wass
66000	Financ.hulpbedr.	97000	Huish.als werkgever
68130	MakelaarHandel in og	99993	Cons.interm.bouwgoed
68204	Expl.bedrijfsgebouwen	99994	Cons.interm.ov.goed
68208	Verhuur woningen	350000	Voorraden (<i>gebruik</i>)
68900	Eigen woningbezit	411000	<i>Import (aanbod)</i>
69100	Juridis.dienstverl.	311000	<i>Export (gebruik)</i>
69200	AccountBelastAdmin.	311500	<i>Wederuitvoer (gebruik)</i>
70100	Holdings&Concerndnst	320000	Huishoudens
70200	ManOrgPR-adviesburos	340009	Accumulatie
70900	DGA's&Beheermyen	999999	Milieu

6.4 Goods in MFM 2016

A link to international (English) classifications are available upon request at CBS (milieurekeningen@cbs.nl).

Goederen	Goederen omschrijving	149390	Wol/Huid,ruw	1051556	Wei(-producten)
111100	Tarwe	160000	Agrarische diensten	1051590	Zuivelproducten neg.
111200	Maïs	200000	Bosbouwproducten	1052000	Consumptie-ijs
111310	Gerst	300000	Verse VisWaterd(-pr)	1061100	Rijst
111340	Overige graansoorten	500000	Steen-/bruinkool	1061200	Meel&deeg v.graan
111700	Peulvruchten	610110	Aardolie ruw	1061349	Ov.graanprod
111810	Sojabonen	610120	Aardgascondensaat	1062110	Zetmeel
111823	Grondnoten(pinda's)	620000	Aardgas	1062130	Div.suikersoorten
111899	Ov.oliehoud.zaden	710000	IJzererts	1062900	Ov.zetmeelproducten
113120	Koolsoorten	720000	Non-Ferro ertsen	1071110	Brood
113310	Paprika's	811000	Natuursteen	1071120	Gebak
113320	Komkommers	812110	Zand	1072000	Ov.bakkerijproducten
113340	Tomaten	812120	Grind	1073000	Deegwaren
113430	Uien	812200	Klei	1081100	Suiker
113511	Pootaardappelen	891000	Mineral.v.chem.ind.	1081900	Melasse ea bypr.suik
113512	Cons.aardappelen	892000	Turf	1082010	Chocoladeprod.
113513	Zetmeelaardappelen	893000	Zout	1082020	Suikerwerk e.d.
113529	Ov.eetb.wortel&knol	899000	Delfstof neg	1082110	Cacaomassa
113690	Zaaizaden	900000	Dnst. tbv delfst.win	1082120	Cacaoboter
113710	Suikerbieten	1009999	Loondnst voeding	1082190	Cacaopoeder
113800	Champignons	1011119	Kalfs-/rundvlees	1083010	Koffie
113990	Overige groenten	1011129	Varkensvlees	1083020	Thee
115100	Tabak	1011191	Ov.vleessoorten	1084000	Specerijen/saus
116900	Ov.plantaardig mater	1011192	Ov.slachtproducten	1085000	Bereide maaltijden
119100	Voedergewassen	1012000	Pluimveevlees	1086000	Kinder-/dieetvoeding
119200	Bloemen	1013000	Bewerkt vlees/worst	1089110	Soepen
123000	Citrusfruit	1019001	Nt-eetb.slachtafval	1089123	Ov.bakkerijgrondst.
124100	Appels	1020000	BewerkVisWaterd(-pr)	1089190	Voedingsmiddelen neg
124590	Overig fruit	1031000	Aardappelprod.	1091019	Veevoerders
125690	NootBanaanOlijf ed	1032000	Vruchten-/groentesap	1091020	Kunstkalkvermelk
127110	Koffie ongebrand	1039100	Bewerk.&diepvr.grnte	1092000	Huisdierenvoer
127140	Cacaobonen	1039200	Bew.fruit&-conserven	1101000	Gedistil.alcoh.drank
127890	Gewassen neg	1041410	Veekoeken	1102340	Wijn,cider e.d.
130009	Inv.eb.plantopstand.	1041900	Oliën/vetten	1105000	Bier
130110	Bloembollen	1042000	Margar.ea.spijsvett.	1106000	Mout
130129	Boom/plant/stek/ent	1051111	Ondermelk	1107110	Mineraal-/bronwater
141190	Runderen	1051112	Consumptiemelk	1107190	Ov.niet-alcoh.drank
141290	Rauwe melk	1051120	Consumptieroom	1109999	Loondnst drank
142120	Kalveren	1051210	Magere melkpoeder	1200113	Sigaren
143459	Overige diersoorten	1051220	Volle melkpoeder	1200115	Sigaretten
146110	Varkens	1051310	Boter	1200120	Shag/pijptabak
146120	Biggen	1051320	Boterolie	1200129	Cannabis
147100	Pluimvee	1051400	Kaas	1209999	Loondnst tabak
147200	Eieren	1051510	Gecondens.melk	1310000	Garens/Vezels
149290	Ov.dierlijke product	1051520	Yoghurt/GistZuurpr.	1314159	Loondnst KledTexLeer

1320000	Weefsels	1920290	Smeerolie	2060000	Kunst-/synth.garens
1392110	Beddengoed	1920311	Vloeib.PropaanButaan	2109999	Loondnst farmacie
1392500	Woningtextiel	1920312	Autogas (lpg)	2110910	Farmaceut.verbind.
1393000	Tapijten	1920320	Overige gassen	2110920	Farmaceut.grondst.
1395100	Textielvlies	1920490	Brieket&ov.aardoliepr	2120100	Geneesmiddelen
1399000	Ov.textielwaren	2009999	Loondnst chemie	2120210	Sera/vaccins
1412000	Werkkleding	2011000	Industriële gassen	2120240	Gaas/verband
1413939	Bovenkleding/Trui	2012000	Kleurstoffen	2120290	Ov.farmac.prod.
1414931	Onderkleding/Sok	2013100	Splijt-/kweekstof	2120299	CocaïneHeroïneXTC
1419000	Overige kleding	2013240	Zuren	2209999	Loondnst RubKunstst.
1510000	Leer/lederwaren	2013890	Overige zouten	2211000	Rubber banden
1520000	Schoenen ed.&onderd.	2013990	Anorgan.grondst.e.d.	2219000	Ov.Rubberprod.
1609999	Loondnst hout(prod)	2014110	OvAcycl.koolwat.stof	2221290	Staaaf/slang v.kunst
1610000	Hout primair	2014120	Ov.Cycl.koolwat.stof	2221300	Plat.ongecel.v.kunst
1621100	Triplex e.d.van hout	2014199	Halogenen/Fenolen	2221400	Ov.platen v.kunst
1621200	Fineer/plaat v.hout	2014220	Alcoholen	2222000	Verpakking v.kunst.
1622000	Parket v.hout	2014340	Carbon-/aminozuren	2223000	Bouwart.v.kunst.
1623111	Raam/kozijn v.hout	2014529	Caprolactam ed	2229000	Ov.product.v.kunst.
1623112	Deuren v.hout	2014639	Ethers ed.	2309999	Loondnst bouwmater.
1623120	Ov.timmerwerk	2014730	Aromaten	2312199	Vlakglasproducten
1624000	Emballage v.hout	2014745	Alcohol >80%	2313199	Glaz.FlesPotVaas ed.
1629000	Ov.houtproducten	2014990	Ov.organ.grondst.	2314990	Ov.bewerkte glasprod
1709999	Loondnst PapierKart	2015100	Kunstmest	2323400	Ov. Keramische prod.
1711000	Pulp/cellulose	2015900	Ov.stikstofverbind.	2339000	Keram.Bouwmat/Tegels
1712110	Krantenpapier	2016100	Polyetheen	2341000	Keram.sier/huish.art
1712199	Ov.papier/karton	2016200	Polystyreen	2351900	Cement/kalk/gips
1712300	Pap./Kart.v.verpakk.	2016300	Pvc	2361110	Stenen van beton
1721000	Emballage v.pap/kart	2016400	Polyacetaten	2361199	Overige betonwaren
1722100	Hygienisch verband	2016510	Polypropyleen	2361900	Bouwelem.v.beton
1722900	Huish/sanit.pap.war	2016520	Overige polymeren	2363400	Beton/mortel
1723000	Kantoorbenod.v.pap.	2016540	Polyamide	2370000	Bewerkte natuursteen
1724000	Wandbekleding	2016550	Polyurethaan	2390000	Bouwmaterialen neg
1729199	Pap/kart.-waren neg	2016599	Overige kunstharsen	2409999	Loondnst metalen
1811000	Druk.v.dagbl.in opdr	2017000	Synthetische rubber	2410120	Ferro primair
1813040	Zetten/graf.afwerk.	2020000	Bestrijdingsmid.	2410543	Ferro gewalst, plat
1819000	Ov.drukken/printen	2030100	Verf/verniss	2410600	Ferro gewalst, rond
1909999	Loondnst aardoliepr.	2030240	Drukinkten	2410790	Ferro profielen
1910000	Cokesovenproducten	2030299	Ov.verfproducten	2420900	Ferro buizen
1920211	Benzine	2041000	Was-/reinig.mid.ed	2432120	Plaatsttaal
1920231	Nafta's	2041300	Zeep/poetsprod.	2439000	Overig staal
1920241	Jetfuel	2042110	Parfums ed.	2442110	Aluminium, ruw
1920249	Bunker. jetfuel	2042126	Huid-/haarverz.mid.	2442120	Aluminiumoxyde
1920261	Gasolie grondst.	2042199	Ov.kosmetische prod.	2442200	Alumin.halfabrik.
1920262	Diesel	2051000	Vuurw/Springstof/Luc	2443120	Zink, ruw
1920263	Gasolie verwarming	2052900	Lijmen/gelatine	2443220	Zink halfabrik.
1920269	Bunker. diesel	2053000	Etherische oliën	2444100	Koper
1920270	Petroleum	2059100	Fotochemische prod.	2444200	Koper halfabrik.
1920280	Stookolie	2059910	Biobrandstof e.d.	2449190	Ov.non-ferrometalen
1920289	Bunker. stookolie	2059920	Chemische prod. neg	2509999	Loondnst metaalprod

2511000	Metal.constructiewerk	2820900	Ov.mach.v.alg.gebr.	3250400	Bril/contactlenzen
2512000	Metal.deuren/ramen	2822100	Takel/liër/Lift e.d.	3250900	Medische instrum/app
2521100	CV-ketels/radiatoren	2823000	Kantoormachines	3299010	Teken-/schrijffartik.
2521900	Metal.tanks/reserv.	2824000	Mech.handgereedsch.	3299020	Ov.artikelen neg
2530000	Metal.stoomketels	2825000	Machine koel/klimaat	3311900	Rep/Ondh/Inst.metaal
2540000	Wapens&munitie	2829129	Filtertoestel	3312900	Rep/Ondh/Inst.mach.
2571390	Handgereedschap e.d.	2829210	Mach.rein./verp.fles	3313900	Rep/Ondh/Inst.elek.
2572000	Hang-&sluitwerk	2830000	Mach.v.landbouw	3315000	Rep/Ondh/Inst.schip
2573490	Onderd.v.gereedschap	2840000	Gereedschapswerktuig	3316000	Rep/Ondh/Inst.vliegt
2591290	Metalen vaten	2890000	Mach.v.ov.bedr.takk.	3317000	Rep/Ondh.trein e.d.
2593900	Spijker/veer/draad	2900009	Inv.eb.wegvervoermid.	3500009	Marges energie
2594900	Bout/schroef/moer ed	2909999	Loondnst auto(-ond)	3509999	Loondnst energie
2599100	Metal.huish.sanit.	2910100	Verbrandingsmotoren	3510000	Elektriciteit
2599200	Ov.metaalproducten	2910200	Personenauto's	3520120	Hoogovengas
2609999	Loondnst CompOv.elek	2910207	Cons.v.leaseauto's	3530000	Stoom/Ww/Stadsverw.
2611390	Geïntegr.schakelaars	2910208	Exp.2e-h.pers.auto	3540000	Netdiensten
2619000	Ov.elektron.compon.	2910400	Vrachtauto's e.d.	3600000	Water
2620000	ComputRandapp&onderd	2910408	Exp.2e-h.vrachtauto	3789010	Milieudnst.overheid
2630100	Zendtoest./Tv-camera	2910590	BusOpleggerContainer	3789020	Milieudnst.partic.
2630200	Telefoontoest.	2920100	Autocarrosseriën	3789050	Reinigingsrechten
2630340	Onderd.zendtst/telef	2920220	Caravans e.d.	3811510	Glasafval
2640100	Radio's/telegrafie	2939000	Ov.auto-onderdelen	3811520	Oud papier
2640200	Televisies/monitors	3000008	Exp.2e-h.ov.vervrmid	3811540	Rubberafval
2640300	Audio-/video-appar.	3000009	Inv.eb.Ov.vervoermid.	3811550	Kunststofafval
2640560	Ond.v.audio/video	3009999	Loondnst OvTranspMid	3811560	Afval textiel/leer
2650000	Meet-®elappar.	3011100	Marineschepen	3811581	Hoogovenslak
2660000	Med.instrum./-app.	3011200	Vrachtschip/veerboot	3811582	Afval ferro
2670100	Foto-/filmapp&ond.	3011300	Ov.drijv.materieel	3811583	Afval aluminium
2670200	Optische artik.&ond.	3012000	Plezierboten	3811584	Afval koper
2680000	Infodragers, leeg	3020000	Trein/tram&onderd.	3811585	Afval ov.non-Ferro
2709999	Loondnst elektr.app.	3030300	VliegtHeliZweefBall.	3811591	Houtafval
2711000	Elek.mot/trafo&ond.	3030590	Straalmotoren	3812000	Afval gevaarl./gifst
2712900	Schakel/verdeel&ond.	3030990	Ond.v.luchtvaartuig.	4100011	Bouw nieuw_woning
2720000	Batterijen/accu's	3091000	Motorfietsen&onderd.	4100012	Bouw onderh_woning
2739000	Geïsoleerde kabel	3092000	Fietsen&ond(nt-mot.)	4100021	Bouw nieuw_gebouw
2740000	Verlichtingsart/-ond	3099090	Ov.wagens/transp.mid	4100022	Bouw onderh_gebouw
2751110	Koel-/vrieskasten	3100100	Zitmeubelen	4121009	Inv.eb.woningen
2751130	Was-/droogmachines	3100200	Meubeldelen	4122009	Inv.eb.bedr.gebouw
2751299	Elektr.kookappar.	3101000	Bedrijfsmeubelen	4200009	Inv.eb.gww-werken
2752000	Hh.VerwKook(nt-elek)	3102000	Keukenmeubelen	4211000	Wegen_gww
2759000	Ov.el.huish.app/ond.	3103000	Matrassen	4212129	SpoorVliegSpecif_gww
2790000	Ov.elektr.appar.ed	3109120	Slaapkamermeubel.	4213000	Kunstwerken_gww
2800008	Exp.2e-h.machines	3109900	Overige meubelen	4221200	KabelsBuizen_gww
2800009	Inv.eb.mach./instal.	3109999	Loondnst meubels	4291000	Waterbouw_gww
2809100	Onderd.v.machines	3209999	Loondnst Medis/Ov.hh	4312310	SloopGrondwerk_won
2809999	Loondnst machines	3210000	Sieraden/munten	4312320	SloopGrondwerk_geb
2811000	Turbine/motor	3220000	Muziekinstrum.	4312330	SloopGrondwerk_gww
2812000	Pomp/compressor	3230000	Sportartik.&-mater.	4320031	Instal.nieuw_gww
2814000	KraanKlepAfluiser	3240000	Spel/spelgoed	4320032	Instal.onderh_gww

4321011	Instal.nieuw_woning	5222000	OvDstverl.verv.water	108	AfvalPlastic
4321012	Instal.onderh_woning	5223000	OvDstverl.verv.lucht	109	AfvalHout
4321021	Instal.nieuw_gebouw	5224000	Laden/lossen vracht	110	AfvalTextiel
4321022	Instal.onderh_gebouw	5229000	Vrachtbemiddeling	111	AfvalOverigNietMetaal
4322011	Isolatie nieuw_won	5310000	Postdiensten	112	AfvalAfgedanktMateriaal
4322012	Isolatie onderh_won	5320000	Koeriersdiensten	113	AfvalPlantDiet
4322021	Isolatie nieuw_geb	5510000	Hotels/pensions	114	AfvalGemengd
4322022	Isolatie onderh_geb	5523000	Overige logies	115	AfvalSlib
4330011	Afwerk.nieuw_won	5610000	Maaltijdverstrekking	116	AfvalMineraal
4330012	Afwerk.onderh_won	5620000	Catering	201	RecycleChem
4330021	Afwerk.nieuw_geb	5630000	Drankverstrekking	202	RecycleIJzer
4330022	Afwerk.onderh_geb	5811100	Studieboeken	203	RecycleNietIJzer
4330030	Afwerking_gww	5811120	Naslagwerk/Kalender	204	RecycleGemengdMetaal
4390011	Werkzam.nieuw_won	5811300	E-boeken	205	RecycleGlas
4390012	Werkzam.onderh_won	5811900	Overige boeken	206	RecyclePapier
4390021	Werkzam.nieuw_geb	5813100	Gedrukte krant/dagbl	207	RecycleRubber
4390022	Werkzam.onderh_geb	5813200	Krant/dagbl.online	208	RecyclePlastic
4390030	Ov.werkzaamh.Bouw	5813300	Advertenties	209	RecycleHout
4511007	MargeCons.2eh.auto	5814110	Gedrukte alg.tydschr	210	RecycleTextiel
4519407	MargConsOv.2eh.voert	5814120	Gedrukte vaktydschr	211	RecycleOverigNietMetaal
4520000	RepOnderhWas_AutoMot	5814200	Tijdschriften online	212	RecycleAfgedanktMateriaal
4610000	Handelsdiensten	5819140	Waardepapier	213	RecyclePlantDiet
4645009	Groothand.marges	5819150	Reclamedrukwerk	214	RecycleGemengd
4700007	MargConsOv.2eh.goed	5819190	Overig drukwerk	215	RecycleSlib
4745009	Detailhand.marges	5819200	InhoudOnline	216	RecycleMineraal
4910000	Pass.verv.per trein	5821000	Computerspellen	301	ExtractiePrimGewas
4920000	Goed.verv.per trein	5829000	Softw.drager/online	302	ExtractieVeevoerGewas
4931000	Pass.vervoer TramBus	5911100	Filmprod./distrib.	303	ExtractieHout
4939900	Taxi/Ov.pers.vervoer	5911200	Film/Video op drager	304	ExtractieVis
4941000	Wegverv.vracht	5914000	Bioscoop/filmhuis	305	ExtractieZout
4950000	Vervoer via pijpleid	5920100	Geluidsprod/distrib.	306	ExtractieKalksteen
4950519	Vervoersmarges	5920800	Muziek op drager/pap	307	ExtractieKlei
5010300	Veerdiensten	5920900	MuziekDownloads	308	ExtractieZandGravel
5010900	Gr.vaart passagiers		Vaste biomassa (hout,	309	ExtractieAardgas
5012200	ZeeKustVerh/sleepvrt		houtafval en overig) voor	310	ExtractieAardolie
5020100	Zee-/kustvaart goed.	2059911	energie	311	ExtractieWater
5030100	Pers.verv.binn.vaart		Vloeibare biomassa voor	401	BalansInO2Verbranding
5034200	Overige binnenvaart	2059912	energie	402	BalansInO2Adem
5040100	Goed.verv.binn.vaart	2059913	Biogas voor energie	403	BalansInNHaberBosch
5110180	Luchtv.pass lijndnst	101	AfvalChem	501	BalansUitH2OVerbranding
5110190	Luchtv.pass.charters	102	AfvalIJzer	502	BalansUitCO2Adem
5112200	Lease/Verh.vliegtuig	103	AfvalNietIJzer	503	BalansUitH2OAdem
5121140	Luchtv.vrachtCharter	104	AfvalGemengdMetaal	601	EmissieCO2
5121190	Luchtv.vracht Lijn	105	AfvalGlas	602	EmissieOverigeBKG
5210000	Opslag VeemPakhuis	106	AfvalPapier	603	EmissieOverige
5221000	OvDnstverl.verv.land	107	AfvalRubber	900	Restpost