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Target group and scope of the circular plastics regulation

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Background

The Dutch government is working on a national circular plastics regulation, which would mandate the use of 25-30% recycled or bio-based plastic in plastic products produced in the Netherlands, starting in 2027 and mandated by 2030. The target group of these regulations are plastic processors & converters. To better define the target group and scope of the circular plastics regulation, RVO asked TNO to analyse and summarise relevant microdata from CBS. For this purpose, RVO asked 8 questions, which are (partly) answered in this memo, which accompanies the respective data sheets in Excel (file “CBS_export_Target group and scope of the circular plastics regulation”).

Explanatory Notes

Results are based on calculations by TNO using non-public microdata from Statistics Netherlands (CBS). Please find the list of product codes considered in the Excel sheet ‘Product Codes’.

Time series of data

All numbers mentioned in this summary are for 2020. Where possible, information for the years 2016-2022 was compiled in the respective Excel sheets.

Data export restrictions

There are several guidelines that must be followed for data to be exported from the CBS Remote Access environment. These guidelines limit what we can report on. The relevant guidelines² and their consequences in our context are:

- ‘All tabular and similar output should have at least 10 units (unweighted) underlying any cell or data point.’ The implication of this is, for example, at least 10 companies need to form part of a sector code for us to report that sector code. Another example is that at least 10 countries need to import a certain polymer for us to report the total value of that polymer’s import.
- ‘In all magnitude tables and similar quantitative data, the largest contributor to a cell should not contribute more than 50% of the total amount in the cell’. An example of this in our context is when calculating the sum of a group of companies’ income, there should not be one company whose income contributes more than 50% of the total income. If that is the case, we cannot report the value of the group’s income for that year.

Where exact values could not be released from the Remote Access environment due to these restrictions, we have tried to provide as much contextual information as possible, for example, the percentage contribution that a certain polymer makes to the total import of polymers. The restricted values are indicated by ‘NA’ in the document’s tables below.

Differences in classification codes

The dataset uses Combined Nomenclature (CN) for product codes, while PRODCOM uses PCC8 codes. The codes in excel sheet provided by RVO for polymers and products that contain plastic are PCC8 codes. This resulted in a mismatch between product codes. With help from CBS, we were able to create a CN list of polymer codes, however, this was not

² Rules and sanctioning policy: [Rules and sanctioning policy | CBS](#), Export Guidelines: [Export of information | CBS](#)

possible for the products that contain plastic². Question 4 was particularly impacted by this mismatch.

Company mergers

CBS does not explicitly track and mention the merging (or diverging) of companies. The business IDs of the companies that are merging will be replaced with a new business ID. Hence, changes in the number of companies are not only caused by companies opening or closing, but also by merging or diverging of companies.

² CN codes for polymers: [StatLine - Goederen; grensoverschrijding, GN \(8 digits, afdeling V-VII\), landen \(cbs.nl\)](#)

1 Companies that would fall under the current scope of the planned National circular plastics regulation (SBI 20-22)

1.1 Number of companies within the SBI 20-22 range

There are **2762 companies within the 20-22 SBI range** found in the ABR Dataset³. This SBI range was deemed most relevant by RVO for the scope of the regulation. Below we list how they distribute among the three SBI groups (20, 21, 22) in 2020:

- 20 (Vervaardiging van chemische producten): 1099 companies
- 21 (Vervaardiging van farmaceutische grondstoffen en producten): 253 companies
- 22 (Vervaardiging van producten van rubber en kunststof): 1410 companies (this group is most likely the 'plastic processors & converters')

Values for other years can be found in the Excel sheet 'General ABR Group' column C: Total.

1.2 Import and export numbers of companies within the SBI 20-22 range

There is no specific data on how many (kg) polymers a company processes. However, by looking into the import and export of polymers by a company, we can get an idea of the scale. Unfortunately, there is only information regarding the monetary value of a company's imports and exports. **The total import value of polymers into the companies that fall within the SBI range of 20-22 is €475 349 134** (Sheet 'General ABR Group' column J:Invoer). This value includes the freight and insurance costs up to the Dutch border for products imported from EU countries. The **total export value** of polymers of these companies cannot be extracted from CBS due to data export restrictions (see explanatory notes). Below we list the total import, export and re-export numbers by specific SBI code group:

TABLE 1: THE IMPORT, EXPORT AND RE-EXPORT VALUES BY SBI GROUP IN EUROS FOR THE YEAR 2020

Group	Import (€)	Export (€)	Re-Export (€)
20	352 118 262	336 190 634	NA
21	8 854 941	NA	NA
22	114 375 931	53 838 768	5 648 280

1.3 Apparent polymer processing of companies within the SBI 20-22 range

The CBS data does not cover how many (kg) polymers a company procures from other companies within the Netherlands (neither in physical nor in economic terms). Only the economic and physical value of polymers produced by the companies themselves is available. Nevertheless, we calculated an incomplete economic value of the apparent **polymer processing** balance with the available data for companies within the SBI 20-22 range, i.e., total import – (total export and re-export) + polymer production of the companies within SBI 20-22 (where available). As an additional limitation for the year 2020, both export

³ [Abr: Algemeen bedrijven register | CBS](#)

and re-export numbers were restricted from CBS. Nevertheless, **for the SBI group 22 there is sufficient data for calculating the apparent polymer processing: €238 334 883 (excluding polymers procured from within NL).**

Values for all years and groups can be found in sheet 'General ABR Group', column N: Apparent Consumption.

1.4 Total apparent polymer processing in the Netherlands

National balance of apparent polymer processing in the Netherlands

There is information on both the physical and economic values of polymers produced in the Netherlands. Therefore, on a national level we can calculate the economic value of the apparent total polymer processing in the Netherlands by summing up the total polymer production in the Netherlands with the total polymer imports and subtracting the total polymer exports and re-exports. For 2020, this amounts to €7 163 268 480.

1.5 Additional information sources

The PS_Industrie dataset reports various variables that could be of interest, but they do not provide the level of detail required here. Monetary values for variables such as 'Purchasing raw materials and consumables for self-manufactured products domestically' are reported. These figures are not broken down any further into product codes of the materials purchased. Therefore, it cannot be determined which shares polymers have in the reported values. Nevertheless, the values are still collected and reported in sheet 'General ABR Group' columns D-I.

2 Composition of the NRK members & their processing volumes

2.1 Distribution of NRK members over SBI codes

From the NRK (Federatie Nederlandse Rubber- en Kunststofindustrie) list of companies, **212 companies fall within the 20-22 SBI range and 192 are outside of this range** (Sheet NRK Groups, column C: Number of companies). This is the number of unique companies within these two groups. It was noticed that a company would appear in the NRK list multiple times. We will address each group by *within* and *outside*, respectively. The exact SBI codes for both groups are listed below, and descriptions found in [CBS documentation](#):

Within SBI 20-22: 2012, 20141, 2016, 2017, 2041, 2052, 2060, 2219, 2221, 2222, 2223, 2229

Outside SBI 20-22: 1084, 1395, 1396, 1520, 16239, 1624, 17211, 1724, 18124, 18129, 23611, 2399, 2442, 2453, 2512, 2562, 2573, 2620, 2896, 2899, 29202, 2931, 2932, 3012, 3103, 3230, 32502, 32999, 3812, 3821, 3832, 4321, 43222, 4329, 4332, 4391, 45203, 45312, 4612, 4614, 4619, 46462, 46497, 46499, 4662, 4663, 46694, 46696, 46699, 46723, 46738, 46751, 46762, 46769, 46779, 46902, 52101, 52242, 6202, 6420, 6832, 70101, 70102, 70221, 70222, 7112, 71202, 72111, 72192, 72199, 74102, 7490, 8292, 8542, 9411, 94995

2.2 Apparent polymer processing of the NRK members

The process of estimating how many polymers they process is the same as described in Section 1. Companies that would fall under the current scope of the planned national circular plastics regulation (sbi 20-22). The total economic import value of polymers into the company groups (sheet NRK groups, column M: Invoer) are as follows:

Within SBI 20-22: €144 046 089

Outside SBI 20-22: €117 427 537

Apparent consumption: production + import – export - re-export:

Within SBI 20-22: €4 090 890 195

Outside SBI 20-22: Incomplete due to restricted production value

Values for all years can be found in sheet NRK groups, column Q: Apparent Consumption.

Again, these values include the freight and insurance costs up to the Dutch border for products imported from EU countries. Moreover, the apparent consumption calculation excludes polymers procured from within the Netherlands that are outside the SBI 20-22 range. The exact product codes imported can be found in sheet NRK groups, column R: Product codes.

3 Characteristics of NRK members that do not fall under SBI code 20-22

Additional information was extracted from the ABR dataset to gain more insight into the type of companies that the NRK members consists of. The information is grouped by groups within the 20-22 SBI range, and those outside of the range. This allows for differences between these companies to be noticed, as well as the similarities across both groups that are indicative of their label as a 'processor'.

The top 5 most frequent size classes (number of employees) and sector codes were extracted, however due to the guidelines mentioned above, it happens that not all 5 information points can be reported.

Size classes: The two groups shared size classes 30 (5-9 employed persons), 40 (10-19 employed persons), 50 (20-49 employed persons) and 60 (50-99 employed persons) in their top 5 most frequent size classes, however, not in the same order. The translation of all size classes can be found in the Appendix.

Sector codes: Both groups have the most frequent sector codes of 11002 (National, privately owned non-financial corporations' sector) and 11003 (Foreign-owned non-financial corporations).

More details can be found in sheet NRK groups, column K-L.

4 Destination of the plastic products from the plastic converters

4.1 Mismatch in product codes

IHG dataset of CBS uses Combined Nomenclature (CN) for product codes, while PRODCOM uses PCC8 codes. The codes in the excel sheet provided by RVO for polymers and products that contain plastic are PCC8 codes. Within the project time, we were not able to translate these PCC8 formatted codes into CN format, and thus were not able to gather any export information for these plastic products and provide a clear picture of where these products end up.

4.2 Production numbers for polymers & plastic products

We could, however, gather information about the production of products by these companies. The polymer and plastic product codes provided by RVO were tracked in the PRODCOM dataset⁴. The sales value (in euros), quantity of product produced, and quantity of sold product are reported per product type (**polymer** or **plastic product**) and per company group (*outside* or *within* SBI range 20-22).

In 2020:

Polymers *within* SBI 20-22: 57 companies produced 28 product codes, totalling 2 856 437 tons. The sold weight of produced products was 2 755 957 tons, with a value of €4 061 823 000.

Plastic Products *within* SBI 20-22: 198 companies produced 70 product codes, totalling €3 324 580 000 EU sales. 16 084 523 kg of the product produced was sold, also reported as 495 349 000 units.

Polymers *outside* SBI 20-22: no information was able to be released from CBS.

Plastic products *outside* SBI 20-22: 31 companies produced 23 product codes, totalling €539 035 000 sales. 182 259 tons of the product produced was sold, also reported as 60 752 000 units. 5 802 800 pair units are reported sold in 2020. These are products that are sold together as pairs (for example: gloves).

The values can be found in the excel sheet Production SBI20-22 & NRK.

4.3 Additional information sources

Unfortunately, as mentioned above, many of these plastic product codes were not in the IHG dataset and so the detailed export information could not be collected. However, in the PS_industrie dataset, there is information about how much of the company's products are for exports. The invoiced turnover for self-manufactured products abroad is reported. This is not specified for each product code, but just for the company, and so could be a grand overestimate. These figures can be found in sheet NRK Groups, column G: OMZETPS211140.

⁴ [Prodcom: Verkopen; industriële producten naar productgroep | CBS](#)

5 Import of polymers

Only monetary import values are available in the IHG dataset. It is important to note the disclaimer made by CBS: *“this file does not contain the entire population; it contains the companies that remain after linking trade data from the IHG statistics and the ABR.”*⁵

5.1 Polymer imports to the Netherlands

In total, 11 polymer codes were imported to the Netherlands in 2020, by 33 companies. Since some polymers are predominately (more than 50 %) imported by one company, CBS does not allow the extraction of the total import value of these polymers. However, for the polymers we can report on, we include how much the polymer's import contributes to the total import value to give an idea of the share of the market (sheet Polymer Trade column D: Relevant Share Invoer). The table below shows the polymers imported and their reported import value, if available. More details can be found in sheet Polymer Trade, columns C-E. Descriptions of the CN codes can be found in sheet Product Codes.

TABLE 2: THE IMPORT VALUE OF POLYMERS BY PRODUCT CODE IN 2020

Product code (CN)*	Import value (EUR)
39069090	361549783
39232100	350450636
39023000	191369276
39014000	158130168
39139000	106324107
39029090	96222231
39019080	82154520
39119099	82126076
39039090	51116679
39013000	36662484
39033000	NA

*Find descriptions of codes in sheet Product Codes or at <https://opendata.cbs.nl/statline/#/CBS/nl/dataset/85441NED/table?dl=A8C89>.

5.2 Export of polymers

Similarly, the export values, relevant share and number of companies involved were collected for these product codes. These values can be found in sheet Polymer Trade columns F-H.

The variable “Wederuitvoer” in the IHG dataset reports the monetary value of the re-export of goods. This is described as *the goods that are transported via the Netherlands and*

⁵ [IHG: Internationale Handel in Goederen | CBS](#)

thereby become (temporarily) the property of a resident, without significant industrial processing taking place. This value can answer RVO's inquiry of how much is intended for direct resale to other countries. Many of the values per polymer cannot be reported due to the privacy restrictions, so instead the percentage contribution to the total re-export value for the year is reported. However, the total re-export value for all polymers in 2020 amounts to €676 448 629.

In 2020, information about 6 polymers that are directly exported again to other countries is gathered. The values can be found in sheet Polymer Trade column I-K.

5.3 Polymers imports by plastic processors & converters

It can be seen in sheet NRK Groups column R, that 30 polymer codes are imported by the plastic processors & converters from the NRK list. The total import value is €261 473 626 (sum of values in column of M).

6 Plastic producers in the Netherlands

Below is an overview of the production of polymers in the Netherlands and associated volumes/tonnages for 2020 from companies with 20+ employees. Much of the fine-grain information cannot be taken out of the Microdata environment due to restrictions described in the explanatory notes. It was noticed in the data that many of the polymers are produced by only one or two companies. Nonetheless, a subset of available information can be found below and the number of companies connected to each polymer code is reported. There is no specific code for biopolymer producers.

The PCC8 product codes for the top 10 polymers produced in 2020 are listed, in descending order, in the table below.

Product code	Description
20164015	Polyethyleenglycolen en andere polyetheralcoholen, in primaire vormen
20165130	Polypropyleen in primaire vormen
20161090	Polymeren van ethyleen, in primaire vormen (excl. polyethyleen en copolymeren van ethyleen en vinylacetaat)
20161039	Polyethyleen met een relatieve dichtheid < 0,94, in primaire vormen (excl. lineair polyethyleen)
20163010	Poly(vinylchloride), niet gemengd met andere zelfstandigheden, in primaire vormen
20164040	Polycarbonaten in primaire vormen
20164062	Poly(ethyleentereftalaat) in primaire vormen, met een viscositeitsgetal ≥ 78 ml/g
20165390	Acrylpolymeren in primaire vormen (excl. poly(methylmethacrylaat))
20161050	Polyethyleen met een relatieve dichtheid $\geq 0,94$, in primaire vormen
20162035	Expandeerbaar polystyreen in primaire vormen

235 companies were involved in the production of all polymers in the Netherlands that year.

In total, 7 282 258 tons were produced in the Netherlands in 2020, and 6 906 799 tons of product were sold, resulting in €10 108 688 000 of sales.

Figures for only 2019 and 2020 were collected. The sales value, quantity of product produced, and quantity of product sold can be found in sheet Polymer Production NL, columns C-F.

7 Plastic recyclers in the Netherlands

There was not sufficient budget left to answer the question on plastic recyclers. It also requires permission for an extra dataset from CBS.

8 Import, production, and export numbers for 2018 - 2022

Where possible, information from 2016-2022 was gathered in the excel file. One bottleneck was the PRODCOM dataset. This dataset is only available until 2020. Please read the README of the Excel for details of the content.

Appendix

See ABR Microdata metadata for full explanations of GkSbs and OGSectorCode. Below are excerpts of the document for quick understanding of the codes.

GkSbsCoordinated

Code description

00 0 employed persons
 10 1 employed person
 21 2 employed persons
 22 3 or 4 employed persons
 30 5 to 9 employed persons
 40 10 to 19 employed persons
 50 20 to 49 employed persons
 60 50 to 99 employed persons
 71 100 to 149 employed persons
 72 150 to 199 employed persons
 81,200 to 249 employed persons
 82,250 to 499 employed persons
 91,500 to 999 employed persons
 92,1000 persons employed up to and including 1999
 93 2000 or more employed persons

OGSector code coordinated

code	Description
11001	Government-owned non-financial corporations
11002	National, privately owned non-financial corporations sector
11003	Foreign-owned non-financial corporations
12100	Central bank (government-owned)
12201	Deposit institutions other than the central bank Owned by the government
12202	Deposit institutions other than the central bank National, owned by the private sector
12203	Depository institutions other than the central bank Owned by foreign countries
12301	Money Market Funds (GMFs) Owned by the government
12302	Money Market Funds (GMFs) National, owned by the private sector
12303	Money Market Funds (GMFs) Owned by foreign countries
12401	Investment funds other than GMFs Owned by the government

GkSbsCoordinated

Code description

00 0 employed persons
 10 1 employed person
 21 2 employed persons
 22 3 or 4 employed persons
 30 5 to 9 employed persons
 40 10 to 19 employed persons
 50 20 to 49 employed persons
 60 50 to 99 employed persons
 71 100 to 149 employed persons
 72 150 to 199 employed persons
 81,200 to 249 employed persons
 82,250 to 499 employed persons
 91,500 to 999 employed persons
 92,1000 persons employed up to and including 1999
 93 2000 or more employed persons

OGSector code coordinated

code	Description
11001	Government-owned non-financial corporations
11002	National, privately owned non-financial corporations sector
11003	Foreign-owned non-financial corporations
12100	Central bank (government-owned)
12201	Deposit institutions other than the central bank Owned by the government
12202	Deposit institutions other than the central bank National, owned by the private sector
12203	Depository institutions other than the central bank Owned by foreign countries
12301	Money Market Funds (GMFs) Owned by the government
12302	Money Market Funds (GMFs) National, owned by the private sector
12303	Money Market Funds (GMFs) Owned by foreign countries
12401	Investment funds other than GMFs Owned by the government

code	Description
12402	Investment funds other than GMFs National, owned by private individuals sector
12403	Investment funds other than GMFs Owned by foreign countries
12501	Other financial intermediaries except insurance institutions and pension funds: Owned by the government
12502	Other financial intermediaries with the exception of insurance institutions and pension funds: National, owned by the private individual
12503	Other financial intermediaries with the exception of insurance institutions and pension funds: Owned by foreign countries
12601	Financial auxiliaries Owned by the government
12602	Financial auxiliaries National, owned by the private sector
12603	Financial auxiliary companies Owned by foreign countries
12701	Financial institutions and lenders within a group In the hands of the government
12702	Financial institutions and lenders within a group National, owned by the private sector
12703	Financial institutions and lenders within a group In the hands of foreign countries
12801	Insurance institutions Owned by the government
12802	Insurance companies National, owned by the private sector
12803	Insurance institutions owned by foreign countries
12901	Pension funds Owned by the government
12902	Pension funds National, owned by the private sector
12903	Pension funds owned by foreign countries
13111	Government: Central government: Central government
13112	Government: Central government: Scientific education
13113	Government: Central government: Public law business organizations
13114	Government: Central government: Non-profit institutions (central)
13118	Government: Central government: Other institutions
13131	Government: Local government: Municipalities
13132	Government: Local government: Joint regulations
13133	Government: Local government: Provinces
13134	Government: Local government: Water boards
13135	Government: Local government: Special subsidized education
13138	Government: Local government: Non-profit institutions (decentralized)
13140	Government: Statutory social insurance institutions
14100	Employers
14200	Self-employed
14300	Employees
14410	Households with property income
14420	Households with pension income
14430	Households with other transfers
15100	Non-profit institutions serving households: Housing

code	Description
15200	Non-profit institutions serving households: Healthcare
15310	Non-profit institutions serving households: Recreation and sports services
15320	Non-profit institutions serving households: Cultural services
15400	Non-profit institutions serving households: Education
15510	Non-profit institutions serving households: Social protection
15600	Non-profit institutions serving households: Religion
15710	Non-profit institutions serving households: Services of political parties
15720	Non-profit institutions serving households: Services of employee organizations
15730	Non-profit institutions serving households: Services of professional organizations
15800	Non-profit institutions serving households: Environmental protection
15900	Non-profit institutions serving households: Neg
21101	Abroad: European Union: Member States of the European Union and In the Eurozone
21102	Abroad: European Union: Member States of the European Union and outside the Eurozone
21201	Abroad: European Union: Institutions of the European Union. European Central Bank
21202	Abroad: European Union: Institutions of the European Union except European Central Bank
22000	Third Countries and International Organizations
99999	Only Activities Abroad