

# Discussion on production data

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Pilot testing workshop of the statistical guideline for measuring flows of plastic throughout the life cycle for Vietnam

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# Production statistics

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**At the national level**, information on plastic production should be possible to collect within the official statistics as **part of economic statistics**.

Referring to the Classification of Statistical Activities (CSA) Rev. 1, these statistics are reflected under Domain 2 'Economic statistics' Activities 2.4.3 'Mining, manufacturing, construction'.

Generally, physical flows of products are classified using the **Central Product Classification (CPC)**.

**At the global level**, the main repositories of plastic production statistics is as follows:

Industrial Commodity Statistics Database from the United Nations Statistics Division (UNSD). The coding of the database is based on the Central Product Classification (CPC). However, for some commodity categories, production data is only available for limited countries or areas.

# Production statistics on plastics: Example from Viet Nam

Page 370 of the Industrial Commodity Statistics Yearbook Production Statistics (2007-2016), Department of Economic and Social Affairs, Statistics Division: [https://unstats.un.org/unsd/industry/Docs/ICSY\\_2016\\_v2.pdf](https://unstats.un.org/unsd/industry/Docs/ICSY_2016_v2.pdf)

## Sacks and bags, of plastics Sacs et sachets en matières plastiques

CPC-BASED CODE - CODE BASE CPC  
36410-0

Country or area	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Pays ou zone
<b>Africa</b>											<b>Afrique</b>
Egypt	...	...	77200	...	100439	...	...	48938	91270	...	Égypte
Togo	...	...	...	...	...	...	...	...	4323	4474	Togo
United R. of Tanzania <sup>1,2</sup>	...	90442	102198	...	...	...	...	...	...	...	Rép.-U. de Tanzanie <sup>1,2</sup>
<b>America, North</b>											<b>Amérique du Nord</b>
Cuba <sup>1,2</sup>	62000	41000	50000	75000	127000	110000	...	887000	1243000	930000	Cuba <sup>1,2</sup>
Mexico	296065	294745	264266	297761	329976	322214	303833	311684	305975	318965	Mexique
<b>America, South</b>											<b>Amérique du Sud</b>
Bolivia (Plur. State of)	...	...	...	...	...	23445	...	...	...	...	Bolivie (État plur. de)
Brazil	1905853	1285489	1143262	1326893	1599736	1450807	2476051	...	1849755	...	Brésil
Chile <sup>1</sup>	9136122	8801141	7595725	7954711	8783495	7863280	7770305	5194990	5194990	5990548	Chili <sup>1</sup>
Ecuador	78648	120750	87331	...	126234	...	131240	69639	75775	95745	Équateur
<b>Asia</b>											<b>Asie</b>
Azerbaijan	10277	9794	10140	6356	13292	13209	14539	21379	...	...	Azerbaïdjan
China, Macao SAR	C	415	...	...	...	...	...	...	...	...	Chine, Macao RAS
Cyprus	7400	8620	8340	8725	7118	5950	5837	5225	4324	5151	Chypre
Georgia	2153	2178	3353	4756	17067	5945	5314	6758	8432	8826	Géorgie
Iran (Islamic Rep. of)	57584	71980	77423	...	...	...	...	...	...	...	Iran (Rép. islam. d')
Kazakhstan	650	1032	1053	1415	1493	1066	967	699	481	...	Kazakhstan
Kuwait	40200	45088	43057	46281	46072	43590	36191	41756	41169	45171	Koweït
Kyrgyzstan <sup>1</sup>	16387	10628	9162	4900	6104	2543	4593	10243	13857	36678	Kirghizistan <sup>1</sup>
Mongolia <sup>1</sup>	1530	21316	6734	15110	31723	41974	62459	84931	63343	69928	Mongolie <sup>1</sup>
Nepal	9891	...	...	...	273901	...	...	...	...	...	Népal
Saudi Arabia	...	...	...	...	...	...	...	...	94862	94888	Arabie saoudite
Turkey	328180	346620	354535	489203	586144	570046	588581	584534	702437	673252	Turquie
Uzbekistan	...	...	...	...	...	...	...	...	...	47561	Ouzbékistan
Viet Nam	439688	500874	606070	662900	714409	741700	778785	814395	914433	1068600	Viet Nam

Statistical  
Yearbook  
of Viet Nam 2020

## 90 Một số sản phẩm công nghiệp chủ yếu Some main industrial products

	Đơn vị tính Unit	2015	2017	2018
Than sạch Coal	Nghìn tấn Thous. tons	41664	38409	42384
Dầu thô khai thác Crude oil	Nghìn tấn Thous. tons	18746	15518	13969
Trong đó: Khai thác trong nước Of which: Domestic	Nghìn tấn Thous. tons	16880	13557	11989
Khí tự nhiên ở dạng khí Natural gas	Triệu m <sup>3</sup> Mill. m <sup>3</sup>	10660	9866	70010
Quặng sắt và tinh quặng sắt Iron ores	Nghìn tấn Thous. tons	2691	5615	5588
Quặng đồng và tinh quặng đồng Copper ores	Tấn Ton	49032	48853	63880
Quặng Titan và tinh quặng Titan Titan ores	Nghìn tấn Thous. tons	237,7	225,3	235,1
Quặng antimoan và tinh quặng antimoan Antimoon ores	Tấn Ton	548,0	576,0	610,0

# CPC Ver. 2.1 Codes Relevant to Plastic

Annex 1 of the statistical guideline:

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- Annex 1 presents the CPC Ver.2.1 codes, which are relevant to plastic.
- Annex 1 includes plastic content information.
- The codes in the Annex are the most relevant ones.
- Countries can add more relevant CPC Ver. 2.1 codes when plastic contents are available.

**Note:** Plastic contents listed here are based on publicly available publications and assumptions. The numbers will be updated periodically since they evolve over time. Plastic contents also differ geographically, so countries are encouraged to gather information on plastic content at the national level.

# Discussion on trade data

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Pilot testing workshop of the statistical guideline for measuring flows of plastic throughout the life cycle for Vietnam

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# Foreign trade statistics

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**At the national level**, data on trade should be collected in official statistics as part of economic statistics.

Referring to the CSA Rev. 1, these statistics are reflected under Domain 2 'Economic statistics' Activities 2.6 'International trade and balance of payment'.

Physical flows of imported plastic can be calculated using foreign trade statistics by **Standard International Trade Classification (SITC)** or **Harmonized Commodity Description and Coding System (HS)**.

# Foreign trade statistics

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**At the global level**, the main repositories of plastic trade statistics are as follows:

- **UN Comtrade database.** Compiled by UNSD, the Comtrade database covers approximately 200 countries. Trade data can be extracted from the Comtrade database based on the Harmonized System (HS), the Standard International Trade Classification (SITC), or the Classification by Broad Economic Categories (BEC).
- **UNCTADstat Data Centre.** In the database, plastic trade flows are divided into five life cycle categories, which are primary plastic, intermediate forms of plastic, intermediate manufactured plastic products, final manufactured plastic products, and plastic waste. It is also based on the Harmonized System (HS) (UNCTAD, 2021).

# Foreign trade statistics: Example from Viet Nam

Statistical Yearbook of Viet Nam 2020

## Using the Standard International Trade Classification (SITC)

### 246 (Tiếp theo) Một số mặt hàng xuất khẩu chủ yếu (Cont.) Some main goods for exportation

	2015	2017	2018	2019	Sơ bộ Prel. 2020
<b>KHỐI LƯỢNG (Nghìn tấn) - VOLUME (Thous. tons)</b>					
Gạo - Rice	6582,2	5818,5	6107,1	6370,6	6249,1
Dầu thô - Crude oil	9486,4	6805,9	3961,0	3976,2	4656,8
Cao su - Rubber	1137,6	1381,1	1563,4	1700,8	1749,7
Cà phê - Coffee	1341,2	1566,3	1877,0	1658,0	1565,3
Than đá - Coal	1747,7	2228,6	2387,5	1143,5	909,6
Hạt điều nhân - Shelled cashew nut	328,3	352,8	373,5	460,5	514,7
Hạt tiêu - Pepper	131,5	215,0	232,9	284,4	285,3
Chè - Tea	126,9	149,1	131,7	147,7	135,0

### 252 (Tiếp theo) Một số mặt hàng nhập khẩu chủ yếu (Cont.) Some main goods for importation

	2015	2017	2018	2019	Sơ bộ Prel. 2020
Thủy tinh và các sản phẩm từ thủy tinh Glass and glass products	547,3	661,5	679,3	951,5	1442,8
Phế liệu sắt thép - Iron and steel scrap	808,6	1396,6	1936,4	1661,2	1672,1
Sắt, thép - Iron, steel	7491,7	9076,1	9901,6	9506,2	8066,9
Sản phẩm từ sắt, thép - Iron, steel products	3777,3	3206,5	3675,8	4090,2	4537,5
Sản phẩm từ kim loại thường khác Products made from other basic metals	606,5	900,6	1738,8	1607,9	1426,2
Hàng điện tử, máy tính và linh kiện Electronic goods, computers and their parts	23211,4	37774,2	43225,1	51598,3	63971,1
Hàng điện gia dụng và linh kiện Domestic electrical appliances and components	1314,0	1720,2	1865,6	2041,5	1990,4
Điện thoại và linh kiện Phones all of kinds and their parts	10968,0	17088,7	16781,3	15595,2	16645,3
Máy ảnh, máy quay phim và linh kiện Cameras, camcorders and their components	1624,5	2169,5	2463,4	2645,7	2483,5
Dây điện và cáp điện - Electrical wire and cable	962,4	1214,4	1359,5	1359,5	2050,8
Ô tô nguyên chiếc - Motor vehicles, assembled	2990,2	2261,9	1834,8	3168,8	2349,1
<b>KHỐI LƯỢNG (Nghìn tấn) - VOLUME (Thous. tons)</b>					
Xăng, dầu - Petroleum oil, refined	10415,0	13301,3	11753,6	10400,2	8267,7
Trong đó - Of which:					
Xăng - Gasoline	2675,6	3188,3	2052,6	2002,7	1533,5
Dầu diesel - Diesel oil	5212,7	7309,0	6416,6	5013,9	4812,9
Dầu mazut - Mazout	710,7	597,1	699,0	833,1	676,6
Dầu hỏa - Kerosene	40,7	48,9	43,1	31,8	65,5
Nhiên liệu máy bay - Jet fuel	1775,5	2158,0	2542,3	2518,8	1179,2



# SITC Rev. 4 Codes Relevant to Plastic

Annex 2 of the statistical guideline:

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- Plastic in primary forms correspond to SITC Division 57 'Plastics in primary forms' or HS groups from 3901 to 3914, while semi-finished plastic products and finished plastic products can be reflected through SITC Division 58 'Plastics in non-primary forms', or HS groups are from 3916 to 3921.
- Annex 2 proposes the possible scope of products by SITC, divided into plastic in primary forms, semi-finished plastic products, and finished plastic products.

# Discussion on consumption data

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# Consumption statistics (1/2)

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Data on consumption may be available from several sources:

- Data could be available **from reporting in countries that have extended producer responsibility schemes on plastic**. In such schemes, importers or producers may be obliged to report on the data of products placed on the market. Such data could be used; however, it should be noted that, usually, the more mass a reporter declares, the higher the compliance fees, so the reported mass may be undercounted.
- The amount of plastic consumption embodied in some products **can be estimated based on particular industry reports or datasets**. For example, the amount of plastic consumption embodied in vehicles can be calculated based on the sales or the number of newly registered vehicles for the year.

## Consumption statistics (2/2)

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With little availability of detailed consumption statistics, it is more practical to estimate the plastic consumption with the proxy indicator '**apparent consumption**' as proposed in Chapter 4.1 of the Statistical guideline.

**To be able to estimate 'apparent consumption'** in equations proposed in the Statistical guideline, **data on production and trade is necessary**. The plastic parts are also necessary for estimating the plastic embedded in plastic-containing products, which are listed in Annex 1, Annex 3, and Annex 4 of the Statistical guideline.

# Discussion on waste data

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# Waste statistics

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## Data on plastic waste generated

Official statistics on plastic waste generated are very limited.

At the national level, these statistics can be collected as part of environmental statistics. Referring to the CSA Rev. 1, these statistics are reflected under Domain 3 'Environment and multi-domain statistics' Activities 3.1 'Environment'.

Plastic waste generated can be estimated using equations in the [Statistical guideline](#) using data on production and trade. Assumptions on parameters L and f can be found in Section 6.2.5 of the Statistical guideline.

# Waste statistics

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## Data on waste management

Data on formal waste collection and treatment at the country level is more available than data on waste generated. However, data on formal plastic waste collection and treatment is still very limited.

Referring to the CSA Rev. 1, these statistics are reflected under Domain 3 'Environment and multi-domain statistics' Activities 3.1 'Environment'.

Data on formal plastic waste collection can be collected through household surveys, municipalities' administrative records, secondary raw materials collection points, and plastic recycling facilities. Recyclers usually have more detailed information on their plastic waste inputs, capacities, and even processing loss, which can be very valuable for the waste system.

# Waste statistics

## Data on plastic waste trade

- At the national level:
  - ✓ data should be collected in official statistics as part of international trade statistics. The related transactions are reported by Customs.
  - ✓ data on specific plastic waste trade can sometimes also be collected from the reporting of waste-handling companies.
- At the global level, the main repositories of plastic trade statistics are the UN Comtrade database, reflecting data reported by countries, and the UNCTADstat plastics database derived from UN Comtrade, based on HS codes.
- It should be noted that international trade statistics on plastic waste trade can be unreliable in some cases, since they are often not associated with any monetary flows and are not recorded in their entirety in the trade statistics.



# Waste statistics

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## Data on plastic released into the environment

Data on the release of plastic into the environment is not covered by statistical surveys and can be provided through:

- administrative records of government and non-government agencies responsible for the environmental protection and natural resources, as well as other ministries and authorities
- remote sensing and thematic mapping, related, e.g., to the leakage of plastic into the environment
- national monitoring systems, such as field-monitoring stations for water quality or air pollution
- scientific research (including citizen science) and special projects aimed at combating flows of plastic to the environment