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Ukraine's trade in non-food raw materials

Focus on EU-Ukraine trade relations

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Abstract

This country fiche provides a data-based overview of Ukraine's trade in non-food raw materials, with an emphasis on the country's trade relations with the EU in the context of Russia's aggression against Ukraine.

In 2020, non-food raw materials (excluding downstream) accounted for one third of the Ukraine's exports of goods. Raw materials exports were dominated by *iron and steel* product aggregates, mostly *iron ore* and *non-alloy iron & steel.*

The EU was the top export destination for all broad categories of non-food raw materials: *Abiotic, Biotic* and *Energy*.

Three quarters of non-food, non-energy imports from Ukraine consisted of various iron and steel products: *iron and non-alloy steel* (mainly crude steel and flat-rolled products)*; iron ore; stainless steel; pig, sponge and direct reduced iron* and *other alloy steel*.

For the EU, Ukraine represented a relevant sourcing country for several non-food materials/product aggregates: *manganese, silicon*, *wood*, as well as for various aggregates of the iron and steel value chain.

List of acronyms

COMTRADE	UN repository of official international trade statistics
CRM	Critical Raw Materials
No-CRM	Non-Critical Raw Materials
EU	European Union (27 countries)
HS	Harmonized System
NFNE	Non-food, non-energy (raw material commodities)
RMIS	Raw Materials Information System
UNCTAD	United Nations Conference on Trade and Development
UNCTAD-SoP1	UNCTAD's product list of Raw materials
UNCTAD-SoP2	UNCTAD's product list of Intermediate goods
UNSD	United Nations Statistics Division
WITS	World Integrated Trade Solution

Introduction

This report was developed within the RM4Trade project ([1]), as part of a series of trade fiches that feeds into a module of the Raw Materials Information System (RMIS) dedicated to raw materials analyses in the context of Russia's aggression against Ukraine ([2]).

Most of the existing trade-related country profiles (trade fiches) include economy-wide indicators on a country's trade in goods and services, alongside related economic indicators ([3]). This report narrows the focus to Ukraine's trade in **non-food raw materials**, covering three **broad categories: Abiotic, Biotic and Energy** that include "Materials/Product aggregates" to which we allocated the corresponding trade codes (at HS-6 digits level). The product scope covers commodities in the upstream and midstream stages of the value chain (primary raw materials, processed raw materials or semi-fabricated products), as well as secondary raw materials (see Methodological Notes).

The analysis focuses on Ukraine's trade flows with EU and highlights the relative position of the EU among other trading partners. For the selected materials/commodities with high value and share in the EU imports from Ukraine, it also shows the other sourcing countries that are potential candidates to replace supply from Ukraine.

The trade data is analysed at "**Material/Product aggregate**" level, zooming out within each material into the most relevant specific commodities as defined by trade codes (HS 6-digit level).

The methodological approach lies in the harmonised correspondence of "Materials/Product aggregate" to commodities at HS 6-digit level that include:

i) either raw materials (*primary, processed or secondary*) used as inputs to the manufacturing of intermediate goods, or *semi-fabricated products*, used as inputs to the manufacturing of finished/downstream goods;

ii) covered by one of the following Harmonized System (HS) chapters: 25-28, 31, 40, 44-49 and 68-81. The Biotic category also includes some trade codes from HS chapters 13 and 14 (only non-food commodities).

The analysis of the Ukrainian trade patterns by Material/Product aggregates is complemented by the broader picture, at a more aggregated product level: **Standard product groups** (which include downstream commodities – *Minerals, Metals, Stone and Glass, Chemicals, Plastic/Rubber, Wood, Fuels*) and **Stage of Processing (SoP) as defined by UNCTAD** (*Raw Materials and Intermediate goods*, both including food commodities).

The last section is dedicated to economic aspects. First, it presents the developments over the past decade of the unit value of EU imports from Ukraine compared to the unit value of the overall imports for selected commodities (the most relevant trade codes for EU imports from Ukraine). Second, it shows the importance of natural resources for the Ukrainian economy as compared to the EU and the global average.

([1]) JRC institutional Project 30322, under the 20176 - FFTA Portfolio
([2]) https://rmis.jrc.ec.europa.eu/
([3]) For example: DG Trade's, *Statistics*, details_ukraine_en.pdf (europa.eu); World Trade Organisation's *Trade profiles*, https://www.wto.org/english/res_e/statis_e/trade_profiles_list_e.htm

Main findings

Ukraine is an important global producer for a couple of primary raw materials (titanium minerals, kaolin, manganese, iron, uranium and zircon), a net exporter of upstream non-food, non-energy (NFNE) raw materials and a net importer for energy commodities.

Ukraine's NFNE raw materials exports were dominated by *iron and steel* product aggregates: *iron and non-alloy steel; iron ore; pig, sponge and direct reduced iron, stainless steel, other alloy steel*. In 2020, the first two categories made almost two-thirds of NFNE raw materials exports.

EU was the main destination of Ukraine' exports for all three broad categories of non-food raw materials – *Abiotic NFNE, Biotic NFNE* and *Energy*. The EU captured very high shares among the Top 10 NFNE Ukrainian exports of *manganese* (54% of total Ukraine's exports), *wood* (54%), *stainless steel* (46%), *other alloy steel* (43%), *iron and non-alloy steel* (32%), *iron ore* (33%), as well as of *other industrial minerals* (55%, mostly kaolin and fire-clay).

Various iron and steel product aggregates composed three-quarters of the EU NFNE imports from Ukraine: *iron and non-alloy steel* (mainly crude steel and flat-rolled products)*; iron ore; stainless steel; pig, sponge and direct reduced iron* and *other alloy steel*. High values of EU imports from Ukraine were recorded also for: *wood* (coniferous sawn, chipped lengthwise and oak), *manganese* (ferro-silico-manganese); *fertilisers* (anhydrous ammonia and urea), *other industrial minerals* (kaolin, fire-clay etc.) and *titanium* (mainly titanium ore).

As indicated by its share in extra-EU imports, **Ukraine was a relevant sourcing country for several non-food materials/product aggregates**: *manganese* and *silicon* (both as ferroalloys), *wood*, as well as for various products of the iron and steel value chain – from *iron ore* to *steel* (non-alloy, stainless steel, other alloys). Ukraine had also an important share in extra-EU imports for wood used to produce energy (*fuel wood* and *charcoal wood*).

The non-food raw materials **EU exports to Ukraine** included mainly *iron and non-alloyed steel* (mostly flat-rolled products), *stainless steel, alloy steel*, *aluminium, copper* and *paper*, but the values of exports were much lower as compared to those of corresponding imports.

Looking in a broader perspective, ie. by **Standard product groups of commodities** (including downstream) the picture is heterogeneous across Member States and product groups. The highest shares of Ukraine in extra-EU imports were for *Minerals* (7.4%), followed by *Wood* (4.3%) and *Metals* (2.8%). Ukraine was a very important sourcing country mainly for Central and Eastern European countries, but also for Austria *(Minerals* and *Wood)* and Luxembourg *(Metals)*. *Fuels* originating from Ukraine had a relatively high share in Hungary's imports, while for the others the share was negligible.

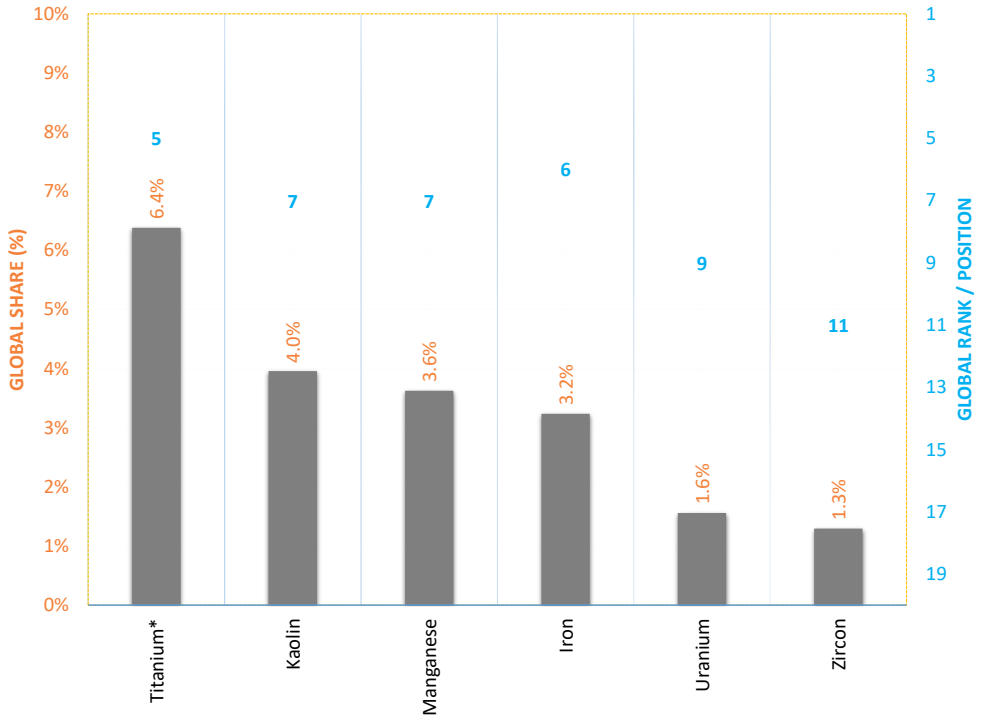
Over the 2010-2021 period, **the unit values of EU imports from Ukraine** were similar or slightly below the overall unit value of imports for the major non-food raw materials imported from Ukraine. Importing from Ukraine was much cheaper than the average unit price of imports in case of *unwrought titanium* and *oak*, but for the latter the price gap has diminished over the 2010-2021 period.

The contribution of natural resources to Ukrainian economy, as reflected by the **Natural resources rents** indicator (measuring the differences between the value of production and the total costs of production), has been decreasing considerably since 2012; in 2019 was below the global average.

1 Ukraine as global supplier of raw materials

As compared to Russia, Ukraine is producing a smaller number of non-food raw materials and their share in global market is relatively more modest, but still high. Among the critical raw materials extracted in Ukraine, only *titanium* has a significant global share (Figure 1), while the others (coking coal, natural graphite, gallium and germanium) have a share in global market below 1% (the reason for not being represented in the chart below). Regarding non-critical raw materials, Ukraine is an important global producer of iron ore (the 6th global producer).

Figure 1. Ukraine as global producer of primary raw materials (ores & concentrates): *share in global production (%)* and *global rank*



(*) Critical Raw Material

Source: World Mining Data, accessed in May 2022. Data refer to year 2020

2 Ukraine as EU trading partner (2020)

2.1 EU imports from Ukraine by Member State and by Standard product groups (4)

In 2020, *Minerals* had the highest share in extra-EU imports from Ukraine (7.4%). They were imported from Ukraine mainly by Czechia, Austria, Poland, Romania, Hungary and Slovakia (Table 1). *Wood* was imported to a large extent from Ukraine by Romania, Hungary, Poland, Bulgaria, and Czechia. *Fuels* from Ukraine had a relatively high share in Hungary's imports, while for the others the share was negligible.

Table 1. Share of Ukraine in the Member States' extra-EU imports in 2020, by Standard product groups (%)

	Minerals	Metals	Chemicals	Stone&Glass	Plastic/Rubber	Wood
Czechia	73.3	2.3	0.9	0.7	0.4	10.1
Austria	41.6	1.1	0.1	0.4	0.3	10.8
Poland	31.9	6.7	1.5	5.3	1.1	16.2
Hungary	31.2	2.9	0.6	3.8	1.1	21.1
Romania	28.7	8.1	1.6	8.7	1.2	22.7
Slovakia	21.6	3.5	0.8	2.6	0.7	8.1
EU	7.4	2.8	0.3	0.4	0.3	4.3
Italy	6.6	7.5	0.4	0.2	0.1	2.5
Latvia	5	8.4	11.3	4.2	2.4	7.5
Belgium	3.2	0.2	0	0.1	0.1	3
Spain	3.2	1.4	0.1	0.3	0.1	1.7
Estonia	3.1	5	0.2	1.3	0.9	4.5
Lithuania	2.2	6.2	1.4	5	2.8	9.3
Germany	1.4	1.2	0.2	0.2	0.1	2.7
France	1.3	0.4	0.1	0.1	0	1.3
Portugal	1	4.2	0	0.1	0	1.2
Slovenia	0.5	0.6	0.1	0.5	0.1	9.1
Bulgaria	0.2	15.3	8.8	2.9	2.2	13.3
Sweden	0.2	0.1	0	0.3	0.1	1.3
Greece	0.1	1.9	0.7	5.5	0.1	1.1
Croatia		1.1	0.2	1.7	0.4	2.3
Cyprus		1.2	0	0.1	0	1.2
Denmark	0	1.3	0	0	0.3	2.1
Finland	0	0.6	0.1	0.4	0.1	0.4
Ireland	0	0.2	0	0.1	0	0.1
Luxembourg		10.4	0.2	0.1	0.1	6.8
Malta		0.6	0	0	0	0.3
Netherlands	0	0.6	0.1	0.2	0	1.4

	Fuels
Hungary	11.9
Romania	0.8
Poland	0.7
Estonia	0.6
Bulgaria	0.2
Czechia	0.2
Lithuania	0.2
EU	0.2
Greece	0.1
Latvia	0.1
Austria	0.0
Belgium	
Croatia	0.0
Cyprus	0.0
Denmark	
Finland	0.0
France	0.0
Germany	0.0
Ireland	
Italy	0.0
Luxembourg	
Malta	0.0
Netherlands	0.0
Portugal	
Slovakia	0.0
Slovenia	0.0
Spain	0.0
Sweden	0.0

Source: JRC based on COMTRADE data

Across Member States, the EU imports from Ukraine in 2020 went mostly to Poland, Germany and Italy. Nevertheless, the picture varies also across Standard product groups. The biggest part of EU imports

(4) The Standard product groups contain HS 2-digit trade codes (detailed in the Methodological notes), including finished goods (i.e. they have completed the manufacturing process, but have not been yet sold or distributed to the end user).

of *Metals* was captured by Italy (35%), Poland (17%), Germany (10%) and Bulgaria (9%). *Minerals* originating from Ukraine were received mostly by Austria (25%), Czechia (22%) and Poland (20%) (Table 2). Poland and Germany captured the biggest shares of *Chemicals, Stone & Glass*, *Plastic/Rubber* and *Wood* imported by EU. The EU imports of *Fuels* were directed mostly to Hungary (68%).

Table 2. Allocation of EU imports from Ukraine by Member States in 2020, by Standard product groups (%)

	Minerals	Metals	Chemicals	Stone&Glass	Plastic/Rubber	Wood
EU	100	100	100	100	100	100
Italy	5	35	10	9	3	6
Poland	20	17	21	28	26	24
Germany	6	10	18	18	13	13
Bulgaria	0	9	12	2	8	3
Romania	5	6	5	12	9	10
Spain	5	4	3	2	3	2
Czechia	22	3	5	2	5	5
Netherlands	0	2	3	1	1	3
Portugal	0	2	0	0	0	0
Slovakia	5	2	2	2	4	2
Austria	25	1	2	3	2	5
Denmark	0	1	0	0	2	1
Estonia	0	1	0	1	1	1
Finland	0	1	0	0	0	0
France	1	1	2	1	0	3
Greece	0	1	2	4	1	0
Hungary	2	1	4	4	8	7
Latvia	0	1	7	1	3	2
Lithuania	0	1	2	4	5	4
Luxembourg		1	0	0	0	0
Belgium	2	0	0	2	2	3
Croatia		0	0	0	1	0
Cyprus		0	0	0	0	0
Ireland	0	0	0	0	0	0
Malta		0	0	0	0	0
Slovenia	0	0	1	0	0	2
Sweden	0	0	0	1	1	1

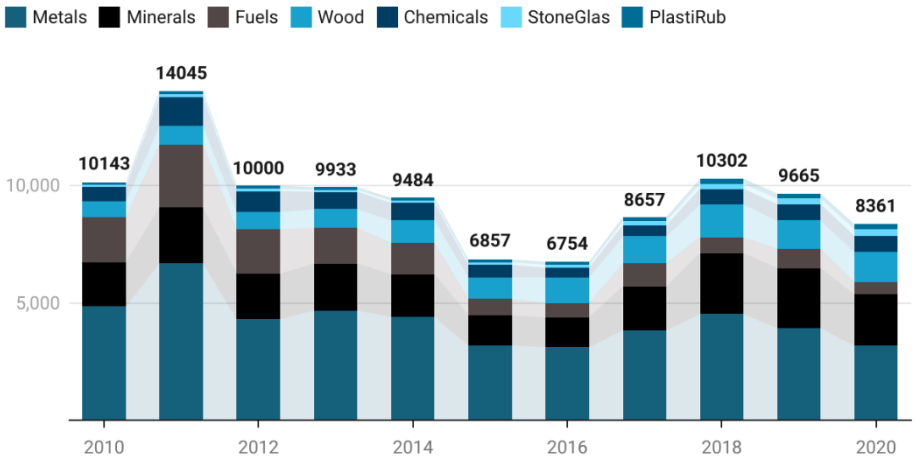
	Fuels
EU	100
Estonia	33
Lithuania	22
Poland	20
Netherlands	8
Czechia	3
Latvia	3
Slovakia	3
Spain	3
Belgium	1
Hungary	1
Romania	1
Austria	
Bulgaria	0
Croatia	0
Cyprus	0
Denmark	
Finland	0
France	
Germany	0
Greece	0
Ireland	
Italy	0
Luxembourg	
Malta	
Portugal	
Slovenia	0
Sweden	0

Source: JRC based on COMTRADE data

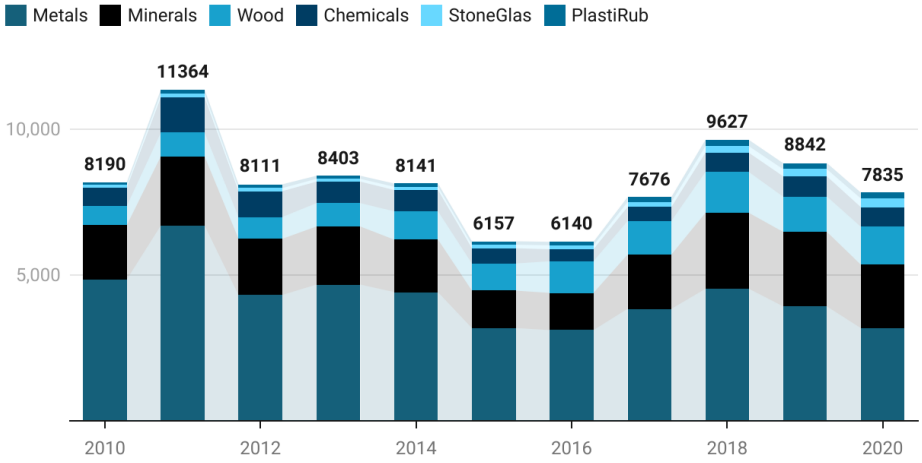
For the set of Standard product groups (including downstream) relevant for non-food commodities, the EU exports to Ukraine were generally higher than the EU imports from Ukraine over the period 2010-2021 (Figure 2). The EU trade with Ukraine experienced a reduction of trade flows values (both exports and imports) for the two consecutive years following the 2014 geopolitical crisis related with Russia's moves in Crimea and Donbas. On import side, *Fuels* dropped, but a significant decline occurred also for *Metals* and *Minerals*. On export side, the most affected were *Chemicals* and *Fuels.*

Figure 2. EU imports from Ukraine, by Standard product groups (million USD)

- Fuels included

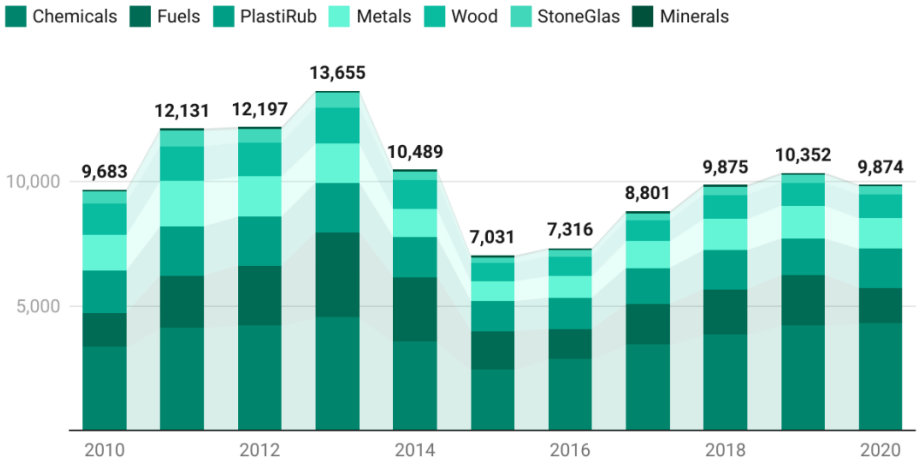


- Fuels excluded



Source: JRC based on COMTRADE d*ata*

Figure 3. EU exports to Ukraine, by Standard product group (million USD)



Source: JRC based on COMTRADE d*ata*

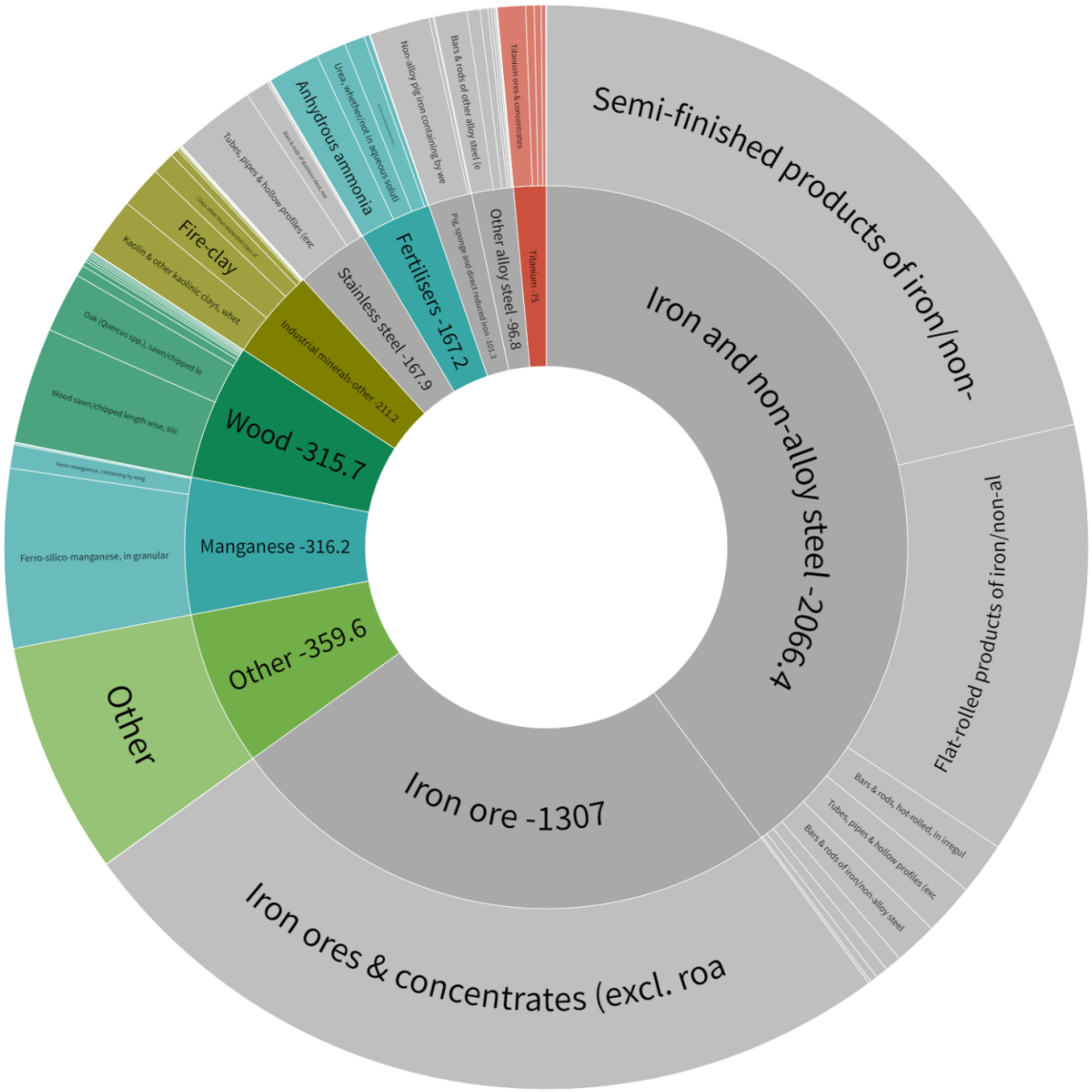
2.2 EU imports from Ukraine by broad categories of non-food raw materials (excluding finished products)

We defined three broad categories: two for non-food, non-energy (NFNE) – *Abiotic* and *Biotic* - and the third one – *Energy*. They include "Materials/Product aggregates" to which we allocated the corresponding trade codes, keeping only upstream and secondary raw materials.

In the Top 10 EU NFNE imports from Ukraine for *Abiotic & Biotic* broad categories (Figure 4), in 2020 almost three-quarters were various **iron and steel** products: **iron and non-alloy steel** (mainly crude steel and flat-rolled products)*;* **iron ore, stainless steel; pig, sponge and direct reduced iron** and **other alloy steel**.

High values of EU imports from Ukraine were recorded also for: **wood** (coniferous sawn, chipped lengthwise and oak), **manganese** (ferro-silico-manganese); and **fertilisers** (anhydrous ammonia and urea), **other industrial minerals** (kaolin, fire-clay etc.) and **titanium** (mainly titanium ore).

Figure 4. Top 10 *NFNE* (Abiotic and Biotic) EU imports from Ukraine, by materials/product aggregates (million USD) and commodities



Source: JRC based on COMTRADE data

2.3 Main materials imported by EU from Ukraine

As indicated by the share in extra-EU imports (Table 3), Ukraine was an important sourcing country for *Abiotic NFNE*, such as **manganese** and **silicon** (both as ferroalloys), as well as for various products of the iron and steel value chain – from *iron ore* to *steel* (**non-alloy, stainless steel, other alloys**).

Within *Biotic NFNE*, the imports of **Wood** other than for energy purposes were the most prominent, with 316 million USD, which represented 8% of the extra-EU imports for this product aggregate.

Ukraine had also an important share in extra-EU imports for a couple of *Energy* commodities, mainly for wood used to produce energy (***fuel wood*** and ***charcoal wood***).

Table 3. Main materials/product aggregates imported by EU from Ukraine (share in extra-EU imports ≥3% and value of imports >10 million USD), ranked by share in extra-EU imports (2020)

Category	Material/Product aggregates	EU imports from UA (mil USD)	Share in extra-EU imports (%)
Abiotic-NFNE	Manganese	314	26%
Abiotic-NFNE	Iron ore	1,307	16%
Abiotic-NFNE	Iron and non-alloy steel	2,066	13%
Abiotic-NFNE	Industrial minerals-other	211	10%
Abiotic-NFNE	Silicon	44	7%
Abiotic-NFNE	Pig, sponge and direct reduced iron	101	7%
Abiotic-NFNE	Caustic soda	25	6%
Abiotic-NFNE	Iron or steel	36	5%
Abiotic-NFNE	Other alloy steel	97	4%
Abiotic-NFNE	Stainless steel	168	4%
Abiotic-NFNE	Fertilisers	167	4%
Abiotic-NFNE	Zirconium	11	4%
Abiotic-NFNE	Titanium*	75	3%
Biotic-NFNE	Wood	316	8%
ENERGY	Wood charcoal	72	26%
ENERGY	Fuel wood	18	19%
ENERGY	Wood waste&scrap	77	8%
ENERGY	Carbon	48	8%

(*) denotes critical raw material

Source: JRC based on COMTRADE data

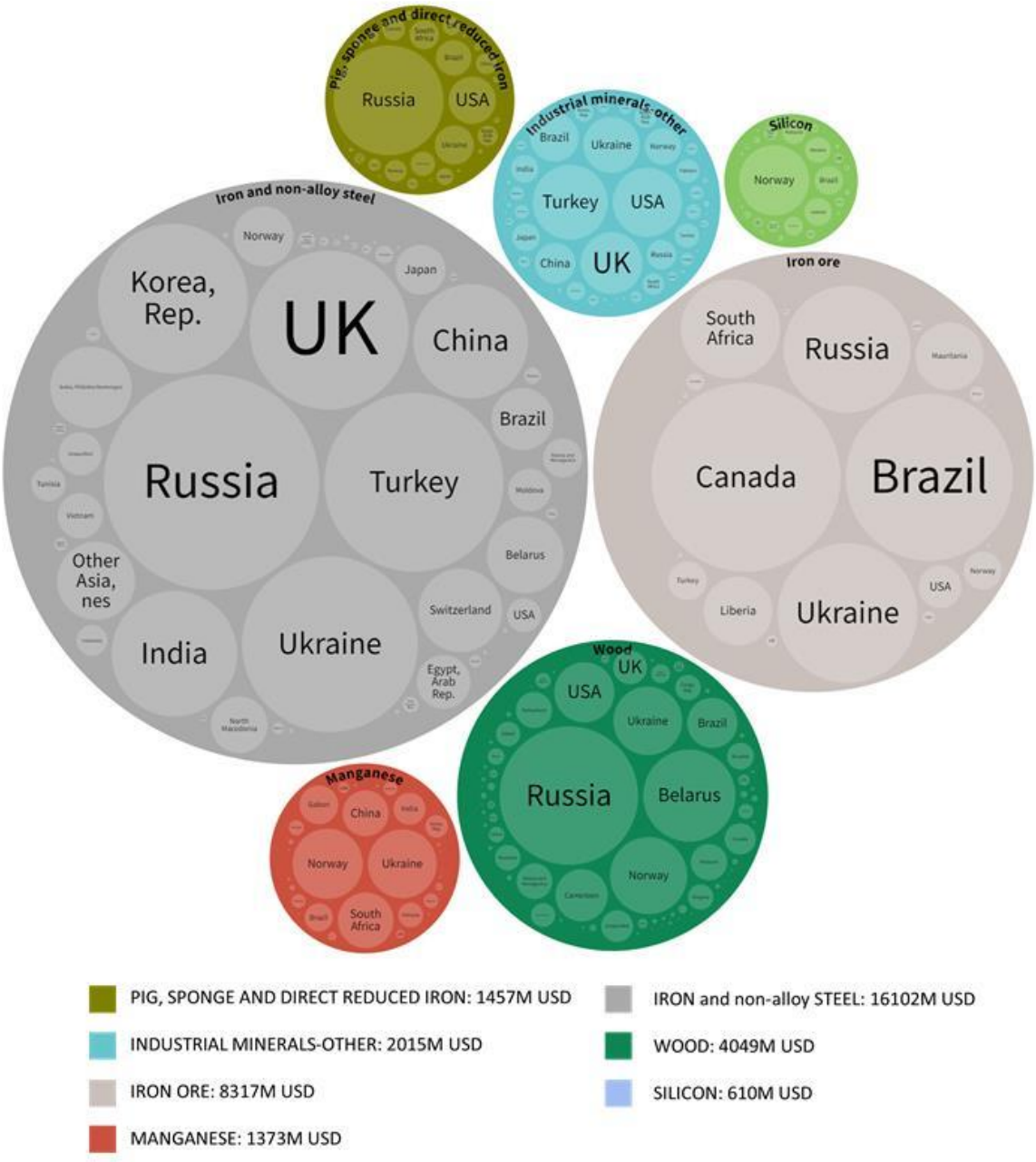
The following two charts are showing the major sourcing countries for those materials with share in extra-EU imports above 7%, first for *Abiotic* and *Biotic NFNE* (Figure 5), then for the *Energy* materials (Figure 6). By highlighting the geographical structure of EU imports, and validating with the production data, these figures give insights regarding possible future candidates to substitute the Ukrainian exports to the EU. For instance, candidate countries to substitute imports from Ukraine could be:

- iron ore: Canada, Brazil and South Africa;

- silicon: Canada, China, Brazil;

- manganese: South Africa, China, Gabon, India, Brazil.

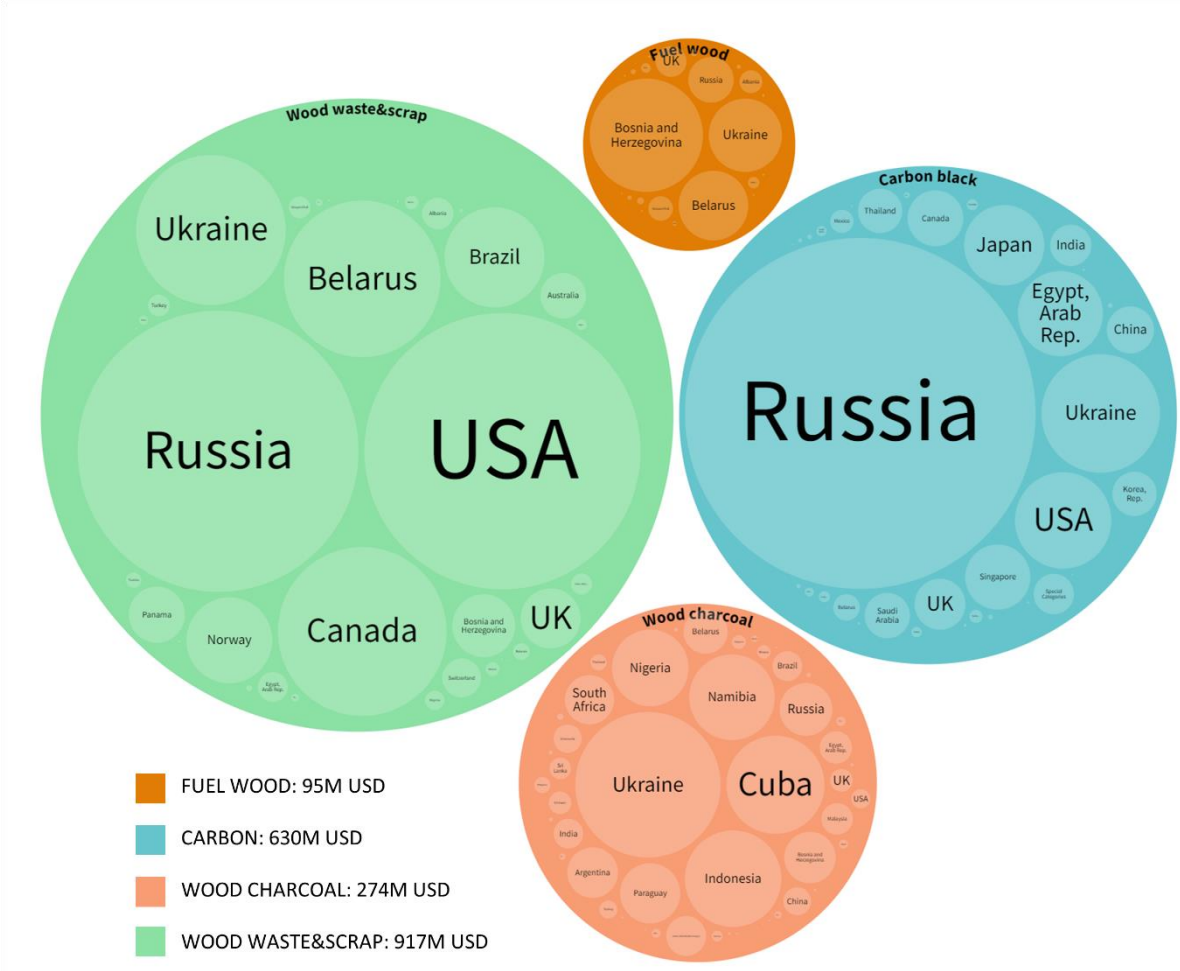
Figure 5. EU sourcing from third countries for the selected (*) NFNE materials (2020)



(*) materials with import share >7% and value of imports >10 million USD

Source: JRC based on COMTRADE data

Figure 6. EU sourcing from third countries for the selected (*) ENERGY materials (2020)



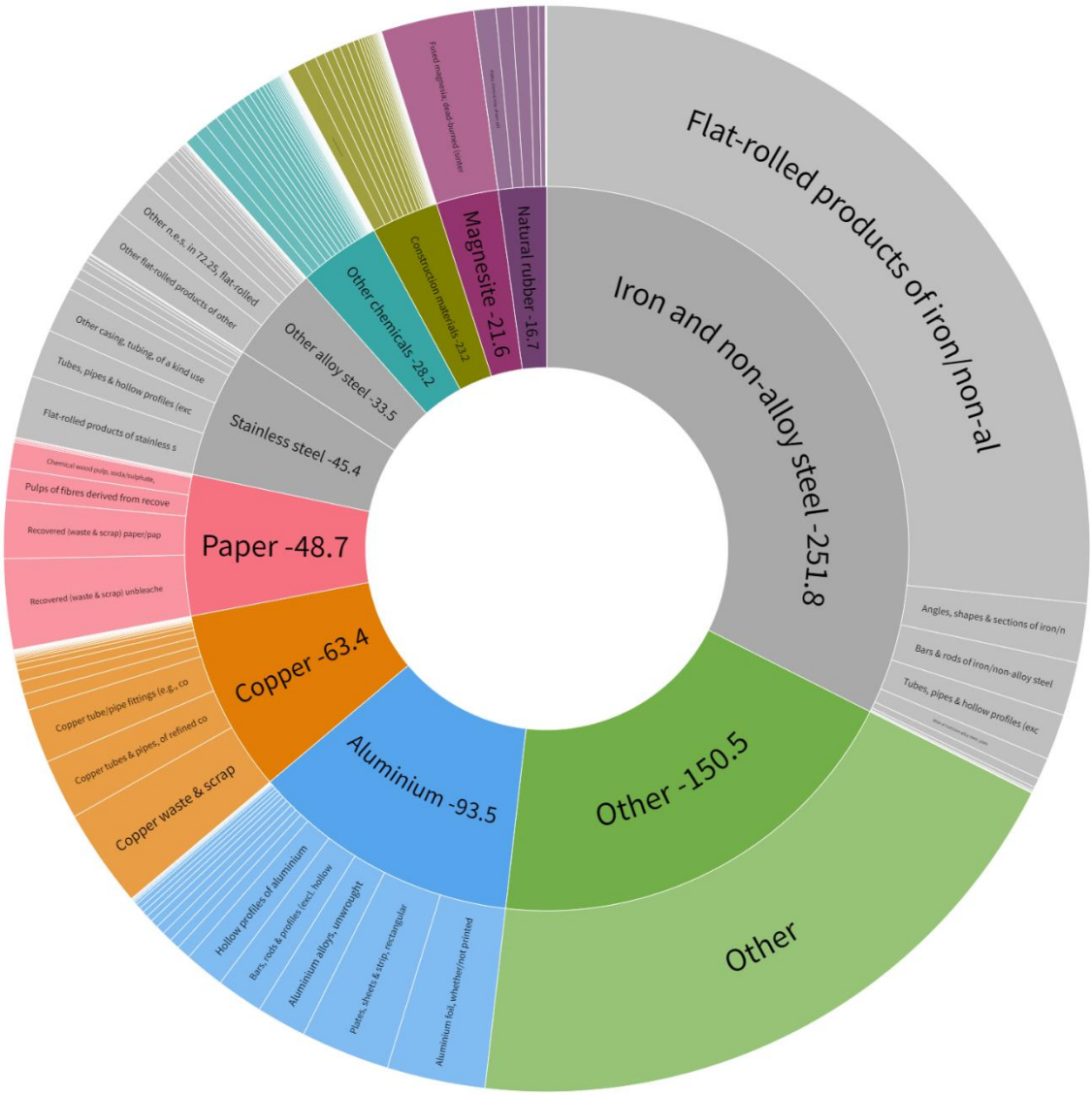
(*) materials with import share >7% and value of imports >10 million USD

Source: JRC based on COMTRADE data

2.4 EU exports of NFNE raw materials to Ukraine

The highest values of the NFNE EU exports to Ukraine in 2020 were registered by iron and steel, with several categories: **iron and non-alloyed steel** (mainly flat-rolled products), **stainless steel** and **alloy steel**. In the Top 10 NFNE EU exports to Ukraine there were also **aluminium, copper** and **paper**.

Figure 7. Top 10 NFNE (Abiotic and Biotic) EU exports to Ukraine, by materials/product aggregates (million USD) and commodities, in 2020



Source: JRC based on COMTRADE data

The share in total extra-EU exports of the materials in Figure 7 is below 1%, except for: magnesite (15.9%), iron and non-alloy steel (2.1%), natural rubber (1.8%) and paper (1.1%).

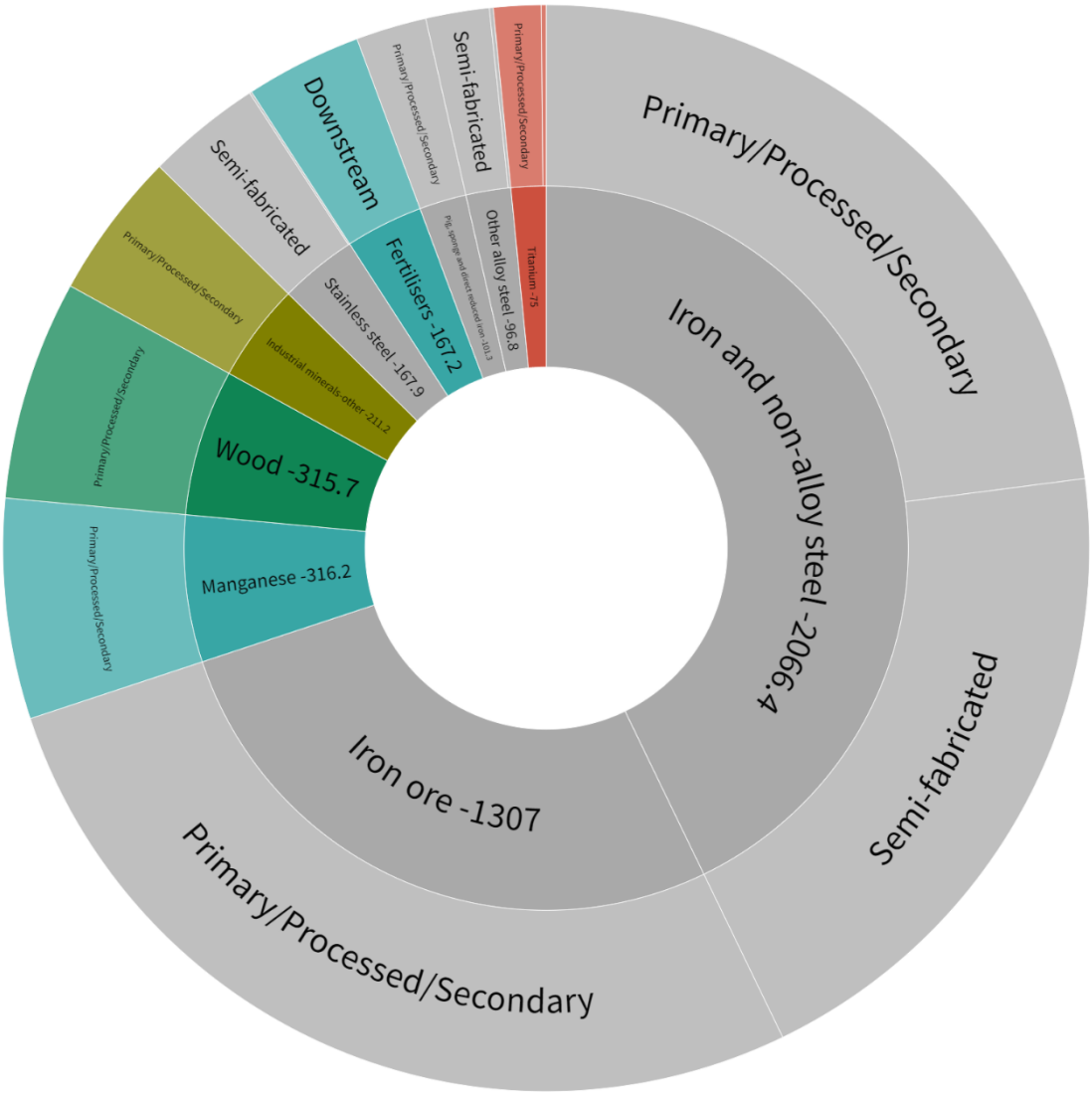
Thus, on export side, one could expect a mild impact in the short term related to the disruptions produced by the Russia's war against Ukraine.

2.5 EU trade with Ukraine by value chain stage in 2020

The raw materials imported by EU from Ukraine were mainly in the primary/processed/secondary stage (Figure 8), except for *fertilisers*[5] and for *iron and steel*, for which semi-fabricated products have an important share (in *iron and non-alloy steel*, *stainless steel* and the *alloy steel*).

[5] *Fertilisers* covers only downstream commodities, being an exception for the product coverage analysed

Figure 8. Selected NFNE EU imports from Ukraine, by stage of value chain (million USD)



Source: JRC based on COMTRADE data

The Top 10 exports of EU to Ukraine are mostly at the semi-fabricated stage of value chain (Figure 9), except for *construction materials, paper, magnesite* and *other chemicals.* For *copper* and *aluminium,* the EU exports were either in primary/processed/secondary raw materials or semi-fabricated products.

Figure 9. Top 10 NFNE EU exports to Ukraine, by stage of value chain (million USD)

Source: JRC based on COMTRADE data

3 Ukraine trade patterns and the relative position of EU as a trading partner

3.1 Trade by Stages of Processing (SoPs) as defined by UNCTAD (including food commodities)

Ukraine is a net exporter of both *Raw materials* and *Intermediate goods* (as defined by UNCTAD), including in the trade relationship with EU (Figure 10). Over the 2012-2020 period, the overall trade surplus increased for *Raw materials* and decreased for *Intermediate goods*. The trade surplus with the EU is much higher for *Raw materials* as compared to *Intermediates*.

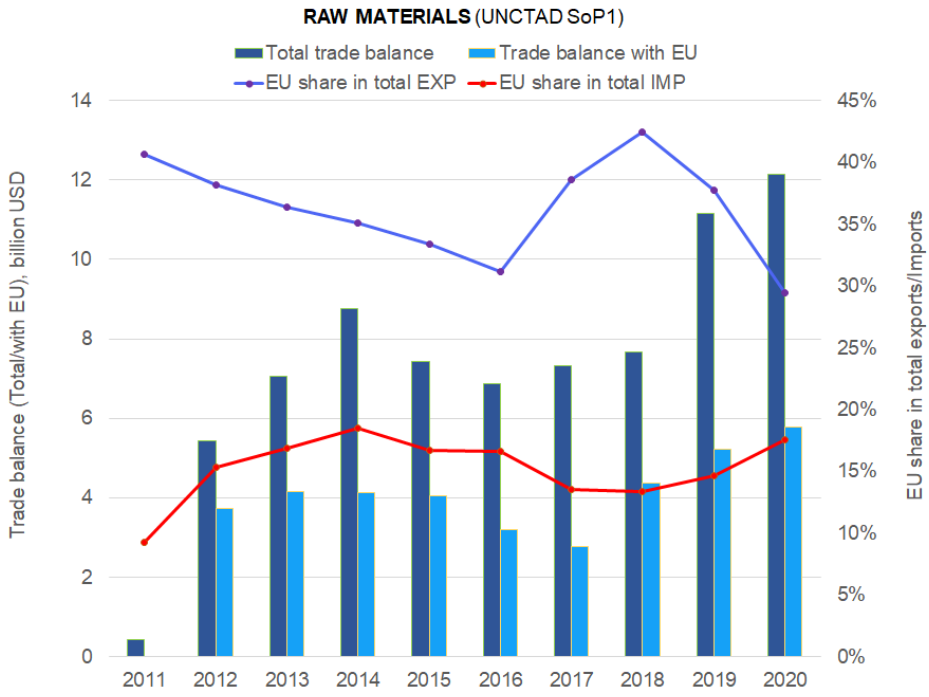
The contribution to the Ukraine's trade balance of the net exports to EU have diminished from 78% in 2012, to 35% in 2020 in case of *Raw materials* (UNCTAD-SoP1) and have increased from 5% to 22% in case of *Intermediate goods* (UNCTAD-SoP2) over the same period.

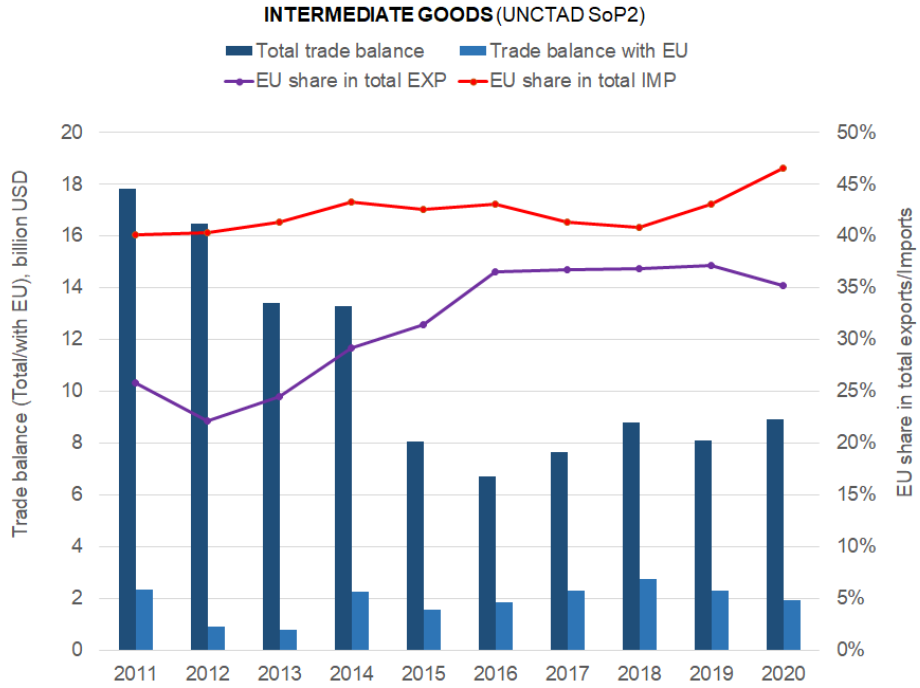
The EU accounts for an important share in Ukraine trade flows by Stage of Processing (SoP).

On import side, the EU share is much higher for *Intermediate goods* as compared to *Raw materials*. The weight of the EU in Ukraine imports had also a slightly increasing trend for both stages of processing.

On export side, one can notice an increasing share of the EU share in Ukraine's exports for *Intermediate goods* and the opposite trend for *Raw materials*.

Figure 10. Ukraine's foreign trade by UNCTAD **S**tage of **P**rocessing (*): trade balances *(columns)* and the EU share in total trade flows *(lines)*





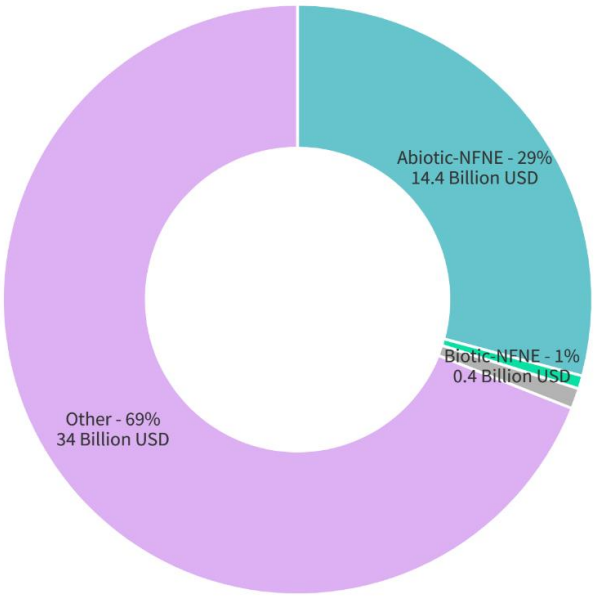
(*) agricultural and energy commodities included

Source: JRC based on COMTRADE data

3.2 Ukraine as a global exporter, by broad categories of raw materials (excluding food & finished/downstream)

Non-food raw materials (including primary/processed/semi-fabricated and secondary commodities) are making one third of Ukraine exports, while the biggest category is *Abiotic NFNE* (Figure 11).

Figure 11. The share of the broad categories of raw materials in Ukraine total exports



Source: JRC based on COMTRADE data

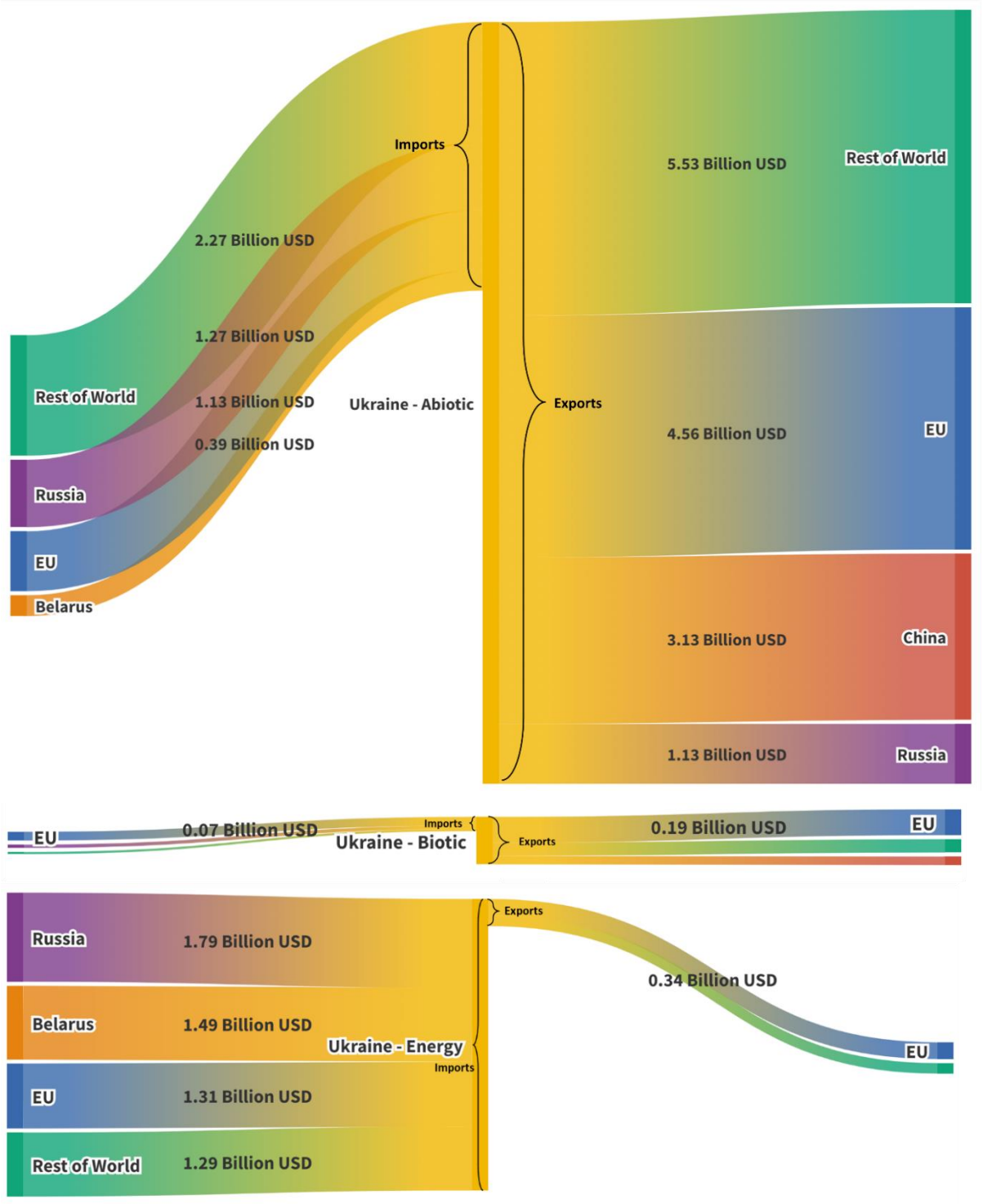
The charts in Figure 12 highlight a couple of trading partners besides the EU, namely: Russia, Belarus and China and for three categories of raw materials – Abiotic and Biotic NFNE and Energy raw materials.

Ukraine is a net exporter for both Abiotic and Biotic NFNE and a net importer for Energy raw materials.

EU is an important trading partner for Ukraine, being the main destination of exports for all three broad categories of non-food raw materials. Abiotic raw materials exports to EU account for 4.56 billion USD, while imports for 1.13 billion USD.

Ukraine is importing energy raw materials mainly from Russia, Belarus, but also from the EU.

Figure 12. Trade by broad categories of raw materials (*) and partners: EU, Russia, Belarus and China (2020)



(*) for the product coverage of the broad categories see the Methodological Notes

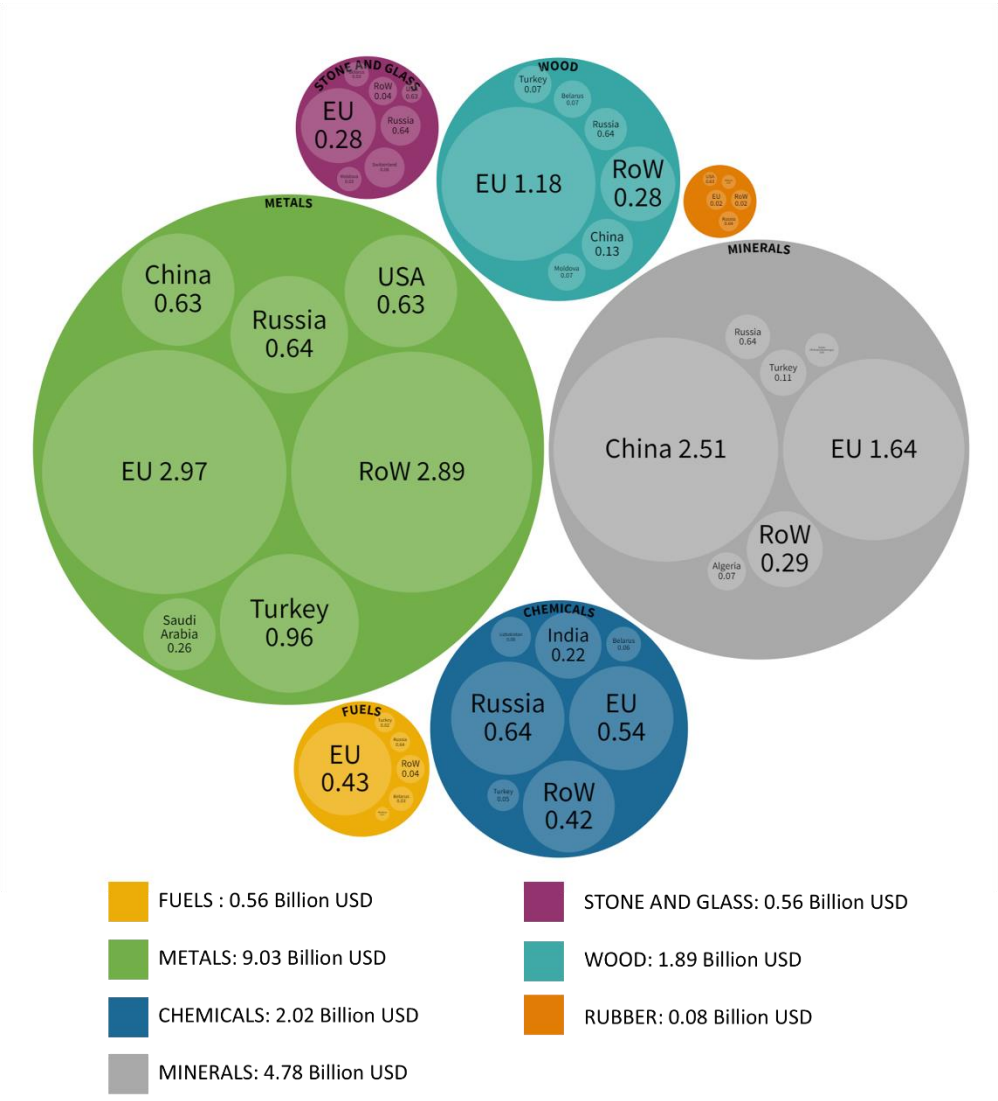
Source: JRC based on COMTRADE data

3.3 Trade by Standard product groups

Among the Standard product groups (Figure 13), the highest values of Ukraine exports in 2020 were accounted for *Metals* and *Minerals*.

With the biggest shares in total Ukraine exports, EU is the main destination for exports of *Metals* (33%), *Wood* (62%) and *Stone and Glass* (50%). For *Minerals and Chemicals,* the EU comes on the second position, after China and Russia respectively.

Figure 13. Ukraine exports, by Standard product groups (2020)



Source: JRC based on COMTRADE data

3.4 Trade by materials and partner countries

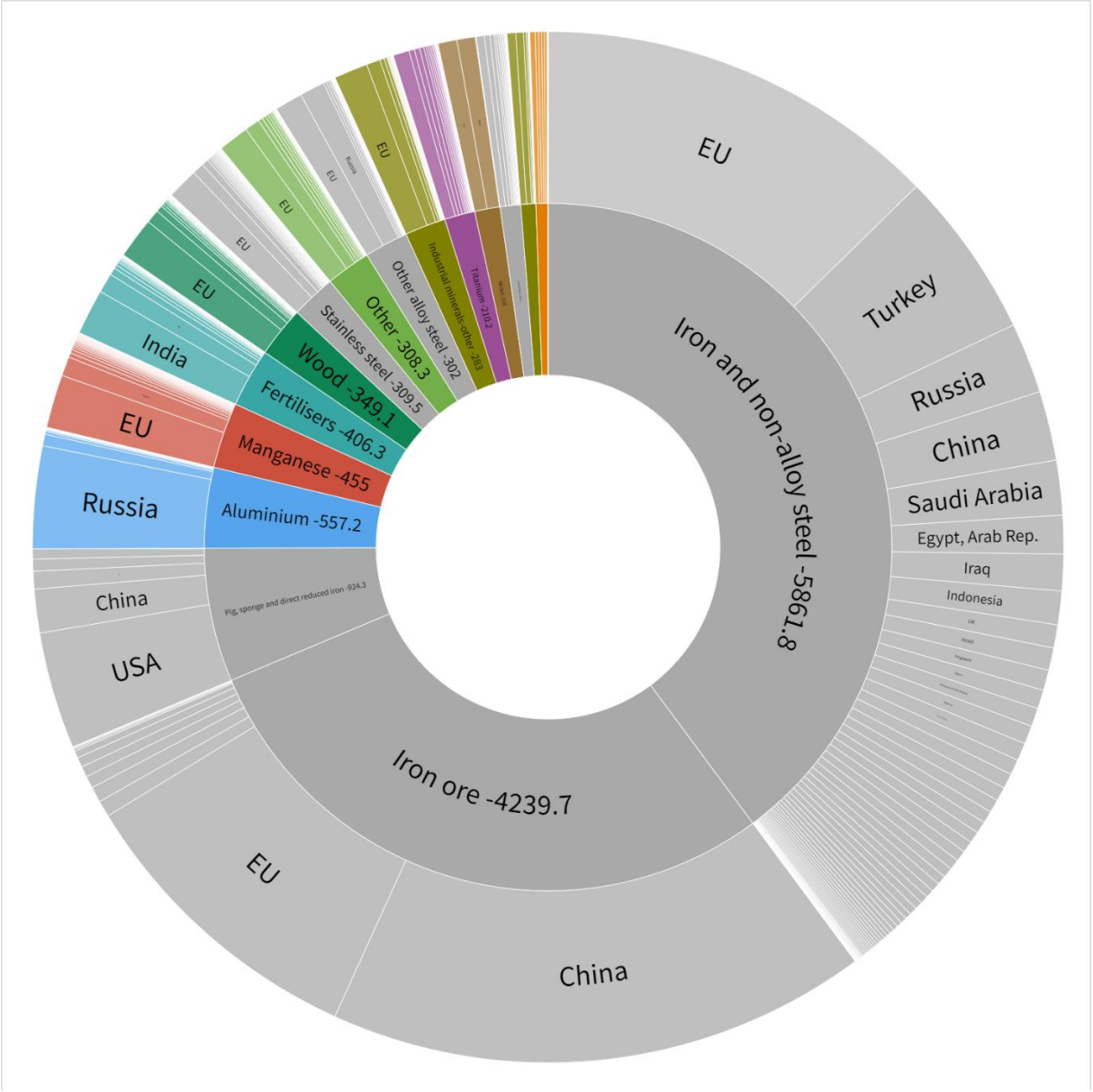
In 2020, the Ukraine's non-food non-energy exports were dominated by **iron and steel** products (iron and non-alloy steel; iron ore; pig, sponge and direct reduced iron, stainless steel, other alloy steel). The export values were high also for **aluminium, manganese, fertilisers, wood, other industrial minerals, titanium** and **nickel** (Figure 14a).

EU was an important destination of materials exported by Ukraine, mainly for: **iron and non-alloy steel** (32% of total Ukraine's exports), **iron ore** (33%), **stainless steel** (46%), **other alloy steel** (43%), **manganese** (54%), **wood** (54%). China was capturing the biggest share of Ukraine exports of *iron ore*, USA the most part of *pig, sponge and direct reduced iron,* while India the biggest share of *fertilisers*. Ukraine's exports of *aluminium* were directed mainly to Russia.

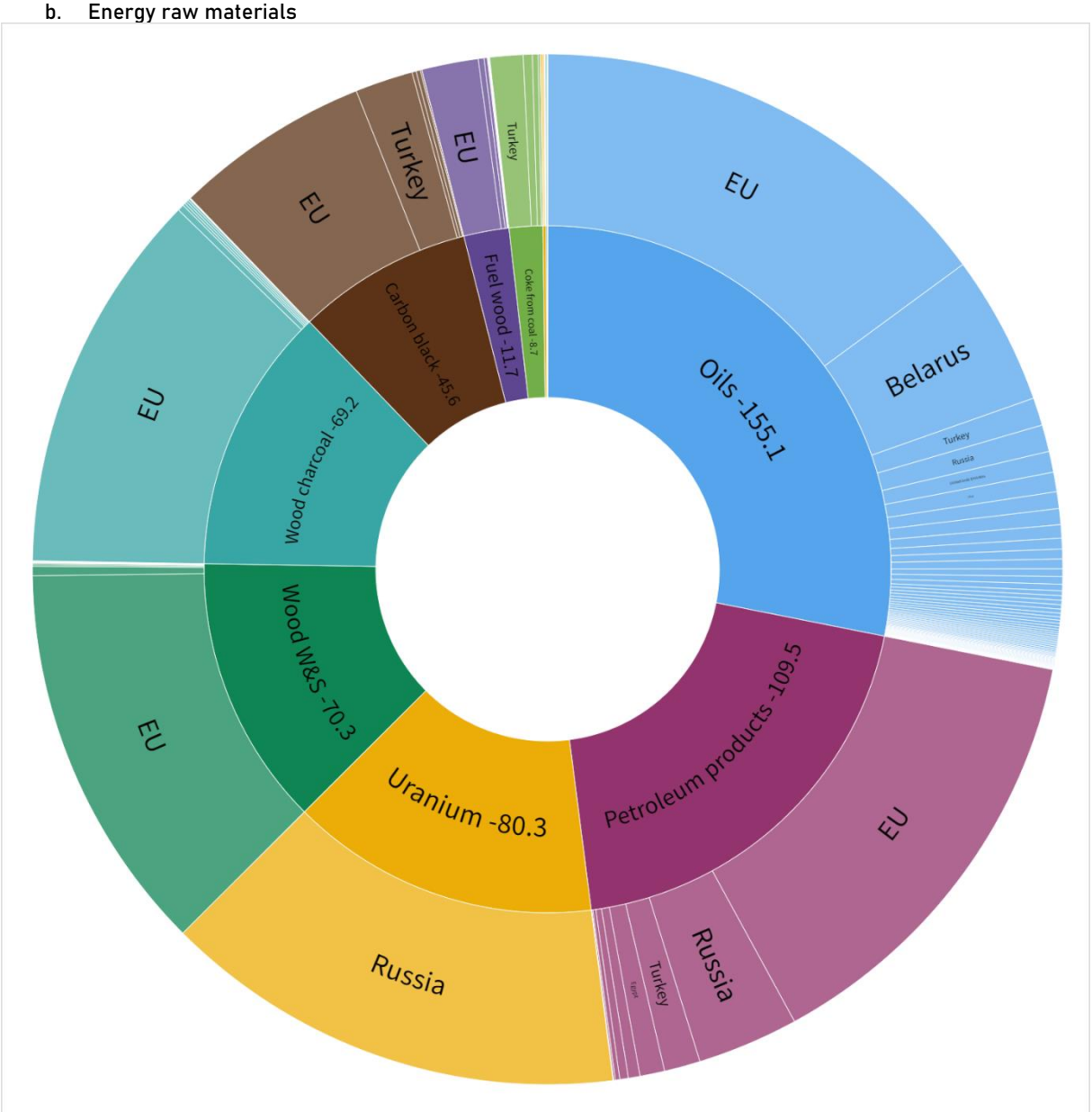
As for the *Energy* broad category, the exports were much smaller than the imports. The main materials exported were *oils, petroleum products, uranium, energy wood* and *carbon*. They were directed mainly towards the EU, except for uranium, which went to Russia (Figure 14b).

Figure 14. Main Ukraine NFNE materials/product aggregates exported, by destination (2020)

a. NFNE raw materials



b. Energy raw materials

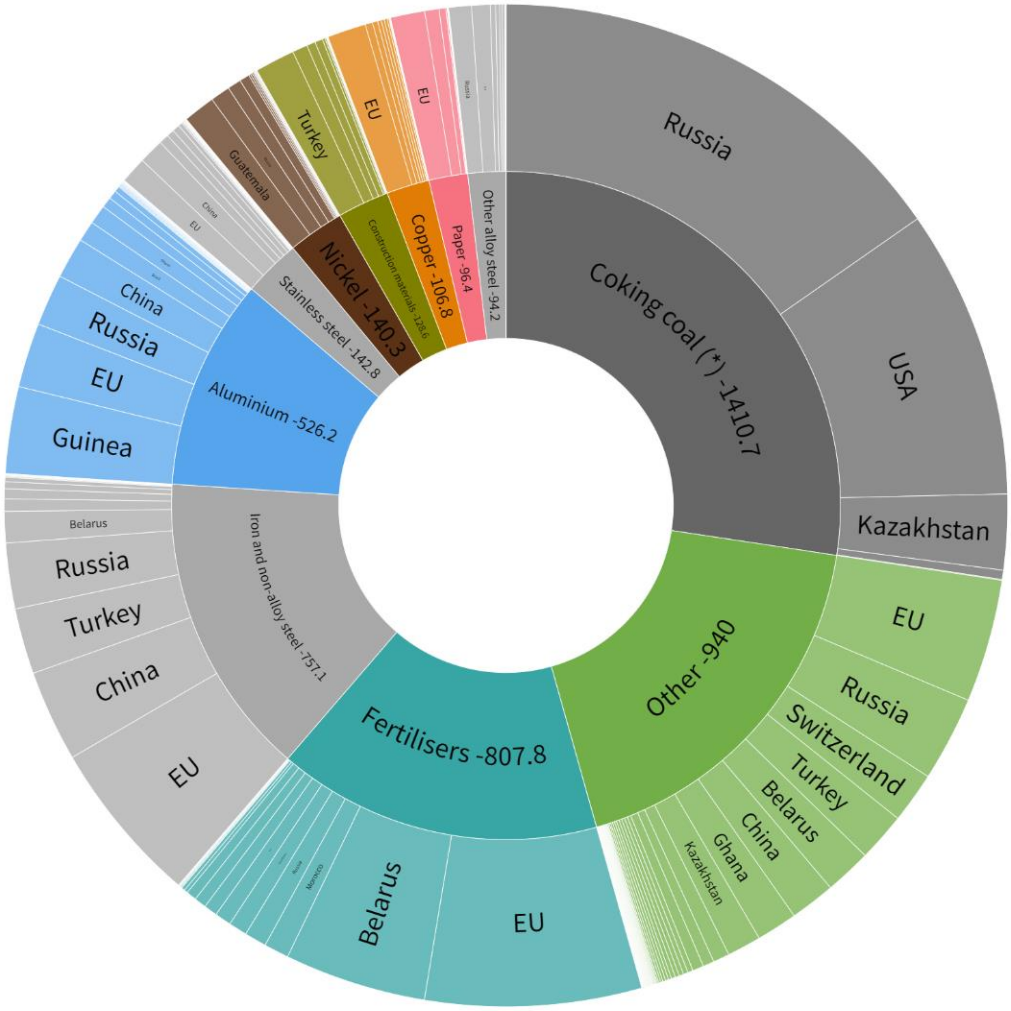


Source: JRC based on COMTRADE data

Among the Top 10 NFNE Ukraine imports (Figure 15), the highest value has been registered for *coking coal* ([6]), imported to a large extent from Russia. It was followed by *fertilisers, iron and non-alloy steel* and *aluminium.* The EU was the biggest source of Ukraine's imports for several materials: *fertilisers, iron and non-alloy steel, stainless steel, copper* and *paper.*

[6] 'Coking coal' (HS 270112) includes also coke used for energy purposes

Figure 15. Top 10 *NFNE* raw materials imported by Ukraine, by sourcing country (2020)



Source: JRC based on COMTRADE data

4 Economic aspects

This section complements the picture of trade flows, as following:

- First, it looks at the price developments of the EU imports from Ukraine for selected materials in comparison with the overall price of EU imports for the irrespective materials.
- Second, it shows the importance of the raw materials sector for the Ukrainian economy in comparison with the EU and global averages, as highlighted by the natural resources rents indicator.

4.1 The unit value of EU imports for selected materials

Over the 2010-2021 period, the unit values of EU imports from Ukraine were similar or slightly below the overall unit value of imports for the major non-food raw materials imported from Ukraine (Table 4). Cases were importing from Ukraine was much cheaper than the average unit price of imports were *unwrought titanium* and *oak*, but for the latter the price gap has diminished over the period 2010-2021.

Table 4. Unit value of imports from Ukraine (EUR/Kg) over the 2010-2021 period

Material/Product aggregate	HS code	Description	EU imports from:	2010 — 2021
Fertilisers	310210	Urea, whether/not in aqueous solution	World	0.29 0.32
Fertilisers	310210	Urea, whether/not in aqueous solution	Ukraine	0.23 0.39
Fertilisers	281410	Anhydrous ammonia	World	0.27 0.38
Fertilisers	281410	Anhydrous ammonia	Ukraine	0.28 0.40
Industrial minerals-other	250700	Kaolin & other kaolinic clays, whether/not calcined	World	0.13 0.14
Industrial minerals-other	250700	Kaolin & other kaolinic clays, whether/not calcined	Ukraine	0.06 0.06
Industrial minerals-other	250830	Fire-clay	World	0.06 0.07
Industrial minerals-other	250830	Fire-clay	Ukraine	0.05 0.05
Iron and non-alloy steel	730439	Tubes, pipes & hollow profiles (excl. of 7304.10-7304.31), seamless, of circular cross section, of iron (excl. cast iron)/non-alloy steel	World	0.99 0.98
Iron and non-alloy steel	730439	Tubes, pipes & hollow profiles (excl. of 7304.10-7304.31), seamless, of circular cross section, of iron (excl. cast iron)/non-alloy steel	Ukraine	0.73 0.62
Iron and non-alloy steel	720711	Semi-finished products of iron/non-alloy steel, containing by weight <0.25% of carbon, of rectangular (incl. square) cross-section, the width measuring < twice the thickness	World	0.42 0.60
Iron and non-alloy steel	720711	Semi-finished products of iron/non-alloy steel, containing by weight <0.25% of carbon, of rectangular (incl. square) cross-section, the width measuring < twice the thickness	Ukraine	0.37 0.53
Iron and non-alloy steel	720712	Semi-finished products of iron/non-alloy steel, containing by weight <0.25% of carbon, of rectangular (other than square) cross-section	World	0.41 0.58
Iron and non-alloy steel	720712	Semi-finished products of iron/non-alloy steel, containing by weight <0.25% of carbon, of rectangular (other than square) cross-section	Ukraine	0.40 0.57
Iron and non-alloy steel	720851	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, hot-rolled, not clad/plated/coated, not in coils, not further worked than hot-rolled, of a thickness >10mm	World	0.61 0.72
Iron and non-alloy steel	720851	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, hot-rolled, not clad/plated/coated, not in coils, not further worked than hot-rolled, of a thickness >10mm	Ukraine	0.53 0.67

Material/Product aggregate	HS code	Description	EU imports from:	2010 — 2021
Iron ore	260111	Iron ores & concentrates (excl. roasted iron pyrites), non-agglomerated	World	0.09 0.11
Iron ore	260111	Iron ores & concentrates (excl. roasted iron pyrites), non-agglomerated	Ukraine	0.08 0.11
Iron ore	260112	Iron ores & concentrates (excl. roasted iron pyrites), agglomerated	World	0.11 0.16
Iron ore	260112	Iron ores & concentrates (excl. roasted iron pyrites), agglomerated	Ukraine	0.10 0.17
Manganese	720230	Ferro-silico-manganese, in granular/powder form	World	1.07 1.01
Manganese	720230	Ferro-silico-manganese, in granular/powder form	Ukraine	1.07 1.09
Other alloy steel	722850	Bars & rods of other alloy steel (excl. of 72.27), not further worked than cold-formed/cold-finished	World	1.21 1.29
Other alloy steel	722850	Bars & rods of other alloy steel (excl. of 72.27), not further worked than cold-formed/cold-finished	Ukraine	1.11 1.18
Pig, sponge and direct reduced iron	720110	Non-alloy pig iron containing by weight 0.5%/less of phosphorus, in pigs/blocks/other primary forms	World	0.34 0.44
Pig, sponge and direct reduced iron	720110	Non-alloy pig iron containing by weight 0.5%/less of phosphorus, in pigs/blocks/other primary forms	Ukraine	0.35 0.44
Silicon	720221	Ferro-silicon, containing by weight >55% of silicon, in granular/powder form	World	1.16 1.30
Silicon	720221	Ferro-silicon, containing by weight >55% of silicon, in granular/powder form	Ukraine	1.13 1.27
Stainless steel	730441	Tubes, pipes & hollow profiles (excl. of 7304.10-7304.39), seamless, of circular cross-section, of stainless steel, cold-drawn/cold-rolled (cold-reduced)	World	7.44 7.84
Stainless steel	730441	Tubes, pipes & hollow profiles (excl. of 7304.10-7304.39), seamless, of circular cross-section, of stainless steel, cold-drawn/cold-rolled (cold-reduced)	Ukraine	8.02 8.28
Stainless steel	730449	Tubes, pipes & hollow profiles (excl. of 7304.10-7304.39), seamless, of circular cross-section, of stainless steel other than cold drawn/cold rolled (cold reduced)	World	5.54 5.94
Stainless steel	730449	Tubes, pipes & hollow profiles (excl. of 7304.10-7304.39), seamless, of circular cross-section, of stainless steel other than cold drawn/cold rolled (cold reduced)	Ukraine	5.24 5.33
Titanium	261400	Titanium ores & concentrates	World	0.20 0.40
Titanium	261400	Titanium ores & concentrates	Ukraine	0.18 0.26
Titanium	720291	Ferro-titanium & ferro-silico-titanium, in granular/powder form	World	3.34 3.34
Titanium	720291	Ferro-titanium & ferro-silico-titanium, in granular/powder form	Ukraine	3.14 3.27
Titanium	810820	Unwrought titanium; powders	World	7.21 9.43
Titanium	810820	Unwrought titanium; powders	Ukraine	5.91 5.30
Wood*	440710	Wood sawn/chipped length wise, sliced/peeled, whether/not planed, sanded/end-jointed, of a thickness >6mm, coniferous	World	109 172
Wood*	440710	Wood sawn/chipped length wise, sliced/peeled, whether/not planed, sanded/end-jointed, of a thickness >6mm, coniferous	Ukraine	133 187
Wood*	440791	Oak (Quercus spp.), sawn/chipped length wise, sliced/peeled, whether/not planed, sanded/end-jointed, of a thickness >6mm	World	319 298
Wood*	440791	Oak (Quercus spp.), sawn/chipped length wise, sliced/peeled, whether/not planed, sanded/end-jointed, of a thickness >6mm	Ukraine	116 221

(*) for Wood the price is in EUR per m^3

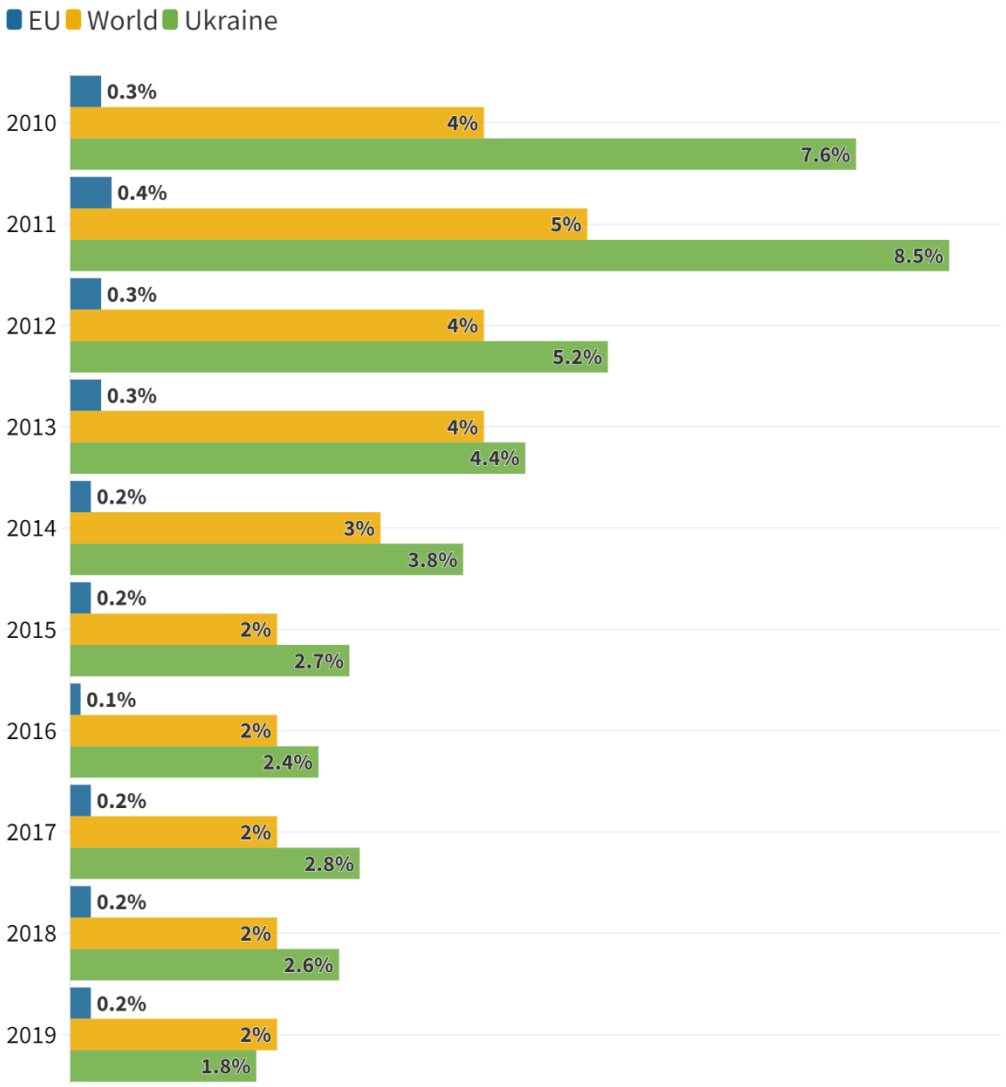
Source: JRC based on COMTRADE

4.2 Natural resources rents

Natural resources had a high but diminishing contribution to Ukrainian economy. Their importance is reflected in the World Bank indicator called *Total natural resources rents*, which shows the difference between the value of production and total costs of production as percentage of GDP. For Ukraine, this

indicator used to be much higher as compared to the global average and even much larger if compared to EU average, but the gap has been closed, such as in 2019 when it was below the global average (Figure 16).

Figure 16. Total natural resources rents (*) (production value *minus* production costs, as % of GDP) of Ukraine in comparison with EU and global average, in 2019



(*) Total natural resources rents are the sum of oil rents, natural gas rents, coal rents (hard and soft), mineral rents, and forest rents.

Source: World Development Indicators, World Bank (https://data.worldbank.org/indicator/NY.GDP.TOTL.RT.ZS)

Methodological notes

The data source for all trade flows shown in this report is the United Nations Commodity Trade Statistics Database (COMTRADE), downloaded via WITS (World Integrated Trade Solution) in March 2022. It contains detailed imports and exports statistics as reported by national statistical authorities. UN Comtrade does not make estimates for missing data (due to confidentiality or because countries do not report their trade statistics for each and every year or other reasons). The missing data caveat is particularly relevant to this report, because trade flows are analysed at a detailed level.

JRC performed a selection of trade codes that correspond to **non-food raw material commodities**. The nomenclature version used to operate the selection is the Harmonized System (HS) Nomenclature version 2007. The reason not to use more recent versions of the HS Nomenclature is to be able to retrieve time series for the trade data. The highest level of detail available internationally for all countries is at HS 6-digits.

Firstly, the selected HS 6-digit trade codes were allocated to **"Materials/Product aggregate".** Such a classification was deemed necessary because trade flows related to the same material (e.g., "Aluminium") may be split into several HS 6-digit trade codes (sometimes across various HS 2-digit chapters) because of different stages of processing.

JRC has tried to maintain a balance between detail and usefulness; however, in many cases it was not possible to distinguish a single material due to lack of detail in the original trade codes, but **product aggregates** (e.g. Niobium/tantalum/vanadium ores & concentrates). Moreover, we employed product aggregates to keep materials to a reasonable number. In many cases, these aggregates represent groupings of materials of similar type (e.g. industrial minerals, chemicals).

A particular case is *iron and steel*, which has a very broad product scope (a large number of product codes) and also a very large share in trade. In order to provide a more detailed picture, Iron and steel has been split into product aggregates, according to the broader classification by content of iron and steel, which is also mentioned in the product description of the HS 6-digit code ([7]): *iron ore, iron and non-alloy steel, stainless steel, other alloy steel, iron or steel, ferrous waste and scrap*. The ferro-alloys have been allocated to the elements alloying with iron (e.g., ferro-nickel was allocated to nickel, ferro-silicon to silicon).

The JRC notes that a perfect correspondence with trade codes was not always possible. Please see the Annex for the correspondence table between Materials and trade codes.

Secondly, the materials were grouped into **broad categories** of non-food raw materials that are upstream, secondary raw materials or semi-fabricated products ([8])**: Biotic, Abiotic and Energy.**

- **Biotic** commodities are those raw materials that come from plants, that are not used as food or fuel. They include natural rubber (from HS 40), wood (from HS 44), cork (HS 45), paper (HS 47), cotton (HS 520100) and a couple of commodities from the chapters 13 and 14 (the non-food commodities).
- **Abiotic** raw materials are the remaining trade codes from the chapters 25, 26, 28, 31 and 68-81, plus coking coal (HS 270111, which at this level of aggregation includes also thermal coal)
- **Energy** raw materials are those raw materials that are mainly used as input to generate energy. They belong mostly to chapter HS 27, but also include wood for energy (e.g., fuel wood).

The stage of processing is also highlighted for each trade code (HS 6-digit level): primary/secondary/processed raw materials or semi-fabricated products. The analysis does not include downstream commodities, except for *fertilisers* (due to their relevance for agriculture).

The Ukraine trade patterns have been also analysed at pre-defined aggregated product level, which have a wider scope compared to the broad categories above: **Standard product groups (WITS)** and **Stage of processing as defined by UNCTAD** (*Raw Materials* and *Intermediate goods*, both including food commodities).

([7]) JRC analysis based on WTO (2012) *Explanatory Notes of the Harmonized Commodity Description and Coding System*. Fifth Edit. World Customs Organization.

([8]) We kept also the *fertilisers'* downstream commodities, since they are critical for agriculture.

The Standard product groups refer to predefined groupings (in WITS) of HS 2-digit chapters: *Minerals* (HS 25-26), *Metals* (HS72-83), *Stone and Glass* (HS 68-71), *Chemicals* (HS28-38), *Plastic and Rubber* (HS 39-40), *Wood* (HS 44-49), *Fuels* (HS 27). They contain commodities at all stages of the value chain (i.e. include downstream).

For **Ukraine-EU trade**, only the data reported by EU were used (e.g. EU imports from Ukraine instead of the Ukraine's exports to EU). Note that imports reported by EU might differ from exports reported by the country. Differences are due to various factors including valuation (imports CIF - Cost, Insurance, and Freight -, exports FOB - Free on Board -), but also to reporting inconsistencies, most likely due to confidential/not reported trade flows.

The unit value of EU imports is based also on COMTRADE, used as a single data source for all trade data, including for EU, for which COMTRADE is based on ESTAT data. It has been calculated as a ratio between the value (USD) and the quantity (Kg) of imports and then converted to EUR/kg, using the average yearly exchange rate USD/EUR, based on data from the European Central Bank. It is expressed in EUR/kg (with exception of wood, where the price is per m^3). The unit value of imports has been calculated for imports originating from Ukraine, as well as for the overall EU imports of the selected commodities (those with high value/share in the EU imports from Ukraine).

The natural resources rents is an indicator provided by the World Bank ([9]). It shows the difference between the value of production and total costs of production as percentage of GDP and it is calculated as sum of oil rents, natural gas rents, coal rents (hard and soft), mineral rents, and forest rents.

([9]) World Bank World Development Indicators, (https://data.worldbank.org/indicator/NY.GDP.TOTL.RT.ZS)

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List of non-food raw materials. Table of correspondence Category – Material/Product aggregate – Trade code/commodity

Category	HS2007	Material/Product aggregate	Description	Value chain stage
Abiotic-NFNE	260600	Aluminium	Aluminium ores & concentrates	Primary/Processed/Secondary
Abiotic-NFNE	262040	Aluminium	Ash & residues (excl. from the manufacture of iron/steel) containing mainly aluminium	Primary/Processed/Secondary
Abiotic-NFNE	281810	Aluminium	Artificial corundum, whether/not chemically defined	Primary/Processed/Secondary
Abiotic-NFNE	281820	Aluminium	Aluminium oxide (excl. artificial corundum)	Primary/Processed/Secondary
Abiotic-NFNE	281830	Aluminium	Aluminium hydroxide	Primary/Processed/Secondary
Abiotic-NFNE	760110	Aluminium	Aluminium, not alloyed, unwrought	Primary/Processed/Secondary
Abiotic-NFNE	760120	Aluminium	Aluminium alloys, unwrought	Primary/Processed/Secondary
Abiotic-NFNE	760200	Aluminium	Aluminium waste & scrap	Primary/Processed/Secondary
Abiotic-NFNE	760310	Aluminium	Powders of non-lamellar structure, of aluminium	Primary/Processed/Secondary
Abiotic-NFNE	760320	Aluminium	Powders of lamellar structure, of aluminium; flakes of aluminium	Primary/Processed/Secondary
Abiotic-NFNE	760410	Aluminium	Bars, rods & profiles, of aluminium, not alloyed	Semi-fabricated
Abiotic-NFNE	760421	Aluminium	Hollow profiles of aluminium	Semi-fabricated
Abiotic-NFNE	760429	Aluminium	Bars, rods & profiles (excl. hollow profiles) of aluminium alloys	Semi-fabricated
Abiotic-NFNE	760511	Aluminium	Wire of aluminium, not alloyed, of which the maximum cross-sectional dim. exceeds 7mm	Semi-fabricated
Abiotic-NFNE	760519	Aluminium	Wire of aluminium, not alloyed (excl. of 7605.11)	Semi-fabricated
Abiotic-NFNE	760521	Aluminium	Wire of aluminium alloys, of which the maximum cross-sectional dim. exceeds 7mm	Semi-fabricated
Abiotic-NFNE	760529	Aluminium	Wire of aluminium alloys (excl. of 7605.21)	Semi-fabricated
Abiotic-NFNE	760611	Aluminium	Plates, sheets & strip, rectangular (incl. square), of a thickness >0.2mm, of aluminium, not alloyed	Semi-fabricated
Abiotic-NFNE	760612	Aluminium	Plates, sheets & strip, rectangular (incl. square), of a thickness >0.2mm, of aluminium alloys	Semi-fabricated

Category	HS2007	Material/Product aggregate	Description	Value chain stage
Abiotic-NFNE	760691	Aluminium	Plates, sheets & strip other than rectangular (incl. square), of a thickness >0.2mm, of aluminium, not alloyed	Semi-fabricated
Abiotic-NFNE	760692	Aluminium	Plates, sheets & strip other than rectangular (incl. square), of a thickness >0.2mm, of aluminium alloys	Semi-fabricated
Abiotic-NFNE	760711	Aluminium	Aluminium foil, whether/not printed, not backed, of a thickness not >0.2mm, rolled but not further worked	Semi-fabricated
Abiotic-NFNE	760719	Aluminium	Aluminium foil, whether/not printed, not backed, of a thickness not >0.2mm (excl. of 7607.11)	Semi-fabricated
Abiotic-NFNE	760720	Aluminium	Aluminium foil, whether/not printed, backed with paper/paperboard/plastics/similar backing materials, of a thickness (excl. any backing) not >0.2mm	Semi-fabricated
Abiotic-NFNE	760810	Aluminium	Tubes & pipes of aluminium, not alloyed	Semi-fabricated
Abiotic-NFNE	760820	Aluminium	Tubes & pipes of aluminium alloys	Semi-fabricated
Abiotic-NFNE	760900	Aluminium	Aluminium tube/pipe fittings (e.g., couplings, elbows, sleeves)	Semi-fabricated
Abiotic-NFNE	261710	Antimony	Antimony ores & concentrates	Primary/Processed/Secondary
Abiotic-NFNE	282580	Antimony	Antimony oxides	Primary/Processed/Secondary
Abiotic-NFNE	811010	Antimony	Unwrought antimony; powders	Primary/Processed/Secondary
Abiotic-NFNE	811020	Antimony	Antimony waste & scrap	Primary/Processed/Secondary
Abiotic-NFNE	811090	Antimony	Antimony & articles thereof , n.e.s. in 81.10	Semi-fabricated
Abiotic-NFNE	280480	Arsenic	Arsenic	Primary/Processed/Secondary
Abiotic-NFNE	251110	Baryte	Natural barium carbonate (witherite), whether/not calcined, other than barium oxide of 28.16	Primary/Processed/Secondary
Abiotic-NFNE	283327	Baryte	Sulphates of barium	Primary/Processed/Secondary
Abiotic-NFNE	811212	Beryllium	Beryllium, unwrought; powders	Primary/Processed/Secondary
Abiotic-NFNE	811213	Beryllium	Beryllium waste & scrap	Primary/Processed/Secondary
Abiotic-NFNE	811219	Beryllium	Beryllium & articles thereof , n.e.s. in 81.12	Semi-fabricated
Abiotic-NFNE	810600	Bismuth	Bismuth & articles thereof , incl. waste & scrap	Primary/Processed/Secondary
Abiotic-NFNE	252810	Borates	Natural sodium borates & concentrates thereof (whether/not calcined)	Primary/Processed/Secondary

Category	HS2007	Material/Product aggregate	Description	Value chain stage
Abiotic-NFNE	252890	Borates	Natural borates & concentrates thereof (excl. sodium borates), whether/not calcined but not incl. borates separated from natural brine; natural boric acid containing not >85% of H3BO3 calc. on the dry weight	Primary/Processed/Secondary
Abiotic-NFNE	280450	Borates	Boron; tellurium	Primary/Processed/Secondary
Abiotic-NFNE	281000	Borates	Oxides of boron; boric acids	Primary/Processed/Secondary
Abiotic-NFNE	284011	Borates	Disodium tetraborate (refined borax), anhydrous	Primary/Processed/Secondary
Abiotic-NFNE	284019	Borates	Disodium tetraborate (refined borax), other than anhydrous	Primary/Processed/Secondary
Abiotic-NFNE	284020	Borates	Borates other than disodium tetrborate (refined borax)	Primary/Processed/Secondary
Abiotic-NFNE	284030	Borates	Peroxoborates (perborates)	Primary/Processed/Secondary
Abiotic-NFNE	810720	Cadmium	Unwrought cadmium; powders	Primary/Processed/Secondary
Abiotic-NFNE	810730	Cadmium	Cadmium waste & scrap	Primary/Processed/Secondary
Abiotic-NFNE	810790	Cadmium	Cadmium & articles thereof , n.e.s. in 81.07	Semi-fabricated
Abiotic-NFNE	283699	Carbonates	Carbonates(excl. of 2836.20-2836.92); peroxocarbonates (percarbonates); commercial ammonium carbonate containing ammonium carbamate.	Primary/Processed/Secondary
Abiotic-NFNE	281511	Caustic soda	Sodium hydroxide (caustic soda), solid	Primary/Processed/Secondary
Abiotic-NFNE	281512	Caustic soda	Sodium hydroxide (caustic soda), in aqueous solution (sida lye/liquid soda)	Primary/Processed/Secondary
Abiotic-NFNE	261000	Chromium	Chromium ores & concentrates	Primary/Processed/Secondary
Abiotic-NFNE	281910	Chromium	Chromium trioxide	Primary/Processed/Secondary
Abiotic-NFNE	281990	Chromium	Chromium oxides (excl. chromium trioxide) & hydroxides	Primary/Processed/Secondary
Abiotic-NFNE	284130	Chromium	Sodium dichromate	Primary/Processed/Secondary
Abiotic-NFNE	284150	Chromium	Chromates&dichromates(excl. of 2841.30); peroxochromates	Primary/Processed/Secondary
Abiotic-NFNE	720241	Chromium	Ferro-chromium, containing by weight >4% of carbon, in granular/powder form	Primary/Processed/Secondary
Abiotic-NFNE	720249	Chromium	Ferro-chromium, other than that containing by weight >4% of carbon, in granular/powder form	Primary/Processed/Secondary
Abiotic-NFNE	811221	Chromium	Chromium, unwrought; powders	Primary/Processed/Secondary

Category	HS2007	Material/Product aggregate	Description	Value chain stage
Abiotic-NFNE	811222	Chromium	Chromium waste & scrap	Primary/Processed/Secondary
Abiotic-NFNE	720250	Chromium	Ferro-silico-chromium, in granular/powder form	Primary/Processed/Secondary
Abiotic-NFNE	260500	Cobalt	Cobalt ores & concentrates	Primary/Processed/Secondary
Abiotic-NFNE	810590	Cobalt	Cobalt & articles thereof , n.e.s. in 81.05	Semi-fabricated
Abiotic-NFNE	282200	Cobalt	Cobalt oxides & hydroxides; commercial cobalt oxides	Primary/Processed/Secondary
Abiotic-NFNE	810520	Cobalt	Cobalt mattes & other intermediate products of cobalt metallurgy; unwrought cobalt; powders	Primary/Processed/Secondary
Abiotic-NFNE	810530	Cobalt	Cobalt waste & scrap	Primary/Processed/Secondary
Abiotic-NFNE	270112	Coking coal (*)	Bituminous coal, whether/not pulverised but not agglomerated	Primary/Processed/Secondary
Abiotic-NFNE	250590	Construction materials	Natural sands other than silica & quartz, whether/not coloured, other than metalbearing sands of Ch.26	Primary/Processed/Secondary
Abiotic-NFNE	251400	Construction materials	Slate, whether/not roughly trimmed/merely cut, by sawing/othw., into blocks/slabs of a rectangular (incl. square) shape	Primary/Processed/Secondary
Abiotic-NFNE	251511	Construction materials	Marble & travertine, crude/roughly trimmed	Primary/Processed/Secondary
Abiotic-NFNE	251512	Construction materials	Marble & travertine, merely cut, by sawing/othw., into blocks/slabs of a rectangular (incl. square) shape	Primary/Processed/Secondary
Abiotic-NFNE	251520	Construction materials	Ecaussine & other calcareous monumental/building stone; alabaster, whether/not roughly trimmed/merely cut, by sawing/othw., into blocks/slabs of a rectangular (including square) shape	Primary/Processed/Secondary
Abiotic-NFNE	251611	Construction materials	Granite, crude/roughly trimmed	Primary/Processed/Secondary
Abiotic-NFNE	251612	Construction materials	Granite, merely cut, by sawing/othw., into blocks/slabs of a rectangular (incl. square) shape	Primary/Processed/Secondary
Abiotic-NFNE	251620	Construction materials	Sandstone, whether/not roughly trimmed/merely cut, by sawing/othw., into blocks/slabs of a rectangular (incl. square) shape	Primary/Processed/Secondary
Abiotic-NFNE	251690	Construction materials	Monumental/building stone (excl. of 2516.11-2516.22), whether/not roughly trimmed/merely cut, by sawing/othw., into blocks/slabs of a rectangular (incl. square) shape	Primary/Processed/Secondary
Abiotic-NFNE	251710	Construction materials	Pebbles/gravel/broken/crushed stone, of a kind commonly used for concrete aggregates/road metalling/railway/other ballast, shingle & flint, whether/not heat-treated	Primary/Processed/Secondary
Abiotic-NFNE	251720	Construction materials	Macadam of slag/dross/similar industrial waste, whether/not incorporating the materials cited in 2517.10	Primary/Processed/Secondary
Abiotic-NFNE	251730	Construction materials	Tarred macadam, whether/not incorporating pebbles/gravel/broken/crushed stone	Primary/Processed/Secondary
Abiotic-NFNE	251741	Construction materials	Granules, chippings & powder, of marble, whether/not heat-treated	Primary/Processed/Secondary

Category	HS2007	Material/Product aggregate	Description	Value chain stage
Abiotic-NFNE	251749	Construction materials	Granules, chippings & powder, of stones of 25.15/25.16 (excl. marble), whether/not heat-treated	Primary/Processed/Secondary
Abiotic-NFNE	251810	Construction materials	Dolomite, not calcined/sintered, incl. dolomite roughly trimmed/merely cut, by sawing/othw., into blocks/slabs of a rectangular (incl. square) shape	Primary/Processed/Secondary
Abiotic-NFNE	251820	Construction materials	Calcined/sintered dolomite, incl. dolomite roughly trimmed/merely cut, by sawing/othw., into blocks/slabs of a rectangular (incl. square) shape	Primary/Processed/Secondary
Abiotic-NFNE	251830	Construction materials	Dolomite ramming mix	Primary/Processed/Secondary
Abiotic-NFNE	252010	Construction materials	Gypsum; anhydrite	Primary/Processed/Secondary
Abiotic-NFNE	252100	Construction materials	Limestone flux; limestone & other calcareous stone, of a kind used for the manufacture of lime/cement	Primary/Processed/Secondary
Abiotic-NFNE	252210	Construction materials	Quicklime	Primary/Processed/Secondary
Abiotic-NFNE	252220	Construction materials	Slaked lime	Primary/Processed/Secondary
Abiotic-NFNE	252230	Construction materials	Hydraulic lime, other than calcium oxide & hydroxide of 28.25	Primary/Processed/Secondary
Abiotic-NFNE	252310	Construction materials	Cement clinkers	Primary/Processed/Secondary
Abiotic-NFNE	252321	Construction materials	White cement, whether/not artificially coloured	Primary/Processed/Secondary
Abiotic-NFNE	252329	Construction materials	Portland cement (excl. white cement, whether/not artificially coloured), whether/not coloured	Primary/Processed/Secondary
Abiotic-NFNE	252330	Construction materials	Aluminous cement, whether/not coloured/in the form of clinkers	Primary/Processed/Secondary
Abiotic-NFNE	252390	Construction materials	Hydraulic cements (e.g., slag cement, supersulphate cement), whether/not coloured/in the form of clinkers (excl. cement clinkers, Portland cement & aluminous cement)	Primary/Processed/Secondary
Abiotic-NFNE	252410	Construction materials	Crocidolite	Primary/Processed/Secondary
Abiotic-NFNE	252490	Construction materials	Asbestos other than crocidolite	Primary/Processed/Secondary
Abiotic-NFNE	261800	Construction materials	Granulated slag (slag sand) from the manufacture of iron/steel	Primary/Processed/Secondary
Abiotic-NFNE	680100	Construction materials	Setts, curbstones & flagstones, of natural stone (except slate)	Primary/Processed/Secondary
Abiotic-NFNE	680210	Construction materials	Tiles, cubes & similar articles, whether/not rectangular (including square), the largest surface area of which is capable of being enclosed in a square the side of which is less than 7 cm; artificially coloured granules, chippings & powder	Primary/Processed/Secondary
Abiotic-NFNE	680221	Construction materials	Worked monumental/building stone & articles thereof (excl. goods of 68.01), simply cut/sawn, with a flat/even surface (excl. of 6802.10), of marble, travertine & alabaster	Primary/Processed/Secondary
Abiotic-NFNE	680223	Construction materials	Worked monumental/building stone & articles thereof (excl. goods of 68.01), simply cut/sawn, with a flat/even surface (excl. of 6802.10), of granite	Primary/Processed/Secondary

Category	HS2007	Material/Product aggregate	Description	Value chain stage
Abiotic-NFNE	680229	Construction materials	Worked monumental/building stone & articles thereof (excl. goods of 68.01), simply cut/sawn, with a flat/even surface (excl. of 6802.10), of other stone, other than of granite/marble/travertine/alabaster	Primary/Processed/Secondary
Abiotic-NFNE	680291	Construction materials	Mosaic cubes & the like, of marble/travertine/alabaster, whether/not on a backing; artificially coloured granules, chippings & powder, of marble/travertine/alabaster	Primary/Processed/Secondary
Abiotic-NFNE	680292	Construction materials	Mosaic cubes & the like, of other calcareous stone...whether/not on a backing; artificially coloured granules, chippings & powder	Primary/Processed/Secondary
Abiotic-NFNE	680293	Construction materials	Mosaic cubes & the like, of granite, whether/not on a backing; artificially coloured granules, chippings & powder, of granite	Primary/Processed/Secondary
Abiotic-NFNE	680299	Construction materials	Mosaic cubes & the like, of other natural stone, incl. slateâ€¦n.e.s. in heading 68.02, whether/not on a backing; artificially coloured granules, chippings & powder,	Primary/Processed/Secondary
Abiotic-NFNE	680300	Construction materials	Worked slate & articles of slate/agglomerated slate	Primary/Processed/Secondary
Abiotic-NFNE	261900	Construction Materials	Slag, dross (excl. granulated slag), scalings & other waste from the manufacture of iron/steel	Primary/Processed/Secondary
Abiotic-NFNE	260300	Copper	Copper ores & concentrates	Primary/Processed/Secondary
Abiotic-NFNE	262030	Copper	Ash & residues (excl. from the manufacture of iron/steel) containing mainly copper	Primary/Processed/Secondary
Abiotic-NFNE	282550	Copper	Copper oxides & hydroxides	Primary/Processed/Secondary
Abiotic-NFNE	282741	Copper	Chloride oxides & chloride hydroxides, of copper	Primary/Processed/Secondary
Abiotic-NFNE	283325	Copper	Sulphates of copper	Primary/Processed/Secondary
Abiotic-NFNE	740100	Copper	Copper mattes; cement copper (precipitated copper).	Primary/Processed/Secondary
Abiotic-NFNE	740200	Copper	Unrefined copper; copper anodes for electrolytic refining	Primary/Processed/Secondary
Abiotic-NFNE	740311	Copper	Cathodes & sections of cathodes, of refined copper, unwrought	Primary/Processed/Secondary
Abiotic-NFNE	740312	Copper	Wire-bars of refined copper, unwrought	Primary/Processed/Secondary
Abiotic-NFNE	740313	Copper	Billets of refined copper, unwrought	Primary/Processed/Secondary
Abiotic-NFNE	740319	Copper	Unwrought products of refined copper (excl. of 7403.11-7403.13)	Primary/Processed/Secondary
Abiotic-NFNE	740321	Copper	Copper-zinc base alloys (brass), unwrought	Primary/Processed/Secondary
Abiotic-NFNE	740322	Copper	Copper-tin base alloys (bronze), unwrought	Primary/Processed/Secondary
Abiotic-NFNE	740329	Copper	Other copper alloys (other than master alloys of heading 74.05), other than copper-zinc alloys(brass),/copper-tin base alloys(bronze).	Primary/Processed/Secondary

Category	HS2007	Material/Product aggregate	Description	Value chain stage
Abiotic-NFNE	740400	Copper	Copper waste & scrap	Primary/Processed/Secondary
Abiotic-NFNE	740500	Copper	Master alloys of copper	Primary/Processed/Secondary
Abiotic-NFNE	740610	Copper	Powders of non-lamellar structure, of copper	Semi-fabricated
Abiotic-NFNE	740620	Copper	Powders of lamellar structure, of copper; flakes, of copper	Semi-fabricated
Abiotic-NFNE	740710	Copper	Bars, rods & profiles, of refined copper	Semi-fabricated
Abiotic-NFNE	740721	Copper	Bars, rods & profiles, of copper-zinc base alloys (brass)	Semi-fabricated
Abiotic-NFNE	740729	Copper	Bars, rods & profiles, of copper alloys (excl. of 7407.21)	Semi-fabricated
Abiotic-NFNE	740811	Copper	Copper wire, of refined copper of which the maximum cross-sectional dim. exceeds 6mm	Semi-fabricated
Abiotic-NFNE	740819	Copper	Copper wire, of refined copper (excl. of 7408.11)	Semi-fabricated
Abiotic-NFNE	740821	Copper	Wire of copper-zinc base alloys (brass)	Semi-fabricated
Abiotic-NFNE	740822	Copper	Wire of copper-nickel base alloys (cupro-nickel)/copper-nickel-zinc base alloys (nickel silver)	Semi-fabricated
Abiotic-NFNE	740829	Copper	Wire of copper alloys (excl. of 7408.21 & 7408.22)	Semi-fabricated
Abiotic-NFNE	740911	Copper	Copper plates, sheets & strip, of a thickness >0.15mm, of refined copper, in coils	Semi-fabricated
Abiotic-NFNE	740919	Copper	Copper plates, sheets & strip, of a thickness >0.15mm, of refined copper, other than in coils	Semi-fabricated
Abiotic-NFNE	740921	Copper	Copper plates, sheets & strip, of a thickness >0.15mm, of copper-zinc base alloys (brass), in coils	Semi-fabricated
Abiotic-NFNE	740929	Copper	Copper plates, sheets & strip, of a thickness >0.15mm, of copper-zinc base alloys (brass), other than in coils	Semi-fabricated
Abiotic-NFNE	740931	Copper	Copper plates, sheets & strip, of a thickness >0.15mm, of copper-tin base alloys (bronze), in coils	Semi-fabricated
Abiotic-NFNE	740939	Copper	Copper plates, sheets & strip, of a thickness >0.15mm, of copper-tin base alloys (bronze), other than in coils	Semi-fabricated
Abiotic-NFNE	740940	Copper	Copper plates, sheets & strip, of a thickness >0.15mm, of copper-nickel base alloys (cupro-nickel)/copper-nickel-zinc base alloys (nickel silver)	Semi-fabricated
Abiotic-NFNE	740990	Copper	Copper plates, sheets & strip, of a thickness >0.15mm, of other copper alloys (excl. of 7409.11-7409.40)	Semi-fabricated
Abiotic-NFNE	741011	Copper	Copper foil, whether/not printed, not backed with paper/paperboard/plactics/similar backing materials, of refined copper, of a thickness not >0.15mm	Semi-fabricated

Category	HS2007	Material/Product aggregate	Description	Value chain stage
Abiotic-NFNE	741012	Copper	Copper foil, whether/not printed, not backed with paper/paperboard/plactics/similar backing materials, of copper alloys, of a thickness not >0.15mm	Semi-fabricated
Abiotic-NFNE	741021	Copper	Copper foil, whether/not printed, backed with paper/paperboard/plactics/similar backing materials, of refined copper, of a thickness (excl. any backing) not >0.15mm	Semi-fabricated
Abiotic-NFNE	741022	Copper	Copper foil, whether/not printed, backed with paper/paperboard/plactics/similar backing materials, of copper alloys, of a thickness (excl. any backing) not >0.15mm	Semi-fabricated
Abiotic-NFNE	741110	Copper	Copper tubes & pipes, of refined copper	Semi-fabricated
Abiotic-NFNE	741121	Copper	Copper tubes & pipes, of copper-zinc base alloys (brass)	Semi-fabricated
Abiotic-NFNE	741122	Copper	Copper tubes & pipes, of copper-nickel base alloys (cupro-nickel)/copper-nickel-zinc base alloys (nickel silver)	Semi-fabricated
Abiotic-NFNE	741129	Copper	Copper tubes & pipes, of copper alloys (excl. of 7411.21 & 7411.22)	Semi-fabricated
Abiotic-NFNE	741210	Copper	Copper tube/pipe fittings (e.g., couplings, elbows, sleeves), of refined copper	Semi-fabricated
Abiotic-NFNE	741220	Copper	Copper tube/pipe fittings (e.g., couplings, elbows, sleeves), of copper alloys	Semi-fabricated
Abiotic-NFNE	710221	Diamonds (industrial)	Industrial diamonds, unworked/simply sawn/cleaved/bruted	Primary/Processed/Secondary
Abiotic-NFNE	710229	Diamonds (industrial)	Industrial diamonds, worked but not mounted/set	Primary/Processed/Secondary
Abiotic-NFNE	710510	Diamonds (industrial)	Dust & powder of natural/synthetic diamonds	Primary/Processed/Secondary
Abiotic-NFNE	710210	Diamonds (non-ind.)	Diamonds, unsorted	Primary/Processed/Secondary
Abiotic-NFNE	710231	Diamonds (non-ind.)	Diamonds, non-industrial, unworked/simply sawn/cleaved/bruted	Primary/Processed/Secondary
Abiotic-NFNE	710239	Diamonds (non-ind.)	Diamonds, non-industrial other than unworked/simply sawn/cleaved/bruted	Primary/Processed/Secondary
Abiotic-NFNE	720410	Ferrous waste and scrap	Waste & scrap of cast iron	Primary/Processed/Secondary
Abiotic-NFNE	720421	Ferrous waste and scrap	Waste & scrap of stainless steel	Primary/Processed/Secondary
Abiotic-NFNE	720429	Ferrous waste and scrap	Waste & scrap of alloy steel other than stainless steel	Primary/Processed/Secondary
Abiotic-NFNE	720430	Ferrous waste and scrap	Waste & scrap of tinned iron/steel	Primary/Processed/Secondary
Abiotic-NFNE	720441	Ferrous waste and scrap	Ferrous turnings, shavings, chips, milling waste, sawdust, filings, trimmings & stampings, whether/not in bundles	Primary/Processed/Secondary
Abiotic-NFNE	720449	Ferrous waste and scrap	Ferrous waste & scrap (excl. of 7204.10-7204.41)	Primary/Processed/Secondary

Category	HS2007	Material/Product aggregate	Description	Value chain stage
Abiotic-NFNE	720450	Ferrous waste and scrap	Remelting ferrous scrap ingots	Primary/Processed/Secondary
Abiotic-NFNE	281410	Fertilisers	Anhydrous ammonia	Downstream
Abiotic-NFNE	310100	Fertilisers	Animal/vegetable fertilisers, whether/not mixed together/chemically treated; fertilisers produced by the mixing/chemical treatment of animal/vegetable products	Downstream
Abiotic-NFNE	310210	Fertilisers	Urea, whether/not in aqueous solution	Downstream
Abiotic-NFNE	310221	Fertilisers	Ammonium sulphate	Downstream
Abiotic-NFNE	310229	Fertilisers	Double salts & mixtures of ammonium sulphate & ammonium nitrate	Downstream
Abiotic-NFNE	310230	Fertilisers	Ammonium nitrate, whether/not in aqueous solution	Downstream
Abiotic-NFNE	310240	Fertilisers	Mixtures of ammonium nitrate with calcium carbonate/other inorganic non-fertilising substance	Downstream
Abiotic-NFNE	310250	Fertilisers	Sodium nitrate	Downstream
Abiotic-NFNE	310260	Fertilisers	Double salts & mixtures of calcium nitrate & ammonium nitrate	Downstream
Abiotic-NFNE	310280	Fertilisers	Mixtures of urea & ammonium nitrate in aqueous/ammoniacal solution	Downstream
Abiotic-NFNE	310290	Fertilisers	Mineral/chemical fertilisers, nitrogenous (excl. of 3102.10-3102.80), including mixtures not specified in the foregoing subheadings	Downstream
Abiotic-NFNE	310310	Fertilisers	Superphosphates	Downstream
Abiotic-NFNE	310390	Fertilisers	Mineral/chemical fertilisers, phosphatic(excl. of 3103.10)	Downstream
Abiotic-NFNE	310510	Fertilisers	Fertilisers of Ch.31 in tablets/similar forms/in packages of a gross weight not >10kg	Downstream
Abiotic-NFNE	310520	Fertilisers	Mineral/chemical fertilisers containing the 3 fertilising elements nitrogen, phosphorus & potassium	Downstream
Abiotic-NFNE	310530	Fertilisers	Diammonium hydrogenorthophosphate (diammonium phosphate)	Downstream
Abiotic-NFNE	310540	Fertilisers	Ammonium dihydrogenorthophosphate (monoammonium phosphate) & mixtures thereof with diammonium hydrogenorthophosphate (diammonium phosphate)	Downstream
Abiotic-NFNE	310551	Fertilisers	Mineral/chemical fertilisers containing nitrates & phosphates	Downstream
Abiotic-NFNE	310559	Fertilisers	Mineral/chemical fertilisers containing the 2 fertilising elements nitrogen & phosphorus, other than those containing nitrates & phosphates	Downstream
Abiotic-NFNE	310560	Fertilisers	Mineral/chemical fertilisers containing the 2 fertilising elements phosphorus & potassium	Downstream

Category	HS2007	Material/Product aggregate	Description	Value chain stage
Abiotic-NFNE	310590	Fertilisers	Mineral/chemical fertilisers containing two/three of the fertilising elements nitrogen, phosphorus & potassium; other fertilisers (excl. of 3105.20-3105.60)	Downstream
Abiotic-NFNE	252921	Fluorspar	Fluorspar, containing by weight 97%/less of calcium fluoride	Primary/Processed/Secondary
Abiotic-NFNE	252922	Fluorspar	Fluorspar, containing by weight >97% of calcium fluoride	Primary/Processed/Secondary
Abiotic-NFNE	281111	Fluorspar	Hydrogen fluoride (hydrofluoric acid)	Primary/Processed/Secondary
Abiotic-NFNE	282612	Fluorspar	Flourides, of aluminium	Primary/Processed/Secondary
Abiotic-NFNE	282630	Fluorspar	Sodium hexafluoroaluminate (synthetic cryolite)	Primary/Processed/Secondary
Abiotic-NFNE	280410	Gases	Hydrogen	Primary/Processed/Secondary
Abiotic-NFNE	280421	Gases	Argon	Primary/Processed/Secondary
Abiotic-NFNE	280429	Gases	Rare gases other than argon	Primary/Processed/Secondary
Abiotic-NFNE	280430	Gases	Nitrogen	Primary/Processed/Secondary
Abiotic-NFNE	280440	Gases	Oxygen	Primary/Processed/Secondary
Abiotic-NFNE	282560	Ge/In/Hf/Ga	Germanium oxides & zirconium dioxide	Primary/Processed/Secondary
Abiotic-NFNE	811292	Ge/In/Hf/Ga	germanium, vanadium, gallium, hafnium, indium, niobium (columbium), rhenium, & articles of these metals, incl. waste & scrap, powder, unwrought.	Primary/Processed/Secondary
Abiotic-NFNE	811299	Ge/In/Hf/Ga	germanium, vanadium, gallium, hafnium, indium, niobium (columbium), rhenium, & articles of these metals, excl. waste & scrap, powder, unwrought.	Semi-fabricated
Abiotic-NFNE	284330	Gold	Gold comps.	Primary/Processed/Secondary
Abiotic-NFNE	710811	Gold	Gold (incl. gold plated with platinum), non-monetary, in powder form	Primary/Processed/Secondary
Abiotic-NFNE	710812	Gold	Gold (incl. gold plated with platinum), in unwrought forms (excl. powder)	Primary/Processed/Secondary
Abiotic-NFNE	710813	Gold	Gold (incl. gold plated with platinum), non-monetary, in semi-manufactured forms	Semi-fabricated
Abiotic-NFNE	710900	Gold	Base metals/silver, clad with gold, not further worked than semi-manufactured	Semi-fabricated
Abiotic-NFNE	711230	Gold	Ash containing precious metal/precious metal comps.	Primary/Processed/Secondary
Abiotic-NFNE	711291	Gold	Waste & scrap of gold, incl. metal clad with gold but excl. sweepings containing other precious metals	Primary/Processed/Secondary

Category	HS2007	Material/Product aggregate	Description	Value chain stage
Abiotic-NFNE	261690	Gold	Precious metal ores & concentrates (excl. silver ores & concentrates)	Primary/Processed/Secondary
Abiotic-NFNE	252910	Industrial minerals-other	Feldspar	Primary/Processed/Secondary
Abiotic-NFNE	252930	Industrial minerals-other	Leucite; nepheline & nepheline syenite	Primary/Processed/Secondary
Abiotic-NFNE	250200	Industrial minerals-other	Unroasted iron pyrites	Primary/Processed/Secondary
Abiotic-NFNE	250300	Industrial minerals-other	Sulphur of all kinds (excl. sublimed sulphur/precipitated sulphur/colloidal sulphur)	Primary/Processed/Secondary
Abiotic-NFNE	250510	Industrial minerals-other	Silica sands & quartz sands, whether/not coloured	Primary/Processed/Secondary
Abiotic-NFNE	250610	Industrial minerals-other	Quartz, other than natural sands	Primary/Processed/Secondary
Abiotic-NFNE	250620	Industrial minerals-other	Quartzite, other than natural sands, whether/not roughly trimmed/merely cut, by sawing/othw., into blocks/slabs of a rectangular (including square) shape.	Primary/Processed/Secondary
Abiotic-NFNE	250700	Industrial minerals-other	Kaolin & other kaolinic clays, whether/not calcined	Primary/Processed/Secondary
Abiotic-NFNE	250810	Industrial minerals-other	Bentonite	Primary/Processed/Secondary
Abiotic-NFNE	250830	Industrial minerals-other	Fire-clay	Primary/Processed/Secondary
Abiotic-NFNE	250840	Industrial minerals-other	Clays other than expanded clays of 68.06 (excl. of 2507.00, 2508.10 & 2508.30)	Primary/Processed/Secondary
Abiotic-NFNE	250850	Industrial minerals-other	Andalusite, kyanite & sillimanite	Primary/Processed/Secondary
Abiotic-NFNE	250860	Industrial minerals-other	Mullite	Primary/Processed/Secondary
Abiotic-NFNE	250870	Industrial minerals-other	Chamotte/dinas earths	Primary/Processed/Secondary
Abiotic-NFNE	250900	Industrial minerals-other	Chalk	Primary/Processed/Secondary
Abiotic-NFNE	251120	Industrial minerals-other	Natural barium carbonate (witherite), whether/not calcined, other than barium oxide of 28.16	Primary/Processed/Secondary
Abiotic-NFNE	251200	Industrial minerals-other	Siliceous fossil meals (e.g., kieselguhr, tripolite & diatomite) & similar siliceous earths, whether/not calcined, of an apparent sp.gr. of 1/less	Primary/Processed/Secondary
Abiotic-NFNE	251310	Industrial minerals-other	Pumice stone, whether/not heat-treated.	Primary/Processed/Secondary
Abiotic-NFNE	251320	Industrial minerals-other	Emery, natural corundum, natural garnet & other natural abrasives, whether/not heat-treated	Primary/Processed/Secondary
Abiotic-NFNE	252510	Industrial minerals-other	Crude mica & mica rifted into sheets/splittings	Primary/Processed/Secondary

Category	HS2007	Material/Product aggregate	Description	Value chain stage
Abiotic-NFNE	252520	Industrial minerals-other	Mica powder	Primary/Processed/Secondary
Abiotic-NFNE	252530	Industrial minerals-other	Mica waste	Primary/Processed/Secondary
Abiotic-NFNE	252610	Industrial minerals-other	Natural steatite, whether/not roughly trimmed/merely cut, by sawing/othw., into blocks/slabs of a rectangular (incl. square) shape; talc, not crushed/powdered	Primary/Processed/Secondary
Abiotic-NFNE	252620	Industrial minerals-other	Natural steatite, whether/not roughly trimmed/merely cut, by sawing/othw., into blocks/slabs of a rectangular (incl. square) shape; talc, crushed/powdered	Primary/Processed/Secondary
Abiotic-NFNE	253010	Industrial minerals-other	Vermiculite, perlite & chlorites, unexpanded	Primary/Processed/Secondary
Abiotic-NFNE	280200	Industrial minerals-other	Sulphur, sublimed/precipitated; colloidal sulphur	Primary/Processed/Secondary
Abiotic-NFNE	283640	Industrial minerals-other	Potassium carbonates	Primary/Processed/Secondary
Abiotic-NFNE	283650	Industrial minerals-other	Calcium carbonate	Primary/Processed/Secondary
Abiotic-NFNE	283660	Industrial minerals-other	Barium carbonate	Primary/Processed/Secondary
Abiotic-NFNE	380290	Industrial minerals-other	Activated natural mineral products other than of activated carbon; animal black, incl. spent animal black	Primary/Processed/Secondary
Abiotic-NFNE	680620	Industrial minerals-other	Exfoliated vermiculite, expanded clays, foamed slag & similar expanded mineral materials (incl. intermixtures thereof)	Primary/Processed/Secondary
Abiotic-NFNE	681410	Industrial minerals-other	Plates, sheets & strips of agglomerated/reconstituted mica, whether/not on a support	Primary/Processed/Secondary
Abiotic-NFNE	681490	Industrial minerals-other	Worked mica & articles of mica (excl. of 6814.10), incl. agglomerated/reconstituted mica, whether/not on a support of paper/paperboard/other materials	Primary/Processed/Secondary
Abiotic-NFNE	250100	Industrial minerals-other	Salt (incl. table salt & denatured salt) & pure sodium chloride, whether/not in aqueous solution/containing added anti-caking/free-flowing agents; sea water	Primary/Processed/Secondary
Abiotic-NFNE	280120	Iodine	Iodine	Primary/Processed/Secondary
Abiotic-NFNE	282760	Iodine	Iodides & iodide oxides	Primary/Processed/Secondary
Abiotic-NFNE	711041	Iridium	Iridium, osmium & ruthenium, unwrought/in powder form	Primary/Processed/Secondary
Abiotic-NFNE	711049	Iridium	Iridium, osmium & ruthenium, in semi-manufactured forms	Semi-fabricated
Abiotic-NFNE	720610	Iron and non-alloy steel	Iron & non-alloy steel in ingots (excl. iron of 72.03)	Primary/Processed/Secondary
Abiotic-NFNE	720690	Iron and non-alloy steel	Iron & non-alloy steel in primary forms other than ingots (excl. iron of 72.03)	Primary/Processed/Secondary
Abiotic-NFNE	720711	Iron and non-alloy steel	Semi-finished products of iron/non-alloy steel, containing by weight <0.25% of carbon, of rectangular (incl. square) cross-section, the width measuring < twice the thickness	Primary/Processed/Secondary

Category	HS2007	Material/Product aggregate	Description	Value chain stage
Abiotic-NFNE	720712	Iron and non-alloy steel	Semi-finished products of iron/non-alloy steel, containing by weight <0.25% of carbon, of rectangular (other than square) cross-section	Primary/Processed/Secondary
Abiotic-NFNE	720719	Iron and non-alloy steel	Semi-finished products of iron/non-alloy steel, containing by weight <0.25% of carbon, n.e.s. in 72.07	Primary/Processed/Secondary
Abiotic-NFNE	720720	Iron and non-alloy steel	Semi-finished products of iron/non-alloy steel, containing by weight 0.25%/more of carbon	Primary/Processed/Secondary
Abiotic-NFNE	720810	Iron and non-alloy steel	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, hot-rolled, not clad/plated/coated, in coils, not further worked than hot-rolled, with patterns in relief	Semi-fabricated
Abiotic-NFNE	720825	Iron and non-alloy steel	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, hot-rolled, not clad/plated/coated, in coils, not further worked than hot-rolled, pickled, of a thickness of 4.75mm/more	Semi-fabricated
Abiotic-NFNE	720826	Iron and non-alloy steel	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, hot-rolled, not clad/plated/coated, in coils, not further worked than hot-rolled, pickled, of a thickness of 3mm/more but <4.75mm	Semi-fabricated
Abiotic-NFNE	720827	Iron and non-alloy steel	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, hot-rolled, not clad/plated/coated, in coils, not further worked than hot-rolled, pickled, of a thickness of <3mm	Semi-fabricated
Abiotic-NFNE	720836	Iron and non-alloy steel	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, hot-rolled, not clad/plated/coated, in coils, not further worked than hot-rolled (excl. pickled), of a thickness >10mm	Semi-fabricated
Abiotic-NFNE	720837	Iron and non-alloy steel	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, hot-rolled, not clad/plated/coated, in coils, not further worked than hot-rolled(excl.pickled),of a thicknessof 4.75mm/more but not >10mm	Semi-fabricated
Abiotic-NFNE	720838	Iron and non-alloy steel	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, hot-rolled, not clad/plated/coated, in coils, not further worked than hot-rolled (excl.pickled),of a thicknessof 3mm/more but <4.75mm	Semi-fabricated
Abiotic-NFNE	720839	Iron and non-alloy steel	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, hot-rolled, not clad/plated/coated, in coils, not further worked than hot-rolled (excl. pickled), of a thickness of <3mm	Semi-fabricated
Abiotic-NFNE	720840	Iron and non-alloy steel	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, hot-rolled, not clad/plated/coated, not in coils, not further worked than hot-rolled, with patterns in relief	Semi-fabricated
Abiotic-NFNE	720851	Iron and non-alloy steel	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, hot-rolled, not clad/plated/coated, not in coils, not further worked than hot-rolled, of a thickness >10mm	Semi-fabricated
Abiotic-NFNE	720852	Iron and non-alloy steel	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, hot-rolled, not clad/plated/coated, not in coils, not further worked than hot-rolled, of a thickness of 4.75mm/more but not >10mm	Semi-fabricated
Abiotic-NFNE	720853	Iron and non-alloy steel	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, hot-rolled, not clad/plated/coated, not in coils, not further worked than hot-rolled, of a thickness of 3mm/more but <4.75mm	Semi-fabricated
Abiotic-NFNE	720854	Iron and non-alloy steel	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, hot-rolled, not clad/plated/coated, not in coils, not further worked than hot-rolled, of a thickness of <3mm	Semi-fabricated
Abiotic-NFNE	720890	Iron and non-alloy steel	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, hot-rolled, not clad/plated/coated, n.e.s. in 72.08	Semi-fabricated
Abiotic-NFNE	720915	Iron and non-alloy steel	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, in coils, not further worked than cold-rolled (cold-reduced), not clad/plated/coated, of a thickness of 3mm/more	Semi-fabricated
Abiotic-NFNE	720916	Iron and non-alloy steel	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, in coils, not further worked than cold-rolled (cold-reduced), not clad/plated/coated, of a thickness >1mm but <3mm	Semi-fabricated

Category	HS2007	Material/Product aggregate	Description	Value chain stage
Abiotic-NFNE	720917	Iron and non-alloy steel	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, in coils, not further worked than cold-rolled (cold-reduced), not clad/plated/coated, of a thickness of 0.5mm/more but not >1mm	Semi-fabricated
Abiotic-NFNE	720918	Iron and non-alloy steel	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, in coils, not further worked than cold-rolled (cold-reduced), not clad/plated/coated, of a thickness of <0.5mm	Semi-fabricated
Abiotic-NFNE	720925	Iron and non-alloy steel	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, not in coils, not further worked than cold-rolled (cold-reduced), not clad/plated/coated, of a thickness of 3mm/more	Semi-fabricated
Abiotic-NFNE	720926	Iron and non-alloy steel	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, not in coils, not further worked than cold-rolled (cold-reduced), not clad/plated/coated, of a thickness >1mm but <3mm	Semi-fabricated
Abiotic-NFNE	720927	Iron and non-alloy steel	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, not in coils, not further worked than cold-rolled (cold-reduced), not clad/plated/coated, of a thicknessof 0.5mm/more but not >1mm	Semi-fabricated
Abiotic-NFNE	720928	Iron and non-alloy steel	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, not in coils, not further worked than cold-rolled (cold-reduced), not clad/plated/coated, of a thickness of <0.5mm	Semi-fabricated
Abiotic-NFNE	720990	Iron and non-alloy steel	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, cold-rolled (cold-reduced), not clad/plated/coated, n.e.s. in 72.09	Semi-fabricated
Abiotic-NFNE	721011	Iron and non-alloy steel	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, of a thickness of 0.5mm/more	Semi-fabricated
Abiotic-NFNE	721012	Iron and non-alloy steel	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, of a thickness of <0.5mm	Semi-fabricated
Abiotic-NFNE	721020	Iron and non-alloy steel	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, plated/coated with lead, incl. terne-plate	Semi-fabricated
Abiotic-NFNE	721030	Iron and non-alloy steel	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, electrolytically plated/coated with zinc	Semi-fabricated
Abiotic-NFNE	721041	Iron and non-alloy steel	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, othw. plated/coated with zinc (excl. electrolytically), corrugated	Semi-fabricated
Abiotic-NFNE	721049	Iron and non-alloy steel	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, othw. plated/coated with zinc (excl. electrolytically), other than corrugated	Semi-fabricated
Abiotic-NFNE	721050	Iron and non-alloy steel	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, plated/coated with chromium oxides/with chromium & chromium oxides	Semi-fabricated
Abiotic-NFNE	721061	Iron and non-alloy steel	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, plated/coated with aluminium-zinc alloys	Semi-fabricated
Abiotic-NFNE	721069	Iron and non-alloy steel	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, plated/coated with aluminium other than with aluminium-zinc alloys	Semi-fabricated
Abiotic-NFNE	721070	Iron and non-alloy steel	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, painted/varnished/coated with plastics	Semi-fabricated
Abiotic-NFNE	721090	Iron and non-alloy steel	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, clad/plated/coated, n.e.s. in 72.10	Semi-fabricated
Abiotic-NFNE	721113	Iron and non-alloy steel	Other Flat-rolled products of iron/non-alloy steel, of a width of <600mm, not clad/plated/coated, not further worked than hot-rolled/not rolled on 4 faces/in a closed box pass/not in coils & without patterns in relief (exclud. 7211.13 & .14)	Semi-fabricated
Abiotic-NFNE	721114	Iron and non-alloy steel	Flat-rolled products of iron/non-alloy steel, of a width of <600mm, not clad/plated/coated, not further worked than hot-rolled (excl. of 7211.13), of a thickness of 4.75mm/more	Semi-fabricated
Abiotic-NFNE	721119	Iron and non-alloy steel	Flat-rolled products of iron/non-alloy steel, of a width of <600mm, not clad/plated/coated, not further worked than hot-rolled, n.e.s. in 72.11	Semi-fabricated

Category	HS2007	Material/Product aggregate	Description	Value chain stage
Abiotic-NFNE	721123	Iron and non-alloy steel	Flat-rolled products of iron/non-alloy steel, of a width of <600mm, not clad/plated/coated, not further worked than cold-rolled (cold-reduced), containing by weight <0.25% of carbon	Semi-fabricated
Abiotic-NFNE	721129	Iron and non-alloy steel	Flat-rolled products of iron/non-alloy steel, of a width of <600mm, not clad/plated/coated, not further worked than cold-rolled (cold-reduced) (excl. of 7211.23)	Semi-fabricated
Abiotic-NFNE	721190	Iron and non-alloy steel	Flat-rolled products of iron/non-alloy steel, of a width of <600mm, not clad/plated/coated, n.e.s. in 72.11	Semi-fabricated
Abiotic-NFNE	721210	Iron and non-alloy steel	Flat-rolled products of iron/non-alloy steel, of a width of <600mm, plated/coated with tin	Semi-fabricated
Abiotic-NFNE	721220	Iron and non-alloy steel	Flat-rolled products of iron/non-alloy steel, of a width of <600mm, electrolytically plated/coated with zinc	Semi-fabricated
Abiotic-NFNE	721230	Iron and non-alloy steel	Flat-rolled products of iron/non-alloy steel, of a width of <600mm, othw. plated/coated with zinc (excl. electrolytically)	Semi-fabricated
Abiotic-NFNE	721240	Iron and non-alloy steel	Flat-rolled products of iron/non-alloy steel, of a width of <600mm, painted/varnished/coated with plastics	Semi-fabricated
Abiotic-NFNE	721250	Iron and non-alloy steel	Flat-rolled products of iron/non-alloy steel, of a width of <600mm, othw. plated/\coated (excl. of 7212.10-7212.40)	Semi-fabricated
Abiotic-NFNE	721260	Iron and non-alloy steel	Flat-rolled products of iron/non-alloy steel, of a width of <600mm, clad	Semi-fabricated
Abiotic-NFNE	721310	Iron and non-alloy steel	Bars & rods, hot-rolled, in irregularly wound coils, of iron/non-alloy steel, containing indentations/ribs/grooves/other deformations produced during the rolling process	Semi-fabricated
Abiotic-NFNE	721320	Iron and non-alloy steel	Bars & rods, hot-rolled, in irregularly wound coils, of iron/non-alloy steel (excl. of 7213.10), of free-cutting steel	Semi-fabricated
Abiotic-NFNE	721391	Iron and non-alloy steel	Bars & rods, hot-rolled, in irregularly wound coils, of iron/non-alloy steel (excl. of 7213.10 & 7210.20), of circular cross-section measuring <14mm in diameter	Semi-fabricated
Abiotic-NFNE	721399	Iron and non-alloy steel	Bars & rods, hot-rolled, in irregularly wound coils, of iron/non-alloy steel, n.e.s. in 72.13	Semi-fabricated
Abiotic-NFNE	721410	Iron and non-alloy steel	Bars & rods of iron/non-alloy steel (excl. of 72.13), not further worked than forged	Semi-fabricated
Abiotic-NFNE	721420	Iron and non-alloy steel	Bars & rods of iron/non-alloy steel (excl. of 72,13), containing indentations/ribs/grooves/other deformations produced during the rolling process/twisted after rolling	Semi-fabricated
Abiotic-NFNE	721430	Iron and non-alloy steel	Bars & rods of iron/non-alloy steel (excl. of 72.13), of free-cutting steel, not further worked than forged/hot-rolled/hot-drawn/hot-extruded but incl.those twisted after rolling	Semi-fabricated
Abiotic-NFNE	721491	Iron and non-alloy steel	Bars & rods of iron/non-alloy steel (excl. of 72.13), not further worked than forged/hot-rolled/hot-drawn/hot-extruded but incl. those twisted after rolling, of rectangular (excl. square) cross-section	Semi-fabricated
Abiotic-NFNE	721499	Iron and non-alloy steel	Bars & rods of iron/non-alloy steel (excl. of 72.13), not further worked than forged/hot-rolled/hot-drawn/hot-extruded but incl. those twisted after rolling (excl. of 7214.10-7214.91)	Semi-fabricated
Abiotic-NFNE	721510	Iron and non-alloy steel	Bars & rods of iron/non-alloy steel, of free-cutting steel, not further worked than cold-formed/cold-finished	Semi-fabricated
Abiotic-NFNE	721550	Iron and non-alloy steel	Bars & rods of iron/non-alloy steel other than free-cutting steel, not further worked than cold-formed/cold-finished	Semi-fabricated
Abiotic-NFNE	721590	Iron and non-alloy steel	Bars & rods of iron/non-alloy steel, n.e.s.	Semi-fabricated

Category	HS2007	Material/Product aggregate	Description	Value chain stage
Abiotic-NFNE	721610	Iron and non-alloy steel	Angles, shapes & sections of iron/non-alloy steel, U / I / H sections of iron/non-alloy steel, not further worked than hot-rolled/hot-drawn/extruded, of a height of <80mm	Semi-fabricated
Abiotic-NFNE	721621	Iron and non-alloy steel	Angles, shapes & sections of iron/non-alloy steel, L sections, not further worked than hot-rolled/hot-drawn/extruded, of a height of <80mm	Semi-fabricated
Abiotic-NFNE	721622	Iron and non-alloy steel	Angles, shapes & sections of iron/non-alloy steel, T sections, not further worked than hot-rolled/hot-drawn/extruded, of a height of <80mm	Semi-fabricated
Abiotic-NFNE	721631	Iron and non-alloy steel	Angles, shapes & sections of iron/non-alloy steel, U sections, not further worked than hot-rolled/hot-drawn/extruded, of a height of 80mm/more	Semi-fabricated
Abiotic-NFNE	721632	Iron and non-alloy steel	Angles, shapes & sections of iron/non-alloy steel, I sections, not further worked than hot-rolled/hot-drawn/extruded, of a height of 80mm/more	Semi-fabricated
Abiotic-NFNE	721633	Iron and non-alloy steel	Angles, shapes & sections of iron/non-alloy steel, H sections, not further worked than hot-rolled/hot-drawn/extruded, of a height of 80mm/more	Semi-fabricated
Abiotic-NFNE	721640	Iron and non-alloy steel	Angles, shapes & sections of iron/non-alloy steel, L / T sections, not further worked than hott-rolled/hot-drawn/extruded, of a height of 80mm/more	Semi-fabricated
Abiotic-NFNE	721650	Iron and non-alloy steel	Angles, shapes & sections of iron/non-alloy steel (excl. of 7216.10-7216.40), not further worked than hot-rolled/hot-drawn/extruded	Semi-fabricated
Abiotic-NFNE	721661	Iron and non-alloy steel	Angles, shapes & sections of iron/non-alloy steel, not further worked than cold-formed/cold-finished, obt. from flat-rolled products	Semi-fabricated
Abiotic-NFNE	721669	Iron and non-alloy steel	Angles, shapes & sections of iron/non-alloy steel, not further worked than cold-formed/cold-finished (excl. of 7216.61)	Semi-fabricated
Abiotic-NFNE	721691	Iron and non-alloy steel	Angles, shapes & sections of iron/non-alloy steel (excl. of 7216.10-7216.69), cold-formed/cold-finished from flat-rolled products	Semi-fabricated
Abiotic-NFNE	721699	Iron and non-alloy steel	Angles, shapes & sections of iron/non-alloy steel, n.e.s. in 72.16	Semi-fabricated
Abiotic-NFNE	721710	Iron and non-alloy steel	Wire of iron/non-alloy steel, not plated/coated, whether/not polished	Semi-fabricated
Abiotic-NFNE	721720	Iron and non-alloy steel	Wire of iron/non-alloy steel, plated/coated with zinc	Semi-fabricated
Abiotic-NFNE	721730	Iron and non-alloy steel	Wire of iron/non-alloy steel, plated/coated with other base metals	Semi-fabricated
Abiotic-NFNE	721790	Iron and non-alloy steel	Wire of iron/non-alloy steel, n.e.s. in 72.17	Semi-fabricated
Abiotic-NFNE	730431	Iron and non-alloy steel	Tubes, pipes & hollow profiles (excl. of 7304.10-7304.29), seamless, of circular cross-section, of cold-drawn/cold-rolled (cold-reduced) steel	Semi-fabricated
Abiotic-NFNE	730439	Iron and non-alloy steel	Tubes, pipes & hollow profiles (excl. of 7304.10-7304.31), seamless, of circular cross section, of iron (excl. cast iron)/non-alloy steel	Semi-fabricated
Abiotic-NFNE	730619	Iron and non-alloy steel	Other line pipe of a kind used for oil/gas pipelines, other than welded/of stainless steel	Semi-fabricated
Abiotic-NFNE	730630	Iron and non-alloy steel	Tubes, pipes & hollow profiles (excl. of 7306.10 & 7306.20), welded, of circular cross-section, of iron/non-alloy steel	Semi-fabricated
Abiotic-NFNE	730419	Iron or steel	Line pipe of a kind used for oil/gas pipelines, other than of stainless steel.	Semi-fabricated

Category	HS2007	Material/Product aggregate	Description	Value chain stage
Abiotic-NFNE	730423	Iron or steel	Casing, tubing & drill pipe, of a kind used in drilling for oil/gas, other than of stainless steel	Semi-fabricated
Abiotic-NFNE	730661	Iron or Steel	Other tubes, pipes & hollow profiles (excl. of 7306.10-7306.40), welded, of non-circular cross-section, of square/rectangular cross-section	Semi-fabricated
Abiotic-NFNE	730669	Iron or Steel	Other tubes, pipes & hollow profiles (excl. of 7306.10-7306.40), welded, of other non-circular cross-section, other than of square/rectangular cross-section	Semi-fabricated
Abiotic-NFNE	730690	Iron or Steel	Tubes, pipes & hollow profiles of iron (excl. cast iron)/steel, n.e.s. (excl. of 73.04, 73.05 & 7306.10-7306.60)	Semi-fabricated
Abiotic-NFNE	730490	Iron or Steel	Tubes, pipes & hollow profiles (excl. of 7304.10-7304.59), seamless, of iron other than cast iron/steel	Semi-fabricated
Abiotic-NFNE	730511	Iron or Steel	Line pipe of a kind used for oil/gas pipelines, having circular cross-sections, the external diameter of which exceeds 406.4mm, longitudinally submerged arc welded	Semi-fabricated
Abiotic-NFNE	730512	Iron or Steel	Line pipe of a kind used for oil/gas pipelines, having circular cross-sections, the external diameter of which exceeds 406.4mm, longitudinally welded (excl. of 7305.11)	Semi-fabricated
Abiotic-NFNE	730519	Iron or Steel	Line pipe of a kind used for oil/gas pipelines, having circular cross-sections, the external diameter of which exceeds 406.4mm (excl. of 7305.11 & 7305.19)	Semi-fabricated
Abiotic-NFNE	730520	Iron or Steel	Casing of a kind used in drilling for oil/gas, having circular cross-sections, the external diameter of which exceeds 406.4mm	Semi-fabricated
Abiotic-NFNE	730531	Iron or Steel	Tubes & pipes (excl. of 7305.11-7305.20), having circular cross-sections, the external diameter of which exceeds 406.4mm, of iron/steel, longitudinally welded	Semi-fabricated
Abiotic-NFNE	730539	Iron or Steel	Tubes & pipes (excl. of 7305.11-7305.20), having circular cross-sections, the external diameter of which exceeds 406.4mm, of iron/steel (excl. of 7305.31)	Semi-fabricated
Abiotic-NFNE	730590	Iron or Steel	Tubes & pipes (e.g., welded/riveted/similarly closed), having circular cross-sections, the external diameter of which exceeds 406.4mm, of iron/steel (excl. of 7305.11-7305.39)	Semi-fabricated
Abiotic-NFNE	260111	Iron ore	Iron ores & concentrates (excl. roasted iron pyrites), non-agglomerated	Primary/Processed/Secondary
Abiotic-NFNE	260112	Iron ore	Iron ores & concentrates (excl. roasted iron pyrites), agglomerated	Primary/Processed/Secondary
Abiotic-NFNE	260700	Lead	Lead ores & concentrates	Primary/Processed/Secondary
Abiotic-NFNE	262021	Lead	Leaded gasoline sludges & leaded anti-knock compound sludges	Primary/Processed/Secondary
Abiotic-NFNE	262029	Lead	Ash & residues (excl. from the manufacture of iron/steel) containing lead (excl. of 2620.21)	Primary/Processed/Secondary
Abiotic-NFNE	282410	Lead	Lead monoxide (litharge, massicot)	Primary/Processed/Secondary
Abiotic-NFNE	282490	Lead	Lead oxides (excl. of 2824.10);red lead&orange lead	Primary/Processed/Secondary
Abiotic-NFNE	780110	Lead	Unwrought lead, refined	Primary/Processed/Secondary
Abiotic-NFNE	780191	Lead	Unwrought lead other than refined, containing by weight antimony as the principal other element	Primary/Processed/Secondary

Category	HS2007	Material/Product aggregate	Description	Value chain stage
Abiotic-NFNE	780199	Lead	Unwrought lead other than refined, n.e.s. in 78.01	Primary/Processed/Secondary
Abiotic-NFNE	780200	Lead	Lead waste & scrap	Primary/Processed/Secondary
Abiotic-NFNE	780411	Lead	Lead sheets, strip & foil of a thickness (excl. any backing) not >0.2mm	Semi-fabricated
Abiotic-NFNE	780419	Lead	Lead plates, sheets, strip & foil (excl. of 7804.11)	Semi-fabricated
Abiotic-NFNE	780420	Lead	Lead powders & flakes	Primary/Processed/Secondary
Abiotic-NFNE	282520	Lithium	Lithium oxide & hydroxide	Primary/Processed/Secondary
Abiotic-NFNE	283691	Lithium	Lithium carbonates	Primary/Processed/Secondary
Abiotic-NFNE	251910	Magnesite	Natural magnesium carbonate (magnesite)	Primary/Processed/Secondary
Abiotic-NFNE	251990	Magnesite	Fused magnesia; dead-burned (sintered) magnesia, whether/not containing small quantities of other oxides added before sintering; other magnesium oxide, whether/not pure	Primary/Processed/Secondary
Abiotic-NFNE	281610	Magnesium	Hydroxide & peroxide of magnesium	Primary/Processed/Secondary
Abiotic-NFNE	282731	Magnesium	Magnesium chlorides	Primary/Processed/Secondary
Abiotic-NFNE	810411	Magnesium	Unwrought magnesium, containing at least 99.8% by weight of magnesium	Primary/Processed/Secondary
Abiotic-NFNE	810419	Magnesium	Unwrought magnesium (excl. of 8104.11)	Primary/Processed/Secondary
Abiotic-NFNE	810420	Magnesium	Magnesium waste & scrap	Primary/Processed/Secondary
Abiotic-NFNE	810430	Magnesium	Magnesium raspings, turnings & granules, graded according to size; magnesium powders	Primary/Processed/Secondary
Abiotic-NFNE	810490	Magnesium	Magnesium & articles thereof , n.e.s. in 81.04	Semi-fabricated
Abiotic-NFNE	720230	Manganese	Ferro-silico-manganese, in granular/powder form	Primary/Processed/Secondary
Abiotic-NFNE	282010	Manganese	Manganese dioxide	Primary/Processed/Secondary
Abiotic-NFNE	282090	Manganese	Manganese oxides other than manganese dioxide	Primary/Processed/Secondary
Abiotic-NFNE	284161	Manganese	Potassium permanganate	Primary/Processed/Secondary
Abiotic-NFNE	284169	Manganese	Manganites, manganates & permanganates (excl. of potassium)	Primary/Processed/Secondary

Category	HS2007	Material/Product aggregate	Description	Value chain stage
Abiotic-NFNE	720211	Manganese	Ferro-manganese, containing by weight >2% of carbon, in granular/powder form	Primary/Processed/Secondary
Abiotic-NFNE	720219	Manganese	Ferro-manganese, other than that containing by weight >2% of carbon, in granular/powder form	Primary/Processed/Secondary
Abiotic-NFNE	811100	Manganese	Manganese & articles thereof , incl. waste & scrap	Primary/Processed/Secondary
Abiotic-NFNE	260200	Manganese	Manganese ores & concentrates, incl. ferruginous manganese ores & concentrates with a manganese content of 20%/more, calc. on the dry weight	Primary/Processed/Secondary
Abiotic-NFNE	261310	Molybdenum	Molybdenum ores & concentrates, roasted	Primary/Processed/Secondary
Abiotic-NFNE	261390	Molybdenum	Molybdenum ores & concentrates, other than roasted	Primary/Processed/Secondary
Abiotic-NFNE	282570	Molybdenum	Molybdenum oxides & hydroxides	Primary/Processed/Secondary
Abiotic-NFNE	284170	Molybdenum	Molybdates	Primary/Processed/Secondary
Abiotic-NFNE	720270	Molybdenum	Ferro-molybdenum, in granular/powder form	Primary/Processed/Secondary
Abiotic-NFNE	810210	Molybdenum	Molybdenum powders	Primary/Processed/Secondary
Abiotic-NFNE	810294	Molybdenum	Unwrought molybdenum, incl. bars & rods obt. simply by sintering	Primary/Processed/Secondary
Abiotic-NFNE	810295	Molybdenum	Molybdenum bars & rods (excl. those obt. simply by sintering), profiles, plates, sheets, strip & foil	Semi-fabricated
Abiotic-NFNE	810296	Molybdenum	Molybdenum wire	Semi-fabricated
Abiotic-NFNE	810297	Molybdenum	Molybdenum waste & scrap	Primary/Processed/Secondary
Abiotic-NFNE	810299	Molybdenum	Molybdenum & articles thereof , n.e.s. in 81.02	Semi-fabricated
Abiotic-NFNE	250410	Natural graphite	Natural graphite, in powder/flakes	Primary/Processed/Secondary
Abiotic-NFNE	250490	Natural graphite	Natural graphite other than in powders/flakes	Primary/Processed/Secondary
Abiotic-NFNE	380120	Natural graphite	Colloidal/semi-colloidal graphite	Primary/Processed/Secondary
Abiotic-NFNE	260400	Nickel	Nickel ores & concentrates	Primary/Processed/Secondary
Abiotic-NFNE	282540	Nickel	Nickel oxides & hydroxides	Primary/Processed/Secondary
Abiotic-NFNE	282735	Nickel	Nickel chlorides	Primary/Processed/Secondary

Category	HS2007	Material/Product aggregate	Description	Value chain stage
Abiotic-NFNE	283324	Nickel	Sulphates of nickel	Primary/Processed/Secondary
Abiotic-NFNE	720260	Nickel	Ferro-nickel, in granular/powder form	Primary/Processed/Secondary
Abiotic-NFNE	750110	Nickel	Nickel mattes	Primary/Processed/Secondary
Abiotic-NFNE	750120	Nickel	Nickel oxide sinters & other intermediate products of nickel metallurgy	Primary/Processed/Secondary
Abiotic-NFNE	750210	Nickel	Nickel, not alloyed, unwrought	Primary/Processed/Secondary
Abiotic-NFNE	750220	Nickel	Nickel alloys, unwrought	Primary/Processed/Secondary
Abiotic-NFNE	750300	Nickel	Nickel waste & scrap	Primary/Processed/Secondary
Abiotic-NFNE	750400	Nickel	Nickel powders & flakes	Primary/Processed/Secondary
Abiotic-NFNE	750511	Nickel	Bars, rods, profiles & wire, of nickel, not alloyed	Semi-fabricated
Abiotic-NFNE	750512	Nickel	Bars, rods, profiles & wire, of nickel alloys	Semi-fabricated
Abiotic-NFNE	750521	Nickel	Wire of nickel, not alloyed	Semi-fabricated
Abiotic-NFNE	750522	Nickel	Wire of nickel alloys	Semi-fabricated
Abiotic-NFNE	750610	Nickel	Plates, sheets, strip & foil, of nickel, not alloyed	Semi-fabricated
Abiotic-NFNE	750620	Nickel	Plates, sheets, strip & foil, of nickel alloys	Semi-fabricated
Abiotic-NFNE	750711	Nickel	Tubes & pipes, of nickel, not alloyed	Semi-fabricated
Abiotic-NFNE	750712	Nickel	Tubes & pipes, of nickel alloys	Semi-fabricated
Abiotic-NFNE	750720	Nickel	Tube/pipe fittings (e.g., couplings, elbows, sleeves), of nickel	Semi-fabricated
Abiotic-NFNE	720293	Niobium	Ferro-niobium, in granular/powder form	Primary/Processed/Secondary
Abiotic-NFNE	720299	Other	Ferro-alloys (excl. of 7202.11-7202.93), in granular/powder form	Primary/Processed/Secondary
Abiotic-NFNE	720521	Other alloy steel	Powders, of alloy steel	Primary/Processed/Secondary
Abiotic-NFNE	722410	Other alloy steel	Ingots & other primary forms of other alloy steel (excl. stainless steel)	Primary/Processed/Secondary

Category	HS2007	Material/Product aggregate	Description	Value chain stage
Abiotic-NFNE	722490	Other alloy steel	Semi-finished products (excl. ingots & other primary forms) of alloy steel other than stainless steel, n.e.s.	Primary/Processed/Secondary
Abiotic-NFNE	722511	Other alloy steel	Flat-rolled products of silicon-electrical steel, grain-oriented (excl. stainless steel), of a width of 600mm/more	Semi-fabricated
Abiotic-NFNE	722519	Other alloy steel	Flat-rolled products of silicon-electrical steel, other than grain-oriented (excl. stainless steel), of a width of 600mm/more	Semi-fabricated
Abiotic-NFNE	722530	Other alloy steel	Other flat-rolled products of other alloy steel, of a width of 600 mm/more, not further worked than hot-rolled, in coils.	Semi-fabricated
Abiotic-NFNE	722540	Other alloy steel	Other flat-rolled products of other alloy steel, of a width of 600 mm/more, not further worked than hot-rolled, not in coils.	Semi-fabricated
Abiotic-NFNE	722550	Other alloy steel	Other flat-rolled products of other alloy steel, of a width of 600 mm/more, not further worked than cold-rolled (cold-reduced),	Semi-fabricated
Abiotic-NFNE	722591	Other alloy steel	Other n.e.s. in 72.25, flat-rolled products of other alloy steel, of a width of 600 mm/more, of electrolytically plated/coated with zinc.	Semi-fabricated
Abiotic-NFNE	722592	Other alloy steel	Other n.e.s. in 72.25, flat-rolled products of other alloy steel, of a width of 600 mm/more, of othw. plated/coated with zinc.	Semi-fabricated
Abiotic-NFNE	722599	Other alloy steel	Other n.e.s. in 72.25, flat-rolled products of other alloy steel, of a width of 600 mm/more, other than of electrolutically/othw. plated/coated with zinc/.	Semi-fabricated
Abiotic-NFNE	722611	Other alloy steel	Flat-rolled products of silicon-electrical steel, grain-oriented (excl. stainless steel), of a width of <600mm	Semi-fabricated
Abiotic-NFNE	722619	Other alloy steel	Flat-rolled products of silicon-electrical steel, other than grain-oriented (excl. stainless steel), of a width of <600mm	Semi-fabricated
Abiotic-NFNE	722620	Other alloy steel	Flat-rolled products of high speed steel (excl. stainless steel), of a width of <600mm	Semi-fabricated
Abiotic-NFNE	722691	Other alloy steel	Flat-rolled products of other alloy steel (excl. stainless/silicon-electrical/high speed steel), of a width of <600mm, not further worked than hot-rolled	Semi-fabricated
Abiotic-NFNE	722692	Other alloy steel	Flat-rolled products of other alloy steel (excl. stainless/silicon-electrical/high speed steel), of a width of <600mm, not further worked than cold-rolled (cold-reduced)	Semi-fabricated
Abiotic-NFNE	722699	Other alloy steel	Other n.e.s. in 72.26 flat-rolled products of other alloy steel (excld. Stainless/silicon-electrical/high speed steel), of a width of less than 600 mm.	Semi-fabricated
Abiotic-NFNE	722720	Other alloy steel	Bars & rods, hot-rolled, in irregularly wound coils, of silico-manganese steel	Semi-fabricated
Abiotic-NFNE	722790	Other alloy steel	Bars & rods, hot-rolled, in irregularly wound coils (excl. of 72.13 & 7221.00), n.e.s. in 72.27	Semi-fabricated
Abiotic-NFNE	722810	Other alloy steel	Bars & rods of high speed steel	Semi-fabricated
Abiotic-NFNE	722820	Other alloy steel	Bars & rods of silico-manganese steel	Semi-fabricated
Abiotic-NFNE	722830	Other alloy steel	Bars & rods of other alloy steel (excl. of 72.27, 7228.10 & 7228.20), not further worked than hot-rolled/hot-drawn/extruded	Semi-fabricated
Abiotic-NFNE	722840	Other alloy steel	Bars & rods of other alloy steel (excl. of 72.27, 7228.10 & 7228.20), not further worked than forged	Semi-fabricated

Category	HS2007	Material/Product aggregate	Description	Value chain stage
Abiotic-NFNE	722850	Other alloy steel	Bars & rods of other alloy steel (excl. of 72.27), not further worked than cold-formed/cold-finished	Semi-fabricated
Abiotic-NFNE	722860	Other alloy steel	Bars & rods of other alloy steel (excl. of 72.27), n.e.s. in 72.28	Semi-fabricated
Abiotic-NFNE	722870	Other alloy steel	Angles, shapes & sections of alloy steel other than stainless steel	Semi-fabricated
Abiotic-NFNE	722880	Other alloy steel	Hollow drill bars & rods of alloy/non-alloy steel	Semi-fabricated
Abiotic-NFNE	722920	Other alloy steel	Wire of silico-manganese steel	Semi-fabricated
Abiotic-NFNE	722990	Other alloy steel	Other wire of other alloy steel, other than of silico-manganese steel.	Semi-fabricated
Abiotic-NFNE	730451	Other alloy steel	Tubes, pipes & hollow profiles (excl. of 7304.10-7304.49), seamless, of circular cross-section, of alloy steel other than stainless steel, cold-drawn/cold-rolled (cold-reduced)	Semi-fabricated
Abiotic-NFNE	730459	Other alloy steel	Tubes, pipes & hollow profiles (excl. of 7304.10-7304.49), seamless, of circular cross-section, of alloy steel other than stainless steel (excl. of 7304.51)	Semi-fabricated
Abiotic-NFNE	730650	Other alloy steel	Tubes, pipes & hollow profiles (excl. of 7306.10-7306.40), welded, of circular cross-section, of alloy steel other than stainless steel	Semi-fabricated
Abiotic-NFNE	262060	Other chemicals	Slag,ash & residues (excl. from the manufacture of iron/steel) containing arsenic/mercury/thallium/their mixtures, of a kind used for the extraction of arsenic/those metals /for the manufacture of their chemical compounds	Primary/Processed/Secondary
Abiotic-NFNE	262091	Other chemicals	Ash & residues (excl. from the manufacture of iron/steel) containing antimony/beryllium/cadmium/chromium/their mixtures	Primary/Processed/Secondary
Abiotic-NFNE	262099	Other chemicals	Ash & residues (excl. from the manufacture of iron/steel), n.e.s. in Ch.26	Primary/Processed/Secondary
Abiotic-NFNE	280110	Other chemicals	Chlorine	Primary/Processed/Secondary
Abiotic-NFNE	280511	Other chemicals	Sodium	Primary/Processed/Secondary
Abiotic-NFNE	280512	Other chemicals	Calcium	Primary/Processed/Secondary
Abiotic-NFNE	280519	Other chemicals	Alkali/alkaline-earth metals other than sodium & calcium	Primary/Processed/Secondary
Abiotic-NFNE	280540	Other chemicals	Mercury	Primary/Processed/Secondary
Abiotic-NFNE	280800	Other chemicals	Nitric acid; sulphonitric acids	Primary/Processed/Secondary
Abiotic-NFNE	281121	Other chemicals	Carbon dioxide	Primary/Processed/Secondary
Abiotic-NFNE	281122	Other chemicals	Silicon dioxide	Primary/Processed/Secondary
Abiotic-NFNE	281129	Other chemicals	Inorganic oxygen comps. of non-metals (excl. of 2811.21& 2811.22),n.e.s.	Primary/Processed/Secondary

Category	HS2007	Material/Product aggregate	Description	Value chain stage
Abiotic-NFNE	281210	Other chemicals	Chlorides & chloride oxides of non-metals	Primary/Processed/Secondary
Abiotic-NFNE	281290	Other chemicals	Halides & halide oxides of non-metals other than chlorides & chloride oxides	Primary/Processed/Secondary
Abiotic-NFNE	281310	Other chemicals	Carbon disulphide	Primary/Processed/Secondary
Abiotic-NFNE	281390	Other chemicals	Sulphides of non-metals (excl. carbon disulphide); commercial phosphorus trisulphide	Primary/Processed/Secondary
Abiotic-NFNE	281420	Other chemicals	Ammonia in aqueous solution	Primary/Processed/Secondary
Abiotic-NFNE	282120	Other chemicals	Earth colours containing 70%/more by weight of combined iron evaluated as Fe2O3	Primary/Processed/Secondary
Abiotic-NFNE	282510	Other chemicals	Hydrazine & hydroxylamine & their inorganic salts	Primary/Processed/Secondary
Abiotic-NFNE	282590	Other chemicals	Inorganic bases other than hydrazine & hydroxylamine & their inorganic salts; other metal oxides, hydroxides & peroxides, n.e.s. in Ch 28.25	Primary/Processed/Secondary
Abiotic-NFNE	282619	Other chemicals	Flourides other than of aluminium	Primary/Processed/Secondary
Abiotic-NFNE	282710	Other chemicals	Ammonium chloride	Primary/Processed/Secondary
Abiotic-NFNE	282720	Other chemicals	Calcium chloride	Primary/Processed/Secondary
Abiotic-NFNE	282739	Other chemicals	Chlorides (excl. of 2827.10-2827.35), n.e.s.	Primary/Processed/Secondary
Abiotic-NFNE	282749	Other chemicals	Chloride oxides & chloride hydroxides other than of copper	Primary/Processed/Secondary
Abiotic-NFNE	282751	Other chemicals	Bromides of sodium/potassium	Primary/Processed/Secondary
Abiotic-NFNE	282759	Other chemicals	Bromides & bromide oxides other than bromides of sodium/potassium	Primary/Processed/Secondary
Abiotic-NFNE	282810	Other chemicals	Commercial calcium hypochlorite & other calcium hypochlorites	Primary/Processed/Secondary
Abiotic-NFNE	282890	Other chemicals	Hypochlorites (excl. calcium); chlorites; hypobromites	Primary/Processed/Secondary
Abiotic-NFNE	282911	Other chemicals	Chlorates, of sodium	Primary/Processed/Secondary
Abiotic-NFNE	282919	Other chemicals	Chlorates other than of sodium	Primary/Processed/Secondary
Abiotic-NFNE	282990	Other chemicals	Perchlorates; bromates & perbromates; iodates & periodates	Primary/Processed/Secondary
Abiotic-NFNE	283010	Other chemicals	Sodium sulphides	Primary/Processed/Secondary

Category	HS2007	Material/Product aggregate	Description	Value chain stage
Abiotic-NFNE	283090	Other chemicals	Sulphides (excl. of 2830.10); polysulphides, whether/not chemically defined	Primary/Processed/Secondary
Abiotic-NFNE	283110	Other chemicals	Dithionites & sulphoxylates, of sodium	Primary/Processed/Secondary
Abiotic-NFNE	283190	Other chemicals	Dithionites & sulphoxylates (excl. of sodium)	Primary/Processed/Secondary
Abiotic-NFNE	283210	Other chemicals	Sodium sulphites	Primary/Processed/Secondary
Abiotic-NFNE	283220	Other chemicals	Sulphites (excl. of sodium)	Primary/Processed/Secondary
Abiotic-NFNE	283230	Other chemicals	Thiosulphates	Primary/Processed/Secondary
Abiotic-NFNE	283410	Other chemicals	Nitrites	Primary/Processed/Secondary
Abiotic-NFNE	283429	Other chemicals	Nitrates other than of potassium	Primary/Processed/Secondary
Abiotic-NFNE	283510	Other chemicals	Phosphinates (hypophosphites) & phosphonates (phosphites)	Primary/Processed/Secondary
Abiotic-NFNE	283522	Other chemicals	Phosphates of mono- /disodium	Primary/Processed/Secondary
Abiotic-NFNE	283524	Other chemicals	Phosphates of potassium	Primary/Processed/Secondary
Abiotic-NFNE	283525	Other chemicals	Calcium hydrogenorthophosphate (dicalcium phosphate)	Primary/Processed/Secondary
Abiotic-NFNE	283531	Other chemicals	Sodium triphosphate (sodium tripolyphosphate)	Primary/Processed/Secondary
Abiotic-NFNE	283539	Other chemicals	Polyphosphates (excl. of 2835.31)	Primary/Processed/Secondary
Abiotic-NFNE	283630	Other chemicals	Sodium hydrogencarbonate (sodium bicarbonate)	Primary/Processed/Secondary
Abiotic-NFNE	283711	Other chemicals	Cyanides & cyanide oxides, of sodium	Primary/Processed/Secondary
Abiotic-NFNE	283719	Other chemicals	Cyanides & cyanide oxides (excl. of 2837.11)	Primary/Processed/Secondary
Abiotic-NFNE	283720	Other chemicals	Complex cyanides	Primary/Processed/Secondary
Abiotic-NFNE	283911	Other chemicals	Sodium metasilicates	Primary/Processed/Secondary
Abiotic-NFNE	283919	Other chemicals	Silicates of sodium other than sodiummetasilicates	Primary/Processed/Secondary
Abiotic-NFNE	283990	Other chemicals	Silicates other than of sodium; commercial alkali metal silicates	Primary/Processed/Secondary

Category	HS2007	Material/Product aggregate	Description	Value chain stage
Abiotic-NFNE	284190	Other chemicals	Salts of oxometallic/peroxometallic acids (excl. of 2841.30-2841.80)	Primary/Processed/Secondary
Abiotic-NFNE	284210	Other chemicals	Double/complex silicates, incl. aluminosilicates, whether/not chemically defined	Primary/Processed/Secondary
Abiotic-NFNE	284290	Other chemicals	Salts of inorganic acids/peroxoacids (excl. of double/complex silicates), whether/not chemically defined (excl. azides)	Primary/Processed/Secondary
Abiotic-NFNE	284310	Other chemicals	Colloidal precious metals	Primary/Processed/Secondary
Abiotic-NFNE	284430	Other chemicals	Uranium depleted in U 235 & its compounds; thorium & its compounds; alloys, dispersions (including cermets), ceramic products & mixtures containing uranium depleted in U 235, thorium/compounds of these products	Primary/Processed/Secondary
Abiotic-NFNE	284440	Other chemicals	Radioactive elements & isotopes & compounds other than those of subheading 2844.10, 2844.20/2844.30; alloys, dispersions (including cermets), ceramic products & mixtures containing these elements, isotopes/compounds; radioactive residues	Primary/Processed/Secondary
Abiotic-NFNE	284510	Other chemicals	Heavy water (deuterium oxide)	Primary/Processed/Secondary
Abiotic-NFNE	284590	Other chemicals	Isotopes other than those of 28.44 (excl. heavy water (deuterium oxide)); comps., inorganic/organic, of such isotopes, whether/not chemically defined	Primary/Processed/Secondary
Abiotic-NFNE	284700	Other chemicals	Hydrogen peroxide, whether/not solidified with urea	Primary/Processed/Secondary
Abiotic-NFNE	284910	Other chemicals	Carbides, of calcium, whether/not chemically defined	Primary/Processed/Secondary
Abiotic-NFNE	284920	Other chemicals	Carbides, of silicon, whether/not chemically defined	Primary/Processed/Secondary
Abiotic-NFNE	284990	Other chemicals	Carbides (excl. of 2849.10 & 2849.20), whether/not chemically defined	Primary/Processed/Secondary
Abiotic-NFNE	285000	Other chemicals	Hydrides, nitrides, azides, silicides&borides, whether/not chemically defined, other than compounds which are also carbides of heading 28.49.	Primary/Processed/Secondary
Abiotic-NFNE	285200	Other chemicals	Compounds, inorganic/organic, of mercury, excluding amalgams.	Primary/Processed/Secondary
Abiotic-NFNE	285300	Other chemicals	Other inorganic compounds (including distilled/conductivity water&water of similar purity); liquid air (whether/not rare gases have been removed); compressed air; amalgams, other than amalgams of precious metals.	Primary/Processed/Secondary
Abiotic-NFNE	283311	Other chemicals	Disodium sulphate	Primary/Processed/Secondary
Abiotic-NFNE	283319	Other chemicals	Sodium sulphates other than disodium sulphate	Primary/Processed/Secondary
Abiotic-NFNE	283322	Other chemicals	Sulphates of aluminium	Primary/Processed/Secondary
Abiotic-NFNE	283329	Other chemicals	Sulphates other than Sodium sulphates(excl. of 2833.21-2833.27)	Primary/Processed/Secondary
Abiotic-NFNE	283330	Other chemicals	Alums	Primary/Processed/Secondary

Category	HS2007	Material/Product aggregate	Description	Value chain stage
Abiotic-NFNE	283340	Other chemicals	Peroxosulphates (persulphates)	Primary/Processed/Secondary
Abiotic-NFNE	253020	Other mineral substances	Kieserite, epsomite (natural magnesium sulphates)	Primary/Processed/Secondary
Abiotic-NFNE	253090	Other mineral substances	Mineral substance, n.e.s. in Ch.25	Primary/Processed/Secondary
Abiotic-NFNE	260120	Other mineral substances	Roasted iron pyrites	Primary/Processed/Secondary
Abiotic-NFNE	261790	Other ores	Ores & concentrates (excl. of 2601.11-2617.10)	Primary/Processed/Secondary
Abiotic-NFNE	711021	Palladium	Palladium, unwrought/in powder form	Primary/Processed/Secondary
Abiotic-NFNE	711029	Palladium	Palladium, in semi-manufactured forms	Semi-fabricated
Abiotic-NFNE	280920	Phosphate rock	Phosphoric acid & polyphosphoric acids, whether/not chemically defined	Primary/Processed/Secondary
Abiotic-NFNE	251010	Phosphorus	Natural calcium phosphates, natural aluminium calcium phosphates & phosphatic chalk, unground	Primary/Processed/Secondary
Abiotic-NFNE	251020	Phosphorus	Natural calcium phosphates, natural aluminium calcium phosphates & phosphatic chalk, ground	Primary/Processed/Secondary
Abiotic-NFNE	280470	Phosphorus	Phosphorus	Primary/Processed/Secondary
Abiotic-NFNE	720310	Pig, sponge and direct reduced iron	Ferrous products obt. by direct reduction of iron ore, in lumps/pellets/similar forms	Primary/Processed/Secondary
Abiotic-NFNE	720390	Pig, sponge and direct reduced iron	Spongy ferrous products (excl. of 7203.10), in lumps/pellets/similar forms; iron having a minimum purity by weight of 99.94%, in lumps/pellets/similar forms	Primary/Processed/Secondary
Abiotic-NFNE	720510	Pig, sponge and direct reduced iron	Granules of pig iron, spiegeleisen, iron/steel	Primary/Processed/Secondary
Abiotic-NFNE	720529	Pig, sponge and direct reduced iron	Powders, of pig iron, spiegeleisen, iron/steel (excl. alloy steel)	Primary/Processed/Secondary
Abiotic-NFNE	720110	Pig, sponge and direct reduced iron	Non-alloy pig iron containing by weight 0.5%/less of phosphorus, in pigs/blocks/other primary forms	Primary/Processed/Secondary
Abiotic-NFNE	720120	Pig, sponge and direct reduced iron	Non-alloy pig iron containing by weight >0.5% of phosphorus, in pigs/blocks/other primary forms	Primary/Processed/Secondary
Abiotic-NFNE	720150	Pig, sponge and direct reduced iron	Alloy pig iron; spiegeleisen, in pigs/blocks/other primary forms	Primary/Processed/Secondary
Abiotic-NFNE	711011	Platinum	Platinum, unwrought/in powder form	Primary/Processed/Secondary
Abiotic-NFNE	711019	Platinum	Platinum, in semi-manufactured forms	Semi-fabricated
Abiotic-NFNE	711292	Platinum	Waste & scrap of platinum, incl. metal clad with platinum but excl. sweepings containing other precious metals	Primary/Processed/Secondary

Category	HS2007	Material/Product aggregate	Description	Value chain stage
Abiotic-NFNE	281520	Potash	Potassium hydroxide (caustic potash)	Primary/Processed/Secondary
Abiotic-NFNE	281530	Potash	Peroxides of sodium/potassium	Primary/Processed/Secondary
Abiotic-NFNE	283421	Potash	Nitrates of potassium	Primary/Processed/Secondary
Abiotic-NFNE	310420	Potash	Potassium chloride	Primary/Processed/Secondary
Abiotic-NFNE	310430	Potash	Potassium sulphate	Primary/Processed/Secondary
Abiotic-NFNE	310490	Potash	Mineral/chemical fertilisers, potassic(excl. of 3104.20 & 3104.30)	Primary/Processed/Secondary
Abiotic-NFNE	284390	Precious metals compounds	Inorganic/organic compounds of precious metals (excl. of 2843.21 - 2843.30), whether/not chemically defined; amalgams of precious metals	Primary/Processed/Secondary
Abiotic-NFNE	711299	Precious metals compounds	Waste & scrap of precious metal/of metal clad with precious metal; other waste & scrap containing precious metal/precious metal compounds, of a kind used principally for the recovery of precious metal, other than gold/platinum, n.e.s. of 71.12	Primary/Processed/Secondary
Abiotic-NFNE	710121	Precious stones/gems	Cultured pearls, unworked	Semi-fabricated
Abiotic-NFNE	710122	Precious stones/gems	Cultured pearls, worked	Semi-fabricated
Abiotic-NFNE	710420	Precious stones/gems	Synthetic/reconstructed precious/semi-precious stones (excl. piezo-electric quartz), unworked/simply sawn/roughly shaped	Semi-fabricated
Abiotic-NFNE	710490	Precious stones/gems	Synthetic/reconstructed precious/semi-precious stones, whether/not worked/graded but not strung, mounted/set; ungraded synthetic/reconstructed precious/semi-precious stones, temporarily strung for convenience of transport.	Semi-fabricated
Abiotic-NFNE	280530	REEs	Rare-earth metals, scandium & yttrium, whether/not intermixed/interalloyed	Primary/Processed/Secondary
Abiotic-NFNE	284610	REEs	Cerium comps.	Primary/Processed/Secondary
Abiotic-NFNE	284690	REEs	Compounds, inorganic/organic, of rare-earth metals/yttrium/scandium/mixtures of these metals, other than cerium comps.	Primary/Processed/Secondary
Abiotic-NFNE	711031	Rhodium	Rhodium, unwrought/in powder form	Primary/Processed/Secondary
Abiotic-NFNE	711039	Rhodium	Rhodium, in semi-manufactured forms	Semi-fabricated
Abiotic-NFNE	280490	Selenium	Selenium	Primary/Processed/Secondary
Abiotic-NFNE	720221	Silicon	Ferro-silicon, containing by weight >55% of silicon, in granular/powder form	Primary/Processed/Secondary
Abiotic-NFNE	720229	Silicon	Ferro-silicon, other than that containing >55% of silicon, in granular/powder form	Primary/Processed/Secondary

Category	HS2007	Material/Product aggregate	Description	Value chain stage
Abiotic-NFNE	280461	Silicon metal	Silicon, containing by weight not <99.99% of silicon	Primary/Processed/Secondary
Abiotic-NFNE	280469	Silicon metal	Silicon, containing by weight <99.99% of silicon	Primary/Processed/Secondary
Abiotic-NFNE	261610	Silver	Silver ores & concentrates	Primary/Processed/Secondary
Abiotic-NFNE	284321	Silver	Silver nitrate	Primary/Processed/Secondary
Abiotic-NFNE	284329	Silver	Silver comps. other than silver nitrate	Primary/Processed/Secondary
Abiotic-NFNE	710610	Silver	Silver (incl. silver plated with gold/platinum), in powder form	Primary/Processed/Secondary
Abiotic-NFNE	710691	Silver	Silver (incl. silver plated with gold/platinum), unwrought	Primary/Processed/Secondary
Abiotic-NFNE	710692	Silver	Silver (incl. silver plated with gold/platinum), in semi-manufactured forms	Semi-fabricated
Abiotic-NFNE	710700	Silver	Base metals clad with silver, not further worked than semi-manufactured	Semi-fabricated
Abiotic-NFNE	283620	Soda ash	Disodium carbonate	Primary/Processed/Secondary
Abiotic-NFNE	721810	Stainless steel	Stainless steel in ingots & other primary forms	Primary/Processed/Secondary
Abiotic-NFNE	721891	Stainless steel	Stainless steel, of rectangular (excl. square) cross-section	Primary/Processed/Secondary
Abiotic-NFNE	721899	Stainless steel	Semi-finished products of stainless steel (excl. of 7218.91)	Primary/Processed/Secondary
Abiotic-NFNE	721911	Stainless steel	Flat-rolled products of stainless steel, of a width of 600mm/more, not further worked than hot-rolled, in coils, of a thickness >10mm	Semi-fabricated
Abiotic-NFNE	721912	Stainless steel	Flat-rolled products of stainless steel, of a width of 600mm/more, not further worked than hot-rolled, in coils, of a thickness of 4.75mm/more but not >10mm	Semi-fabricated
Abiotic-NFNE	721913	Stainless steel	Flat-rolled products of stainless steel, of a width of 600mm/more, not further worked than hot-rolled, in coils, of a thickness of 3mm/more but < 4.75mm	Semi-fabricated
Abiotic-NFNE	721914	Stainless steel	Flat-rolled products of stainless steel, of a width of 600mm/more, not further worked than hot-rolled, in coils, of a thickness of <3mm	Semi-fabricated
Abiotic-NFNE	721921	Stainless steel	Flat-rolled products of stainless steel, of a width of 600mm/more, not further worked than hot-rolled, not in coils, of a thickness >10mm	Semi-fabricated
Abiotic-NFNE	721922	Stainless steel	Flat-rolled products of stainless steel, of a width of 600mm/more, not further worked than hot-rolled, not in coils, of a thickness of 4.75mm/more but not >10mm	Semi-fabricated
Abiotic-NFNE	721923	Stainless steel	Flat-rolled products of stainless steel, of a width of 600mm/more, not further worked than hot-rolled, not in coils, of a thickness of 3mm/more but <4.75mm	Semi-fabricated
Abiotic-NFNE	721924	Stainless steel	Flat-rolled products of stainless steel, of a width of 600mm/more, not further worked than hot-rolled, not in coils, of a thickness of <3mm	Semi-fabricated

Category	HS2007	Material/Product aggregate	Description	Value chain stage
Abiotic-NFNE	721931	Stainless steel	Flat-rolled products of stainless steel, of a width of 600mm/more, not further worked than cold-rolled (cold-reduced), of a thickness of 4.75mm/more	Semi-fabricated
Abiotic-NFNE	721932	Stainless steel	Flat-rolled products of stainless steel, of a width of 600mm/more, not further worked than cold-rolled (cold-reduced), of a thickness of 3mm/more but <4.75mm	Semi-fabricated
Abiotic-NFNE	721933	Stainless steel	Flat-rolled products of stainless steel, of a width of 600mm/more, not further worked than cold-rolled (cold-reduced), of a thickness >1mm but <3mm	Semi-fabricated
Abiotic-NFNE	721934	Stainless steel	Flat-rolled products of stainless steel, of a width of 600mm/more, not further worked than cold-rolled (cold-reduced), of a thickness of 0.5mm/more but not >1mm	Semi-fabricated
Abiotic-NFNE	721935	Stainless steel	Flat-rolled products of stainless steel, of a width of 600mm/more, not further worked than cold-rolled (cold-reduced), of a thickness of < 0.5mm	Semi-fabricated
Abiotic-NFNE	721990	Stainless steel	Flat-rolled products of stainless steel, of a width of 600mm/more, n.e.s. in 72.19	Semi-fabricated
Abiotic-NFNE	722011	Stainless steel	Flat-rolled products of stainless steel, of a width of <600mm, not further worked than hot-rolled, of a thickness of 4.75mm/more	Semi-fabricated
Abiotic-NFNE	722012	Stainless steel	Flat-rolled products of stainless steel, of a width of <600mm, not further worked than hot-rolled, of a thickness of <4.75mm	Semi-fabricated
Abiotic-NFNE	722020	Stainless steel	Flat-rolled products of stainless steel, of a width of <600mm, not further worked than cold-rolled (cold-reduced)	Semi-fabricated
Abiotic-NFNE	722090	Stainless steel	Flat-rolled products of stainless steel, of a width of <600mm, n.e.s. in 72.20	Semi-fabricated
Abiotic-NFNE	722100	Stainless steel	Bars & rods, hot-rolled, in irregularly wound coils, of stainless steel	Semi-fabricated
Abiotic-NFNE	722211	Stainless steel	Bars & rods of stainless steel, not further worked than hot-rolled/hot-drawn/extruded, of circular cross-section	Semi-fabricated
Abiotic-NFNE	722219	Stainless steel	Bars & rods of stainless steel, not further worked than hot-rolled/hot-drawn/extruded other than of circular cross-section	Semi-fabricated
Abiotic-NFNE	722220	Stainless steel	Bars & rods of stainless steel, not further worked than cold-formed/cold-finished	Semi-fabricated
Abiotic-NFNE	722230	Stainless steel	Bars & rods of stainless steel, n.e.s. in 72.22	Semi-fabricated
Abiotic-NFNE	722240	Stainless steel	Angles, shapes & sections of stainless steel	Semi-fabricated
Abiotic-NFNE	722300	Stainless steel	Wire of stainless steel	Semi-fabricated
Abiotic-NFNE	730411	Stainless steel	Line pipe of a kind used for oil/gas pipelines, of stainless steel.	Semi-fabricated
Abiotic-NFNE	730422	Stainless Steel	Casing, tubing & drill pipe, of a kind used in drilling for oil/gas, of stainless steel	Semi-fabricated
Abiotic-NFNE	730424	Stainless steel	Other casing, tubing, of a kind used in drilling for oil/gas, of stainless steel, other than drill pipe.	Semi-fabricated
Abiotic-NFNE	730429	Stainless steel	Other casing, tubing, of a kind used in drilling for oil/gas (excld. of 7304.22/23/24), other than of drill pipe of stainless steel	Semi-fabricated

Category	HS2007	Material/Product aggregate	Description	Value chain stage
Abiotic-NFNE	730441	Stainless steel	Tubes, pipes & hollow profiles (excl. of 7304.10-7304.39), seamless, of circular cross-section, of stainless steel, cold-drawn/cold-rolled (cold-reduced)	Semi-fabricated
Abiotic-NFNE	730449	Stainless steel	Tubes, pipes & hollow profiles (excl. of 7304.10-7304.39), seamless, of circular cross-section, of stainless steel other than cold drawn/cold rolled (cold reduced)	Semi-fabricated
Abiotic-NFNE	730611	Stainless steel	Line pipe of a kind used for oil/gas pipelines, welded, of stainless steel	Semi-fabricated
Abiotic-NFNE	730621	Stainless steel	Casing & tubing of a kind used in drilling for oil/gas, welded, of stainless steel	Semi-fabricated
Abiotic-NFNE	730629	Stainless steel	Casing & tubing of a kind used in drilling for oil/gas, other than welded/of stainless steel	Semi-fabricated
Abiotic-NFNE	730640	Stainless Steel	Tubes, pipes & hollow profiles (excl. of 7306.10-7306.30), welded, of circular cross-section, of stainless steel	Semi-fabricated
Abiotic-NFNE	710310	Stones- precious & semi-precious	Precious stones (excl. diamonds) & semi-precious stones, unworked/simply sawn/roughly shaped but not strung/mounted/set	Primary/Processed/Secondary
Abiotic-NFNE	710391	Stones- precious & semi-precious	Rubies, sapphires & emeralds, worked othw. than simply sawn/roughly shaped but not strung/mounted/set	Primary/Processed/Secondary
Abiotic-NFNE	710399	Stones- precious & semi-precious	Precious stones (excl. diamonds, rubies, saphires & emeralds) & semi-precious stones, whether/not worked/graded but not strung, mounted/set; ungraded precious stones...& semi-precious stones temporarily strung for convenience of transport	Primary/Processed/Secondary
Abiotic-NFNE	710590	Stones- precious & semi-precious	Dust & powder of other natural/synthetic precious/semi-precious stones (excl. diamonds)	Primary/Processed/Secondary
Abiotic-NFNE	281640	Strontium	Oxides, hydroxides & peroxides, of strontium/barium	Primary/Processed/Secondary
Abiotic-NFNE	283692	Strontium	Strontium carbonate	Primary/Processed/Secondary
Abiotic-NFNE	261590	Ta/Nb/Va ores	Niobium/tantalum/vanadium ores & concentrates	Primary/Processed/Secondary
Abiotic-NFNE	720292	Tantalum	Ferro-vanadium, in granular/powder form	Primary/Processed/Secondary
Abiotic-NFNE	810320	Tantalum	Unwrought tantalum, incl. bars & rods obt. simply by sintering; powders	Primary/Processed/Secondary
Abiotic-NFNE	810330	Tantalum	Tantalum waste & scrap	Primary/Processed/Secondary
Abiotic-NFNE	810390	Tantalum	Tantalum & articles thereof , n.e.s. in 81.03	Semi-fabricated
Abiotic-NFNE	811251	Thallium	Thallium, unwrought; powders	Primary/Processed/Secondary
Abiotic-NFNE	811252	Thallium	Thallium waste & scrap	Primary/Processed/Secondary
Abiotic-NFNE	260900	Tin	Tin ores & concentrates	Primary/Processed/Secondary
Abiotic-NFNE	800110	Tin	Tin, not alloyed, unwrought	Primary/Processed/Secondary

Category	HS2007	Material/Product aggregate	Description	Value chain stage
Abiotic-NFNE	800120	Tin	Tin alloys, unwrought	Primary/Processed/Secondary
Abiotic-NFNE	800200	Tin	Tin waste & scrap	Primary/Processed/Secondary
Abiotic-NFNE	800300	Tin	Tin bars, rods, profiles & wire	Semi-fabricated
Abiotic-NFNE	800700	Tin	Other articles of tin.	Semi-fabricated
Abiotic-NFNE	261400	Titanium	Titanium ores & concentrates	Primary/Processed/Secondary
Abiotic-NFNE	282300	Titanium	Titanium oxides	Primary/Processed/Secondary
Abiotic-NFNE	720291	Titanium	Ferro-titanium & ferro-silico-titanium, in granular/powder form	Primary/Processed/Secondary
Abiotic-NFNE	810820	Titanium	Unwrought titanium; powders	Primary/Processed/Secondary
Abiotic-NFNE	810830	Titanium	Titanium waste & scrap	Primary/Processed/Secondary
Abiotic-NFNE	810890	Titanium	Titanium & articles thereof , n.e.s. in 81.08	Semi-fabricated
Abiotic-NFNE	261100	Tungsten	Tungsten ores & concentrates	Primary/Processed/Secondary
Abiotic-NFNE	284180	Tungsten	Tungstates (wolframates)	Primary/Processed/Secondary
Abiotic-NFNE	720280	Tungsten	Ferro-tungsten & ferro-silico-tungsten, in granular/powder form	Primary/Processed/Secondary
Abiotic-NFNE	810110	Tungsten	Tungsten (wolfram) powders	Primary/Processed/Secondary
Abiotic-NFNE	810194	Tungsten	Unwrought tungsten (wolfram), incl. bars & rods obt. simply by sintering	Primary/Processed/Secondary
Abiotic-NFNE	810196	Tungsten	Tungsten (wolfram) wire	Semi-fabricated
Abiotic-NFNE	810197	Tungsten	Tungsten (wolfram) waste & scrap	Primary/Processed/Secondary
Abiotic-NFNE	810199	Tungsten	Other tungsten (wolfram) other than waste & scrap,/wire/powder.	Semi-fabricated
Abiotic-NFNE	282530	Vanadium	Vanadium oxides & hydroxides	Primary/Processed/Secondary
Abiotic-NFNE	260800	Zinc	Zinc ores & concentrates	Primary/Processed/Secondary
Abiotic-NFNE	262011	Zinc	Ash & residues (excl. from the manufacture of iron/steel), containing hard zinc spelter	Primary/Processed/Secondary

Category	HS2007	Material/Product aggregate	Description	Value chain stage
Abiotic-NFNE	262019	Zinc	Ash & residues (excl. from the manufacture of iron/steel), containing zinc other than hard zinc spelter	Primary/Processed/Secondary
Abiotic-NFNE	281700	Zinc	Zinc oxide; zinc peroxide	Primary/Processed/Secondary
Abiotic-NFNE	790111	Zinc	Zinc, not alloyed, unwrought, containing by weight 99.99%/more of zinc	Primary/Processed/Secondary
Abiotic-NFNE	790112	Zinc	Zinc, not alloyed, unwrought, containing by weight <99.99% of zinc	Primary/Processed/Secondary
Abiotic-NFNE	790120	Zinc	Zinc alloys, unwrought	Primary/Processed/Secondary
Abiotic-NFNE	790200	Zinc	Zinc waste & scrap	Primary/Processed/Secondary
Abiotic-NFNE	790310	Zinc	Zinc dust	Primary/Processed/Secondary
Abiotic-NFNE	790390	Zinc	Zinc powders & flakes	Primary/Processed/Secondary
Abiotic-NFNE	790400	Zinc	Zinc bars, rods, profiles & wire	Semi-fabricated
Abiotic-NFNE	790500	Zinc	Zinc plates, sheets, strip & foil	Semi-fabricated
Abiotic-NFNE	261510	Zirconium	Zirconium ores & concentrates	Primary/Processed/Secondary
Abiotic-NFNE	810920	Zirconium	Unwrought zirconium; powders	Primary/Processed/Secondary
Abiotic-NFNE	810930	Zirconium	Zirconium waste & scrap	Primary/Processed/Secondary
Abiotic-NFNE	810990	Zirconium	Zirconium & articles thereof , n.e.s. in 81.09	Semi-fabricated
Biotic-NFNE	450110	Cork	Natural cork, raw/simply prepared	Primary/Processed/Secondary
Biotic-NFNE	450190	Cork	Waste cork; crushed/granulated/ground cork	Primary/Processed/Secondary
Biotic-NFNE	450200	Cork	Natural cork, debacked/roughly squared/in rectangular (incl. square) blocks/plates/sheets/strip (incl. sharp-edged blanks for corks/stoppers)	Primary/Processed/Secondary
Biotic-NFNE	140420	Cotton	Cotton linters	Primary/Processed/Secondary
Biotic-NFNE	520100	Cotton	Cotton, not carded/combed	Primary/Processed/Secondary
Biotic-NFNE	130120	Natural gum	Gum Arabic	Primary/Processed/Secondary
Biotic-NFNE	130190	Natural gum	Lac; Natural gums (excl. of 1301.20), resins, gum-resins & oleoresins (e.g., balsams)	Primary/Processed/Secondary
Biotic-NFNE	400110	Natural rubber	Natural rubber latex, whether/not pre-vulcanised	Primary/Processed/Secondary
Biotic-NFNE	400121	Natural rubber	Natural rubber (excl. latex), in smoked sheets	Primary/Processed/Secondary
Biotic-NFNE	400122	Natural rubber	Technically spec. natural rubber (TSNR)	Primary/Processed/Secondary
Biotic-NFNE	400129	Natural rubber	Natural rubber other than latex/smoked sheets/technically spec. natural rubber	Primary/Processed/Secondary
Biotic-NFNE	400300	Natural rubber	Reclaimed rubber in primary forms/in plates/sheets/strip	Primary/Processed/Secondary
Biotic-NFNE	400400	Natural rubber	Waste, parings & scrap, of rubber (excl. hard rubber) & powders & granules obt. therefrom	Primary/Processed/Secondary

Category	HS2007	Material/Product aggregate	Description	Value chain stage
Biotic-NFNE	400811	Natural rubber	Plates, sheets & strip, of cellular vulcanised rubber other than hard rubber	Semi-fabricated
Biotic-NFNE	400819	Natural rubber	Rods & profile shapes, of cellular vulcanised rubber, other than hard rubber	Semi-fabricated
Biotic-NFNE	400821	Natural rubber	Plates, sheets & strip, of non-cellular vulcanised rubber other than hard rubber	Semi-fabricated
Biotic-NFNE	400821	Natural rubber	Plates, sheets & strip, of non-cellular vulcanised rubber other than hard rubber	Semi-fabricated
Biotic-NFNE	400829	Natural rubber	Rods & profile shapes, of non-cellular vulcanised rubber other than hard rubber	Semi-fabricated
Biotic-NFNE	400829	Natural rubber	Rods & profile shapes, of non-cellular vulcanised rubber other than hard rubber	Semi-fabricated
Biotic-NFNE	470100	Paper	Mechanical wood pulp	Primary/Processed/Secondary
Biotic-NFNE	470200	Paper	Chemical wood pulp, dissolving grades	Primary/Processed/Secondary
Biotic-NFNE	470311	Paper	Chemical wood pulp, soda/sulphate, other than dissolving grades, unbleached, coniferous	Primary/Processed/Secondary
Biotic-NFNE	470319	Paper	Chemical wood pulp, soda/sulphate, other than dissolving grades, unbleached, non-coniferous	Primary/Processed/Secondary
Biotic-NFNE	470321	Paper	Chemical wood pulp, soda/sulphate, other than dissolving grades, semi-bleached/bleached, coniferous	Primary/Processed/Secondary
Biotic-NFNE	470329	Paper	Chemical wood pulp, soda/sulphate, other than dissolving grades, semi-bleached/bleached, non-coniferous	Primary/Processed/Secondary
Biotic-NFNE	470411	Paper	Chemical wood pulp, sulphite, other than dissolving grades, unbleached, coniferous	Primary/Processed/Secondary
Biotic-NFNE	470419	Paper	Chemical wood pulp, sulphite, other than dissolving grades, unbleached, non-coniferous	Primary/Processed/Secondary
Biotic-NFNE	470421	Paper	Chemical wood pulp, sulphite, other than dissolving grades, semi-bleached/bleached, coniferous	Primary/Processed/Secondary
Biotic-NFNE	470429	Paper	Chemical wood pulp, sulphite, other than dissolving grades, semi-bleached/bleached, non-coniferous	Primary/Processed/Secondary
Biotic-NFNE	470500	Paper	Wood pulp obt. by a combination of mechanical & chemical pulping processes	Primary/Processed/Secondary
Biotic-NFNE	470610	Paper	Cotton linters pulp	Primary/Processed/Secondary
Biotic-NFNE	470620	Paper	Pulps of fibres derived from recovered (waste & scrap) paper/paperboard	Primary/Processed/Secondary
Biotic-NFNE	470630	Paper	Pulps of fibres derived from recovered (waste & scrap) paper/paperboard/of other cellulosic material, of bamboo	Primary/Processed/Secondary
Biotic-NFNE	470691	Paper	Pulps of fibres derived from recovered (waste & scrap) paper/paperboard/of fibrous cellulosic material (excl. of 4706.10-4706.30), mechanical	Primary/Processed/Secondary
Biotic-NFNE	470692	Paper	Pulps of fibres derived from recovered (waste & scrap) paper/paperboard/of fibrous cellulosic material (excl. of 4706.10-4706.30), chemical	Primary/Processed/Secondary
Biotic-NFNE	470693	Paper	Pulps of fibres derived from recovered (waste & scrap) paper/paperboard/of fibrous cellulosic material (excl. of 4706.10-4706.30), semi-chemical	Primary/Processed/Secondary
Biotic-NFNE	470710	Paper	Recovered (waste & scrap) unbleached kraft paper/paperboard/corrugated paper/paperboard	Primary/Processed/Secondary
Biotic-NFNE	470720	Paper	Recovered (waste & scrap) paper/paperboard made mainly of bleached chemical pulp, not coloured in the mass	Primary/Processed/Secondary
Biotic-NFNE	470730	Paper	Recovered (waste & scrap) paper/paperboard made mainly of mechanical pulp (e.g., newspapers, journals & similar printed matter)	Primary/Processed/Secondary
Biotic-NFNE	470790	Paper	Recovered (waste & scrap) paper/paperboard (excl. of 4707.10-4707.30), incl. unsorted waste & scrap	Primary/Processed/Secondary
Biotic-NFNE	140110	Plaiting veg. materials	Bamboos	Primary/Processed/Secondary
Biotic-NFNE	140120	Plaiting veg. materials	Rattans	Primary/Processed/Secondary
Biotic-NFNE	140190	Plaiting veg. materials	Vetegable materials other than bamboos & rattans, of a kind used primarily for plaiting (e.g., reeds, rushes, osier, raffia, cleaned/bleached/dyed cereal straw, & lime bark)	Primary/Processed/Secondary
Biotic-NFNE	400130	Rubber products	Balata, gutta-percha, guayule, chicle & similar natural gums	Primary/Processed/Secondary
Biotic-NFNE	440121	Wood	Wood, in chips/particles, coniferous	Primary/Processed/Secondary
Biotic-NFNE	440122	Wood	Wood, in chips/particles, non-coniferous	Primary/Processed/Secondary

Category	HS2007	Material/Product aggregate	Description	Value chain stage
Biotic-NFNE	440310	Wood	Wood, in the rough, whether/not stripped of bark/sapwood/roughly squared, treated with paint/stains/creosote/other preservatives	Primary/Processed/Secondary
Biotic-NFNE	440320	Wood	Wood, in the rough, whether/not stripped of bark/sapwood/roughly squared (excl. of 4403.10), coniferous	Primary/Processed/Secondary
Biotic-NFNE	440341	Wood	Dark Red Meranti, Light Red Meranti & Meranti Bakau, in the rough, whether/not stripped of bark/sapwood/roughly squared	Primary/Processed/Secondary
Biotic-NFNE	440349	Wood	Topical wood spec. in SH Note 1 to Ch.44 (excl. of 4403.41), in the rough, whether/not stripped of bark/sapwood/roughly squared	Primary/Processed/Secondary
Biotic-NFNE	440391	Wood	Oak (Quercus spp.), in the rough, whether/not stripped of bark/sapwood/roughly squared	Primary/Processed/Secondary
Biotic-NFNE	440392	Wood	Beech (Fagus spp.), in the rough, whether/not stripped of bark/sapwood/roughly squared	Primary/Processed/Secondary
Biotic-NFNE	440399	Wood	Wood, in the rough (excl. of 4403.10-4403.92), whether/not stripped of bark/sapwood/roughly squared	Primary/Processed/Secondary
Biotic-NFNE	440410	Wood	Hoopwood; split poles; piles, pickets & stakes of wood, pointed but not sawn lengthwise; wooden sticks, roughly trimmed but not turned, bent/othw. worked, suitable for the manufacture of walking-sticks, umbrellas, tool handles/the like; chipwood & the like, coniferous	Primary/Processed/Secondary
Biotic-NFNE	440420	Wood	Hoopwood; split poles; piles, pickets & stakes of wood, pointed but not sawn lengthwise; wooden sticks, roughly trimmed but not turned, bent/othw. worked, suitable for the manufacture of walking-sticks, umbrellas, tool handles/the like; chipwood & the like, non-coniferous	Primary/Processed/Secondary
Biotic-NFNE	440500	Wood	Wood wool; wood flour	Primary/Processed/Secondary
Biotic-NFNE	440710	Wood	Wood sawn/chipped length wise, sliced/peeled, whether/not planed, sanded/end-jointed, of a thickness >6mm, coniferous	Primary/Processed/Secondary
Biotic-NFNE	440721	Wood	Wood sawn/chipped lengthwise, sliced/peeled, whether/not planed, sanded/end-jointed, of a thickness >6mm, of Mahogany (Swietenia spp.)	Primary/Processed/Secondary
Biotic-NFNE	440722	Wood	Wood sawn/chipped lengthwise, sliced/peeled, whether/not planed, sanded/end-jointed, of a thickness >6mm, of Virola, Imbuia&Balsa	Primary/Processed/Secondary
Biotic-NFNE	440725	Wood	Wood sawn/chipped length wise, sliced/peeled, whether/not planed, sanded/end-jointed, of a thickness >6mm, of Dark Red Meranti, Light Red Meranti & Meranti Bakau	Primary/Processed/Secondary
Biotic-NFNE	440726	Wood	Wood sawn/chipped length wise, sliced/peeled, whether/not planed, sanded/end-jointed, of a thickness >6mm, of White Lauan, White Meranti, White Seraya, Yellow Meranti & Alan	Primary/Processed/Secondary
Biotic-NFNE	440727	Wood	Wood sawn/chipped lengthwise, sliced/peeled, whether/not planed, sanded/end-jointed, of a thickness >6mm, of Sapelli	Primary/Processed/Secondary
Biotic-NFNE	440728	Wood	Wood sawn/chipped lengthwise, sliced/peeled, whether/not planed, sanded/end-jointed, of a thickness >6mm, of Iroko	Primary/Processed/Secondary
Biotic-NFNE	440729	Wood	Wood sawn/chipped lengthwise, sliced/peeled, whether/not planed, sanded/end-jointed, of a thickness >6mm, of tropical wood specified in Subheading Note 1 to this Ch. (excl. of 4407.21-4407.28)	Primary/Processed/Secondary
Biotic-NFNE	440791	Wood	Oak (Quercus spp.), sawn/chipped length wise, sliced/peeled, whether/not planed, sanded/end-jointed, of a thickness >6mm	Primary/Processed/Secondary
Biotic-NFNE	440792	Wood	Beech (Fagus spp.), sawn/chipped length wise, sliced/peeled, whether/not planed, sanded/end-jointed, of a thickness >6mm	Primary/Processed/Secondary
Biotic-NFNE	440793	Wood	Maple (Acer spp.), sawn/chipped lengthwise, sliced/peeled, whether/not planed, sanded/end-jointed, of a thickness >6mm	Primary/Processed/Secondary
Biotic-NFNE	440794	Wood	Cherry (Prunus spp.), sawn/chipped lengthwise, sliced/peeled, whether/not planed, sanded/end-jointed, of a thickness >6mm	Primary/Processed/Secondary
Biotic-NFNE	440795	Wood	Ash(Fraxinus spp.), sawn/chipped lengthwise, sliced/peeled, whether/not planed, sanded/end-jointed, of a thickness >6mm	Primary/Processed/Secondary

Category	HS2007	Material/Product aggregate	Description	Value chain stage
Biotic-NFNE	440799	Wood	Wood(excl. of 4407.10-4407.95), sawn/chipped lengthwise, sliced/peeled, whether/not planed, sanded/end-jointed, of a thickness >6mm	Primary/Processed/Secondary
ENERGY	280300	Carbon black	Carbon (carbon blacks & other forms of carbon, n.e.s.)	Primary/Processed/Secondary
ENERGY	270111	Coal	Anthracite coal, whether/not pulverised but not agglomerated	Primary/Processed/Secondary
ENERGY	270119	Coal	Coal other than anthracite & bituminous, whether/not pulverised but not agglomerated	Primary/Processed/Secondary
ENERGY	270120	Coal	Briquettes, ovoids & similar solid fuels manufactured from coal	Primary/Processed/Secondary
ENERGY	270210	Coal	Lignite, whether/not pulverised but not agglomerated (excl. jet)	Primary/Processed/Secondary
ENERGY	270220	Coal	Agglomerated lignite (excl. jet)	Primary/Processed/Secondary
ENERGY	270300	Coal	Peat (incl. peat litter), whether/not agglomerated	Primary/Processed/Secondary
ENERGY	270400	Coke from coal	Coke & semi-coke of coal/lignite/peat, whether/not agglomerated; retort carbon	Primary/Processed/Secondary
ENERGY	440110	Fuel wood	Fuel wood, in logs/billets/twigs/faggots/similar forms	Primary/Processed/Secondary
ENERGY	270500	Gas	Coal gas, water gas, producer gas & similar gases (excl. petroleum gases & other gaseous hydrocarbons)	Primary/Processed/Secondary
ENERGY	271111	Gas	Natural gas, liquefied	Primary/Processed/Secondary
ENERGY	271112	Gas	Propane, liquefied	Primary/Processed/Secondary
ENERGY	271113	Gas	Butanes, liquefied	Primary/Processed/Secondary
ENERGY	271119	Gas	Petroleum gases other than natural gas/propane/butanes/ethylene, propylene, butylene & butadiene, liquefied	Primary/Processed/Secondary
ENERGY	271121	Gas	Natural gas, in gaseous state	Primary/Processed/Secondary
ENERGY	271129	Gas	Petroleum gases & gaseous hydrocarbons, other than natural gas, in gaseous state	Primary/Processed/Secondary
ENERGY	270799	Oils	Oils & other products of the distillation of high temp. coal tar; similar products in which the weight of the aromatic constituents exceeds that of the non-aromatic constituents (excl. of 2707.10 - 2707.91)	Primary/Processed/Secondary
ENERGY	270900	Oils	Petroleum oils & oils obt. from bituminous mins., crude	Primary/Processed/Secondary
ENERGY	271011	Oils	Light petroleum oils & preparations	Primary/Processed/Secondary
ENERGY	271012	Oils	Light oils and preparations	Primary/Processed/Secondary
ENERGY	271019	Oils	Petroleum oils & oils obtained from bituminous minerals (other than crude) & preparations not elsewhere specified/incld., containing by weight 70 %/more of petroleum oils/of oils obtained from bituminous minerals, these oils being the basic constituents of the preparations, other than waste oils&light oils & preparations	Primary/Processed/Secondary
ENERGY	271311	Petroleum coke	Petroleum coke, not calcined	Primary/Processed/Secondary
ENERGY	271312	Petroleum coke	Petroleum coke, calcined	Primary/Processed/Secondary
ENERGY	271390	Petroleum oils residues	Residues of petroleum oils/oils obt. from bituminous mins., other than petroleum coke/petroleum bitumen	Primary/Processed/Secondary
ENERGY	270600	Petroleum products	Tar distilled from coal/lignite/peat, & other mineral tars, whether/not dehydrated/partially distilled, incl. reconstituted tars	Primary/Processed/Secondary
ENERGY	270710	Petroleum products	Benzol (benzene)	Primary/Processed/Secondary
ENERGY	270720	Petroleum products	Toluol (toluene)	Primary/Processed/Secondary
ENERGY	270730	Petroleum products	Xylol (xylenes)	Primary/Processed/Secondary
ENERGY	270740	Petroleum products	Naphthalene	Primary/Processed/Secondary
ENERGY	270750	Petroleum products	Aromatic hydrocarbon mixtures of which 65%/more by volume, incl. losses, distils at 250 â–‘C by the ASTM D86 method (excl. benzol, toluol, xylol & naphthalene)	Primary/Processed/Secondary
ENERGY	270791	Petroleum products	Creosote oils	Primary/Processed/Secondary
ENERGY	270810	Petroleum products	Pitch, obt. from coal tar/other mineral tars	Primary/Processed/Secondary

Category	HS2007	Material/Product aggregate	Description	Value chain stage
ENERGY	270820	Petroleum products	Pitch coke, obt. from coal tar/other mineral tars	Primary/Processed/Secondary
ENERGY	271114	Petroleum products	Ethylene, propylene, butylene & butadiene, liquefied	Primary/Processed/Secondary
ENERGY	271210	Petroleum products	Petroleum jelly	Primary/Processed/Secondary
ENERGY	271220	Petroleum products	Paraffin wax containing by weight <0.75% of oil	Primary/Processed/Secondary
ENERGY	271290	Petroleum products	Micro-crystalline petroleum wax, slack wax, ozokerite, lignite wax, peat wax, other mineral waxes, & similar products obt. by synthesis/other processes, whether/not coloured	Primary/Processed/Secondary
ENERGY	271320	Petroleum products	Petroleum bitumen	Primary/Processed/Secondary
ENERGY	271410	Petroleum products	Bituminous/oil shale & tar sands	Primary/Processed/Secondary
ENERGY	271490	Petroleum products	Bitumen & asphalt, natural; asphaltites & asphaltic rocks	Primary/Processed/Secondary
ENERGY	271500	Petroleum products	Bituminous mixtures based on natural asphalt/natural bitumen/petroleum bitumen/mineral tar/mineral tar pitch (e.g., bituminous mastics, cut-backs)	Primary/Processed/Secondary
ENERGY	261220	Thorium	Thorium ores & concentrates	Primary/Processed/Secondary
ENERGY	261210	Uranium	Uranium ores & concentrates	Primary/Processed/Secondary
ENERGY	284410	Uranium	Natural uranium & its comps.; alloys, dispersions (incl. cermets), ceramic products & mixtures containing natural uranium/natural uranium comps.	Primary/Processed/Secondary
ENERGY	284420	Uranium	Uranium enriched in U 235 & its compounds; plutonium & its compounds; alloys, dispersions (including cermets), ceramic products & mixtures containing uranium enriched in U 235, plutonium/compounds of these products	Primary/Processed/Secondary
ENERGY	271091	Waste oils	Waste oils containing polychlorinated biphenyls (PCBs)/polychlorinated terphenyls (PCTs)/polybrominated biphenyls (PBBs)	Primary/Processed/Secondary
ENERGY	271099	Waste oils	Waste oils other than those containing polychlorinated biphenyls (PCBs)/polychlorinated terphenyls (PCTs)/polybrominated biphenyls (PBBs)	Primary/Processed/Secondary
ENERGY	440210	Wood charcoal	Wood charcoal of bamboo(including shell/nut charcoal), whether/not agglomerated.	Primary/Processed/Secondary
ENERGY	440290	Wood charcoal	Wood charcoal (including shell/nut charcoal, excl. of 440210), whether/not agglomerated.	Primary/Processed/Secondary
ENERGY	440130	Wood waste&scrap	Sawdust & wood waste & scrap, whether/not agglomerated in logs/briquettes/pellets/similar forms	Primary/Processed/Secondary

(*) HS 270112 includes also coke used for energy purposes

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