



# JRC TECHNICAL REPORT

## Russian trade in non-food raw materials

*Focus on EU-Russia  
trade relations*

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## Abstract

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

Russia is a leading global producer not only of energy products, but also of many other raw materials, including critical raw materials. Non-food raw materials (excluding downstream) account for 2/3 of the country's exports of goods.

In 2020, Russia was an important trading partner for the EU, mainly for *Fuels*, but also for *Minerals*, *Metals* and *Wood* (as Standard product groups). Aside from energy commodities, disruptions are expected in EU supply chains of abiotic and biotic materials with high share of extra-EU imports, such as: *fertilisers*, *wood*, *nickel*, *potash*, and various categories of *iron and steel*. EU sourcing of some CRMs will be also impacted: *vanadium*, *coking coal*, *palladium*, *titanium*, *tungsten*, *rhodium*, *aluminium* and *phosphorous*. If imports from Ukraine and Belarus will also be disrupted, the biggest impact could be expected on EU sourcing of *wood*, *potash*, *iron ores* and *iron and steel non-alloy*.

As for the impact on EU exports, Russia's share of EU exports of raw materials is relatively small, and one could expect that they could be easily re-directed towards other markets.

## 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

Russia is a leading global producer of a variety of non-agricultural raw materials, from fuels to minerals and metals, including critical raw materials. It is also an important sourcing country for the EU for many raw materials. This trade fiche was developed following the Ukraine crisis and feeds into the modules of the RMIS (Raw Materials Information System) <sup>(1)</sup>.

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 <sup>(2)</sup>. This report narrows the focus to Russia's trade in **non-food raw materials**, covering three **broad categories: Abiotic, Biotic and Energy** that include "Materials" to which we allocated the corresponding trade codes (at HS 6 digits level), keeping only upstream (primary, processed or semi-finished), and secondary commodities (see Methodological Notes).

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

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

The methodological novelty lies in the new statistical definition of "Materials" as the set of commodities at HS 6-digit level that are:

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

Within 'Materials', there are highlighted the commodities labelled as **critical raw materials** (CRM), in line with the latest list of critical raw materials issued by the European Commission <sup>(3)</sup>.

The report also presents the Russian trade patterns 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 as defined by UNCTAD** (*Raw Materials and Intermediate goods*, both including *Food*).

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 Russia compared to the unit value of the overall imports for selected commodities (the most relevant trade flows from Russia). Second, it shows the importance of natural resources for the Russian economy as compared to the EU and the global average. Third, it highlights the exploration budgets of various materials.

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<sup>(1)</sup> <https://rmis.jrc.ec.europa.eu/>

<sup>(2)</sup> For example: DG Trade's, *Statistics*, [details\\_russia\\_en.pdf \(europa.eu\)](#); World Trade Organisation's *Trade profiles*, [https://www.wto.org/english/res\\_e/statis\\_e/trade\\_profiles\\_list\\_e.htm](https://www.wto.org/english/res_e/statis_e/trade_profiles_list_e.htm)

<sup>(3)</sup> COM(2020) 474 final. COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS Critical Raw Materials Resilience: Charting a Path towards greater Security and Sustainability

## Main findings

Besides being a **leading global producer of energy raw materials** (natural gas, petroleum, lignite), Russia is an important producer of a wide range of abiotic and biotic raw materials. Moreover, it is a **leading producer of 13 critical raw materials**, ranking between first and fourth position globally for *PGMs (palladium, platinum and rhodium), vanadium, potash, antimony, coking coal, phosphate rock, aluminium, germanium, tungsten, gallium and niobium*.

Russia accounts for 11.6% of world exports of energy raw materials, 5.4 % of biotic non-food non-energy (NFNE) raw materials and 5.1% of abiotic raw materials. Russian NFNE exports are dominated by *iron and steel, coking coal, gold, palladium, copper, fertilisers, wood and aluminium*.

For the EU, Russia is a major trading partner for many of these raw materials. In terms of extra-EU imports, Russia accounts for 19% of energy raw materials, 5.4% of biotic NFNE raw materials and 5% of abiotic NFNE raw materials.

The EU is an important destination partner for most materials in the Russia's Top 15 NFNE exports: iron and non-alloy steel (21%), steel semi-finished (20%), coking coal (22%), palladium (15%), copper (35%), fertilisers (31%), wood (23%), aluminium (35%), non-industrial diamonds (45%), nickel (70%), potash (20%), rhodium (31%).

The Top EU NFNE raw material imports from Russia were dominated by various **iron and steel** materials, belonging to the sub-categories: *non-alloy steel (mainly semi-finished products), iron ores, iron and steel granular/powder, pig iron, other alloy steel and semi-finished steel*.

The Top imports also includes several critical raw materials: **coking coal** <sup>(4)</sup>, **palladium** (*unwrought palladium*), **titanium** (*titanium & articles thereof*) and **rhodium** (*unwrought rhodium*).

High values of EU imports from Russia were also recorded for: other base metals (**aluminium** - *unwrought, nickel*- *nickel mattes and unwrought nickel non-alloyed* and **copper** - *cathodes*), **diamonds** (*non-industrial*), **wood**- *sawn, chipped lengthwise* and **fertilisers** - *NPK, anhydrous ammonia and urea*.

Russia mainly exports upstream materials to the EU and mainly imports intermediate goods.

Across Member States and Standard product groups of commodities<sup>5</sup> the picture is heterogeneous. The highest shares of Russia in extra-EU imports are for *Fuels* (almost 26%), followed by *Wood* (10.4%) and *Metals* (9.4%). The Baltic states and Finland are the most vulnerable to sourcing from Russia for almost all standard product groups. For *Metals* and *Wood*, Russia has a high share in extra-EU imports for many EU Member States.

On the export side, Russia has less weight as a trading partner for non-food raw materials, due to the relatively low trade value (copper being the only exception) and to their modest share in total extra-EU exports (except for lithium carbonates, yet with a low EU export value). Thus, it cannot be expected a significant impact on the EU exports of non-food raw materials in the case of export restrictions towards the Russian market.

Russia is a big net exporter of raw materials, with relatively few imports. Over the past decade, the trade surplus of upstream raw materials was much higher than the trade surplus of intermediate materials, but the gap is gradually closing.

Due to large differences between the value of production and the total costs of production, natural resources (mainly energy raw materials) make a major contribution to the Russian economy, much higher than in the EU and globally.

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<sup>(4)</sup> Nevertheless, this trade code is broader than the coking coal used in steel industry.

<sup>(5)</sup> The Standard product groups cover all commodities (including downstream) for pre-defined groupings of HS 2-digit chapters of the Harmonised Nomenclature (see *Methodological notes*).

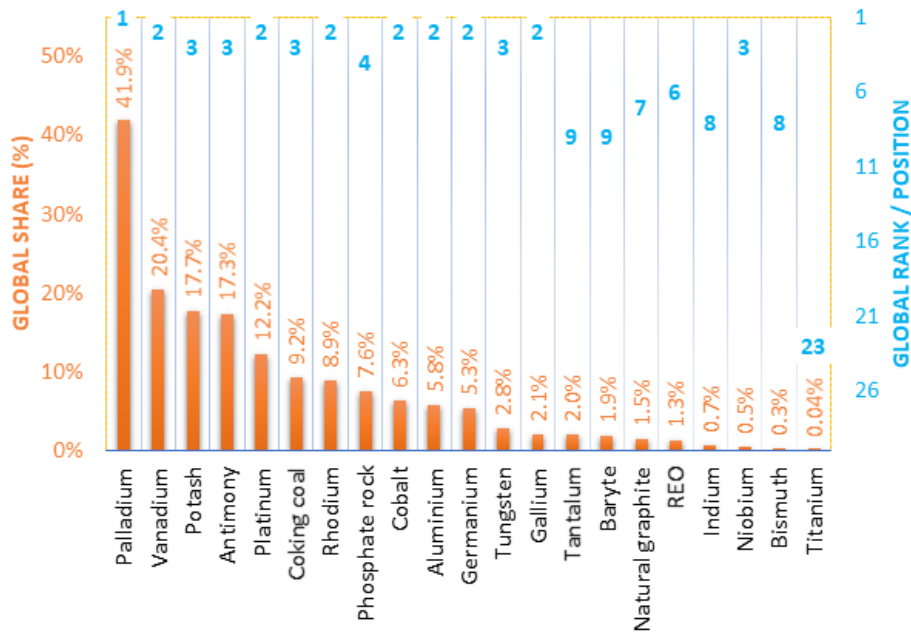


# 1 Russia as global supplier of raw materials

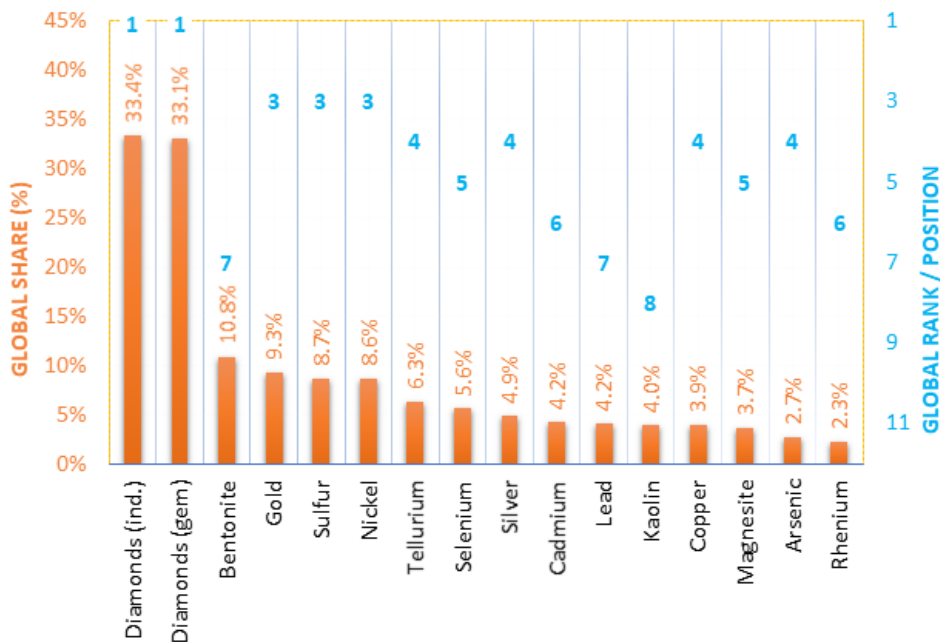
Russia is producing a wide variety of raw materials and for many of them is a leading producer at a global scale. It is the second largest producer of petroleum and natural gas, and among the Top 3 global producers of 13 critical raw materials (Figure 1a). Russia realises one third of the global supply of diamonds. It is an important producer of other non-critical raw materials, such as bentonite, gold, sulphur, nickel etc.. (Figure 1b).

**Figure 1.** Russia as global producer: *share in global production (%)* and *global rank*

## a. Critical raw materials



## b. Non-critical raw materials



Source: World Mining Data, accessed in March 2022. Data refer to year 2019

## 2 Russia as EU trading partner (2020)

### EU imports from Russia by standard product groups (including finished products)

Across member states and standard product groups of commodities the picture of non-food raw materials imports from Russia is heterogeneous (Table 1). The highest share is for *Fuels* (almost 26%), followed by *Wood* (10.4%) and *Metals* (9.4%). The most dependent EU countries on Russian *Fuels* are the Baltic states, Slovak Republic, Finland, Hungary, Bulgaria, Poland and Czech Republic, with a share of Russia in their extra-EU imports of over 50%. Baltic states and Finland are vulnerable to sourcing from Russia also for the other Standard product groups. Russia has a very high share (over 40%) in imports of *Minerals* in Lithuania, Slovak Republic and Hungary. For *Metals* and *Wood*, Russia has a high share in many EU member states (besides Baltic states and Finland).

**Table 1.** The share of Russia in the member states' extra-EU imports in 2020 (%)

|                 | Minerals | Metals | Stone And Glass | Chemicals | Plastic/Rubber | Wood | Fuels |
|-----------------|----------|--------|-----------------|-----------|----------------|------|-------|
| Latvia          | 6.9      | 63.5   | 43.6            | 38.4      | 11.1           | 30.4 | 91.3  |
| Estonia         | 2.2      | 35.7   | 13.3            | 29.6      | 8.3            | 65.5 | 76.6  |
| Finland         | 6.4      | 34.1   | 13              | 23        | 11.7           | 69.9 | 76.3  |
| Lithuania       | 50.2     | 29.8   | 20.2            | 22.4      | 22.8           | 29.3 | 70.4  |
| Belgium         | 9.7      | 19.5   | 11.7            | 1.2       | 0.6            | 10.1 | 70.2  |
| Bulgaria        | 0.6      | 17.2   | 6.5             | 4.3       | 3.1            | 5.9  | 67.2  |
| Denmark         | 0        | 16.4   | 0.9             | 2.1       | 0.3            | 14.7 | 60.8  |
| Greece          | 1.1      | 16.4   | 1.2             | 2.6       | 1.3            | 5    | 57.7  |
| Poland          | 1.2      | 13.8   | 4.3             | 7.6       | 7.6            | 14.1 | 55    |
| Croatia         | 0        | 13     | 2.8             | 2.6       | 0.5            | 3.2  | 42.8  |
| Luxembourg      | 0        | 9.9    | 0.1             | 2.6       | 1.5            | 2.2  | 42.2  |
| Czech Republic  | 13.5     | 9.7    | 3.6             | 5.3       | 4.9            | 12.5 | 28.4  |
| EU              | 5        | 9.4    | 5               | 1.8       | 2.4            | 10.4 | 28.2  |
| Italy           | 4.5      | 9.2    | 5.1             | 0.5       | 2.3            | 6.6  | 25.9  |
| Germany         | 3.6      | 8.8    | 3.8             | 0.7       | 1.8            | 9    | 24.8  |
| Netherlands     | 1.5      | 6.6    | 0.3             | 0.9       | 0.2            | 5.3  | 22.7  |
| Romania         | 8.5      | 4.8    | 5.6             | 4.6       | 7              | 17.8 | 21.1  |
| Portugal        | 0        | 4.7    | 0.1             | 4.8       | 1.8            | 6.7  | 19.9  |
| Austria         | 10.1     | 4.4    | 0.3             | 0.3       | 1.4            | 11.6 | 15.9  |
| Spain           | 0        | 3.1    | 0.8             | 0.7       | 0.9            | 1.6  | 15.4  |
| Slovak Republic | 44.8     | 3      | 4.7             | 4         | 5.9            | 3.7  | 10.3  |
| Hungary         | 40.7     | 2.7    | 1.7             | 3.7       | 5.1            | 4.9  | 8.3   |
| Cyprus          | 0        | 2.5    | 0.9             | 0.3       | 0.2            | 8.5  | 7.3   |
| Slovenia        | 0        | 2.5    | 2               | 0.6       | 0.9            | 4.5  | 5.8   |
| France          | 6.2      | 2.4    | 0.1             | 0.5       | 0.4            | 3.9  | 4.7   |
| Malta           | 0        | 2.4    | 0               | 0.4       | 0.1            | 1.4  | 3     |
| Sweden          | 0.2      | 2.2    | 1.6             | 8.1       | 2.5            | 5.4  | 0.2   |
| Ireland         | 0        | 0.1    | 0.4             | 0.7       | 0              | 1    | 0     |

Source: computations based on COMTRADE

Across EU countries, Germany is capturing the most of Russia's exports of *Minerals* and *Metals* and of *Wood* almost as much as Finland, which takes the highest part of EU imports from Russia (Table 2). Besides Germany, *Metals* are imported mostly by Italy, Finland, Poland and Belgium, while *Minerals* by Slovak Republic and Austria.

**Table 2.** The allocation of EU imports from Russia by member states in 2020 (%)

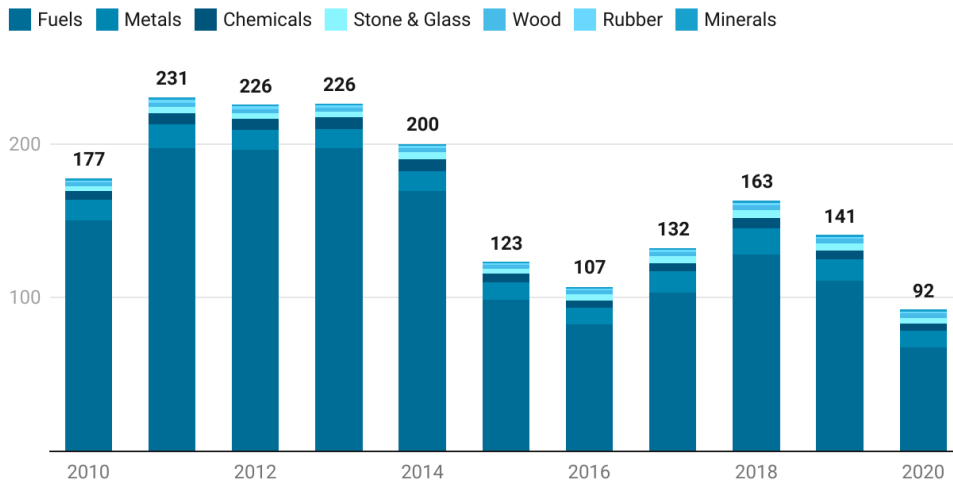
|             | Minerals | Metals | Wood | Stone/Glass | Chemicals | Plastic&Rubber |                 | Fuels |
|-------------|----------|--------|------|-------------|-----------|----------------|-----------------|-------|
| EU          | 100      | 100    | 100  | 100         | 100       | 100            | EU              | 100   |
| Germany     | 23.3     | 21.9   | 18.1 | 26.4        | 11.1      | 19.8           | Germany         | 17.1  |
| Italy       | 5.2      | 12.4   | 6.7  | 21.8        | 2.3       | 8.6            | Netherlands     | 13.8  |
| Finland     | 6.7      | 12     | 19.1 | 1.3         | 11.8      | 6.5            | Italy           | 11.4  |
| Poland      | 1.1      | 10.1   | 8.8  | 2           | 16.9      | 21.9           | Poland          | 10.8  |
| Belgium     | 9        | 8.6    | 4.1  | 40.8        | 6.4       | 1.3            | France          | 7.8   |
| Netherlands | 1.8      | 6.3    | 5.1  | 0.1         | 5.4       | 0.7            | Finland         | 5.5   |
| Greece      | 0.1      | 3.5    | 0.9  | 0.1         | 0.8       | 0.6            | Slovak Republic | 4.9   |
| Czech Rep.  | 6.1      | 3.2    | 2.6  | 0.9         | 4.4       | 7.1            | Greece          | 4.1   |
| Denmark     | 0        | 3      | 3.2  | 0.1         | 1.5       | 0.2            | Spain           | 3.3   |
| Bulgaria    | 0.9      | 2.9    | 0.5  | 0.4         | 0.9       | 1.3            | Hungary         | 3.1   |
| Latvia      | 0.1      | 2.6    | 3.8  | 1.1         | 3.4       | 1.4            | Belgium         | 2.9   |
| Spain       | 0.1      | 2.3    | 0.8  | 0.4         | 3.3       | 2.7            | Lithuania       | 2.8   |
| France      | 6.8      | 1.9    | 3.4  | 0.2         | 2.4       | 1.5            | Czech Republic  | 2.7   |
| Estonia     | 0        | 1.7    | 6.9  | 0.8         | 4         | 1.3            | Bulgaria        | 2.2   |
| Lithuania   | 7.7      | 1.7    | 4.6  | 1.5         | 4.7       | 5              | Romania         | 2.2   |
| Austria     | 9.1      | 1.4    | 2.5  | 0.2         | 0.6       | 1.3            | Estonia         | 1.2   |
| Romania     | 2.3      | 1.1    | 3.4  | 0.7         | 2.3       | 6              | Sweden          | 1.2   |
| Croatia     | 0        | 0.7    | 0.2  | 0.1         | 0.3       | 0.1            | Austria         | 0.6   |
| Sweden      | 0.1      | 0.7    | 2.3  | 0.3         | 7.4       | 2.8            | Denmark         | 0.6   |
| Portugal    | 0        | 0.6    | 0.8  | 0           | 2         | 0.9            | Portugal        | 0.5   |
| Slovak Rep. | 14.7     | 0.5    | 0.5  | 0.4         | 1.6       | 4.2            | Slovenia        | 0.5   |
| Hungary     | 4.8      | 0.4    | 0.6  | 0.2         | 3.2       | 4.2            | Latvia          | 0.4   |
| Luxembourg  | 0        | 0.2    | 0.1  | 0           | 0.1       | 0.3            | Croatia         | 0.2   |
| Slovenia    | 0        | 0.2    | 0.4  | 0.1         | 0.8       | 0.3            | Ireland         | 0.2   |
| Cyprus      | 0        | 0      | 0.2  | 0           | 0         | 0              | Cyprus          | 0     |
| Ireland     | 0        | 0      | 0.4  | 0.1         | 2.3       | 0.1            | Luxembourg      | 0     |
| Malta       | 0        | 0      | 0    | 0           | 0         | 0              | Malta           | 0     |

Source: computations based on COMTRADE

The EU trade with Russia by Standard product groups (Figure 2) highlights a slight decline over the last decade of both exports and imports in value terms (USD). The biggest decrease is experienced by *Fuels* product group, with a drop in 2015. It was a reduction of trade flows in USD terms practically for all Standard product groups, following the depreciation of the rouble against major currencies. In that period, Russia has experienced the consequences of an important geostrategic and economic crisis, related with the tensions with Ukraine and to the plunge in world oil prices in late 2014. Thus, the export earnings from oil and other energy exports dropped and the GDP declined (by 2%).

**Figure 2. EU imports from Russia, by Standard product group (billion USD)**

- Fuels included



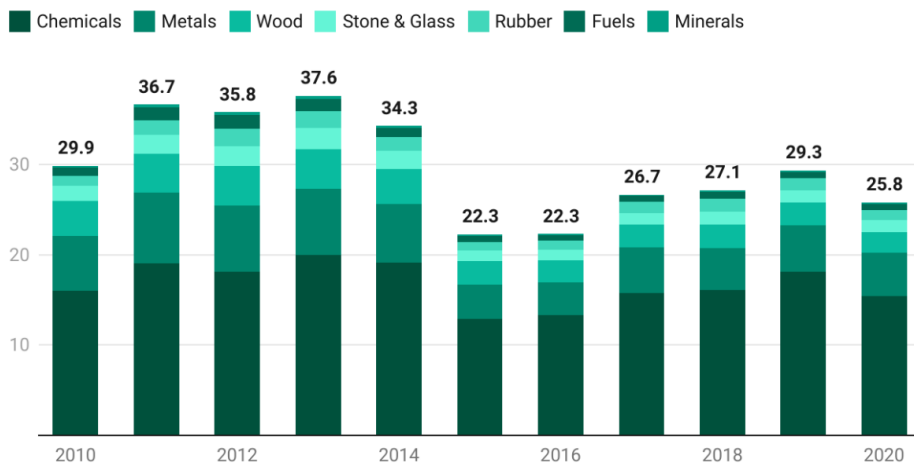
Source: COMTRADE

- Fuels excluded



Source: COMTRADE

**Figure 3. EU exports to Russia, by Standard product group (billion USD)**



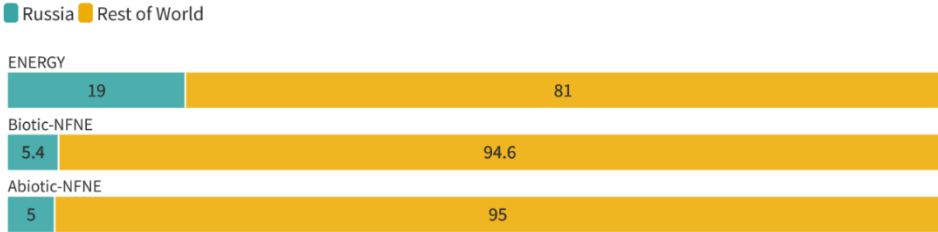
Source: COMTRADE

### EU imports from Russia 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” to which we allocated the corresponding trade codes (at HS 6 digits level), keeping only upstream (primary, processed or semi-finished), and secondary commodities. The list also includes fertilisers that are downstream commodities, since they are critical for agriculture and Russia is a major supply country.

Overall, in 2020, Russia accounted for 5% of the extra-EU imports of Abiotic NFNE raw materials, for 5.4% of Biotic NFNE and 19% of energy raw materials.

**Figure 4.** The weight of Russia in the extra-EU imports for various categories of non-food raw materials (%)



Source: calculated based on COMTRADE, JRC list of non-food raw materials (Annex)

The Top 15 EU NFNE imports from Russia for Abiotic & Biotic broad categories (Figure 5) was dominated by various **iron and steel** sub-categories: *non-alloy steel (mainly semi-finished products), iron ores, iron and steel granular/powder, pig iron, other alloy steel and semi-finished steel.*

High values of EU imports from Russia were recorded also for: other **base metals (aluminium - unwrought, nickel- nickel mattes and unwrought nickel non-alloyed and copper - cathodes), diamonds (non-industrial), wood- sawn, chipped lengthwise and fertilisers - NPK, anhydrous ammonia and urea.**

In the Top 15 EU NFNE imports from Russia (by value) there are also several critical raw materials: **coking coal<sup>(6)</sup>, palladium (unwrought palladium), titanium (titanium & articles thereof) and rhodium (unwrought rhodium).**

<sup>(6)</sup> Nevertheless, this trade code is broader than the coking coal used in steel industry

**Figure 5.** Top 15 NFNE (Abiotic and Biotic) EU imports from Russia, by materials (million USD) and commodities (HS 6-digit trade codes), in 2020



Source: COMTRADE, JRC list of non-food raw materials (Annex)

## Main materials imported by EU from Russia

As indicated by the share in extra-EU imports (Table 3), Russia is an important sourcing country for several critical raw materials (CRMs): *vanadium, coking coal, palladium, titanium, tungsten, rhodium, aluminium and phosphorous*.

**Table 3.** Main materials imported by EU from Russia (share in extra-EU imports >7% and value of imports >40 million USD), ranked by the share in imports (2020)

| Category     | Material                       | Import (Million USD) | Share in EU imports (%) |
|--------------|--------------------------------|----------------------|-------------------------|
| Abiotic-NFNE | Vanadium*                      | 56                   | 86%                     |
| Abiotic-NFNE | Pig iron                       | 346                  | 54%                     |
| Abiotic-NFNE | Iron and steel granular/powder | 463                  | 53%                     |
| Abiotic-NFNE | Nickel                         | 1,706                | 36%                     |
| Abiotic-NFNE | Coking coal*                   | 2,111                | 35%                     |
| Abiotic-NFNE | Fertilisers                    | 1,219                | 29%                     |
| Abiotic-NFNE | Palladium*                     | 1,099                | 28%                     |
| Abiotic-NFNE | Potash                         | 261                  | 21%                     |
| Abiotic-NFNE | Iron and non-alloy steel       | 3,092                | 20%                     |
| Abiotic-NFNE | Titanium*                      | 428                  | 19%                     |
| Abiotic-NFNE | Other alloy steel              | 332                  | 18%                     |
| Abiotic-NFNE | Tungsten*                      | 40                   | 17%                     |
| Abiotic-NFNE | Diamonds (non-ind.)            | 1,391                | 16%                     |
| Abiotic-NFNE | Chromium                       | 106                  | 15%                     |
| Abiotic-NFNE | Iron ores                      | 1,078                | 13%                     |
| Abiotic-NFNE | Ferrous waste and scrap        | 185                  | 13%                     |
| Abiotic-NFNE | Caustic soda                   | 46                   | 11%                     |
| Abiotic-NFNE | Rhodium*                       | 278                  | 11%                     |
| Abiotic-NFNE | Aluminium*                     | 2,273                | 11%                     |
| Abiotic-NFNE | Phosphorus*                    | 197                  | 11%                     |
| Abiotic-NFNE | Steel semi-finished            | 321                  | 10%                     |
| Abiotic-NFNE | Other chemicals                | 191                  | 7%                      |
| Abiotic-NFNE | Copper                         | 1,195                | 7%                      |
| Biotic-NFNE  | Wood                           | 1,283                | 32%                     |
| ENERGY       | Carbon                         | 421                  | 67%                     |
| ENERGY       | Coal                           | 1,294                | 67%                     |
| ENERGY       | Coke from coal                 | 99                   | 60%                     |
| ENERGY       | Wood waste&scrap               | 271                  | 30%                     |
| ENERGY       | Oils                           | 50,889               | 28%                     |
| ENERGY       | Uranium                        | 349                  | 20%                     |
| ENERGY       | Petroleum products             | 403                  | 19%                     |
| ENERGY       | Gas                            | 11,140               | 19%                     |

Note: \* denotes critical raw material

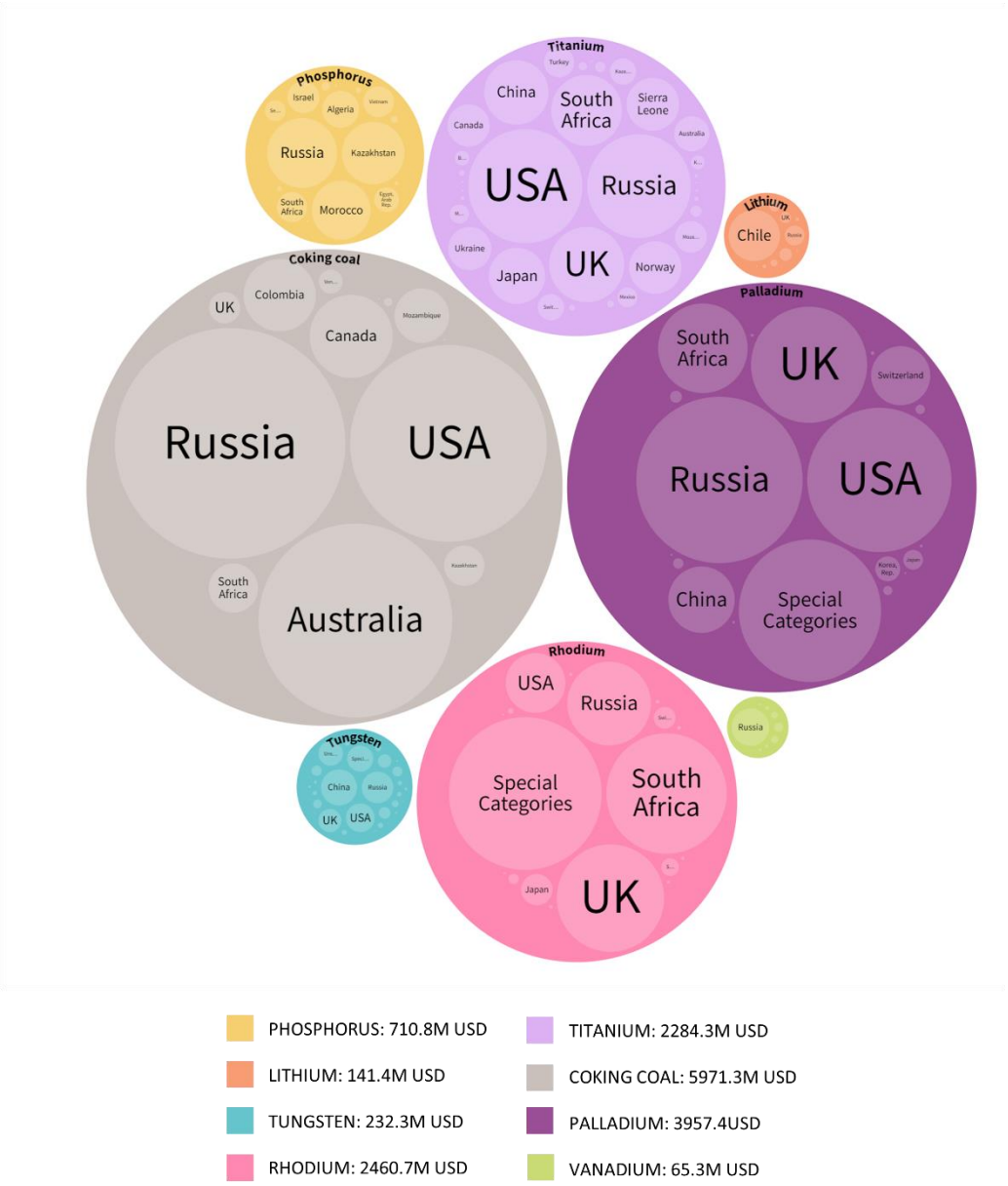
Source: computations based on COMTRADE, JRC list of non-food raw materials (Annex)

The following two charts are showing the major sourcing countries for these selected materials, first for CRMs (Figure 6), then for the other materials (non-CRMs) (Figure 7). The figures, highlighting the geographical structure of EU imports, give insights regarding possible future candidates to substitute the Russian exports to

the EU. For instance, EU might increase the imports of fertilisers from African countries (Morocco, Algeria, Egypt) and Israel, for potash from Israel, Chile and UK, for nickel from USA, Canada, South Africa and Australia etc.

In a broader perspective, i.e. taking into consideration also the share in EU imports of Ukraine and Belarus, the biggest disruptions are likely to occur for *wood, potash, iron ores and iron and non-alloy steel*.

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



Source: computations based on COMTRADE, JRC list of non-food raw materials (Annex)

As for the non-CRMs NFNE raw materials (Figure 7), Russia is the main EU sourcing country for *iron and non-alloy steel, fertilisers, wood, nickel and potash*. Russia ranks the third among sourcing countries for *aluminium* and *chromium* and the fifth for *copper*.



**Figure 7.** EU sourcing from third countries for the selected NFNE materials – non-CRMs (2020)



Source: computations based on COMTRADE, JRC list of non-food raw materials (Annex)

The sourcing of *Oils* is very diversified. Besides Russia, which was the main trading partner until the Ukraine invasion (2022), other important trading partners are: United States, UK, Nigeria, Norway, Kazakhstan, Saudi Arabia, Iraq, Azerbaijan, Algeria and Libya (Figure 8).

As for the natural gas, other important sourcing countries besides Russia are: Algeria, Norway, United States, Nigeria, Qatar, UK, Libya and Trinidad and Tobago.





**Table 4.** Main materials exported by EU to Russia in 2020 (export values >10 mil. USD and share in extra-EU exports >4%)

|                          | Exports to Russia (mil USD) | Share of Russia in EU exports (%) |
|--------------------------|-----------------------------|-----------------------------------|
| Copper                   | 825                         | 6                                 |
| Stainless steel          | 172                         | 4                                 |
| Other chemicals          | 109                         | 4                                 |
| Natural rubber           | 59                          | 6                                 |
| Molybdenum               | 45                          | 21                                |
| Lithium                  | 32                          | 49                                |
| Magnesite                | 19                          | 14                                |
| Fluorspar                | 14                          | 16                                |
| Other mineral substances | 12                          | 5                                 |
| Gases                    | 11                          | 6                                 |

Source: computations based on COMTRADE, JRC list of non-food raw materials (Annex)

### EU trade with Russia by stage of value chain in 2020

The raw materials imported by EU from Russia were mainly in the primary/processed/secondary stage (Figure 10), except for *fertilisers* (that are downstream products, an exception for the product coverage analysed) and for iron and steel, for which semi-finished products still have an important share.

**Figure 10.** Selected NFNE EU imports EU from Russia, by stage of value chain (million USD)



Source: COMTRADE, JRC list of non-food raw materials (Annex)

The Top 10 exports of EU to Russia are mostly at semi-finished stage of value chain, except for *paper*, *other chemicals* and partially for *copper* and *aluminium*.

**Figure 11.** Top 10 NFNE EU materials exported to Russia, by stage of value chain (million USD)



Source: computations based on COMTRADE, JRC list of non-food raw materials (Annex)

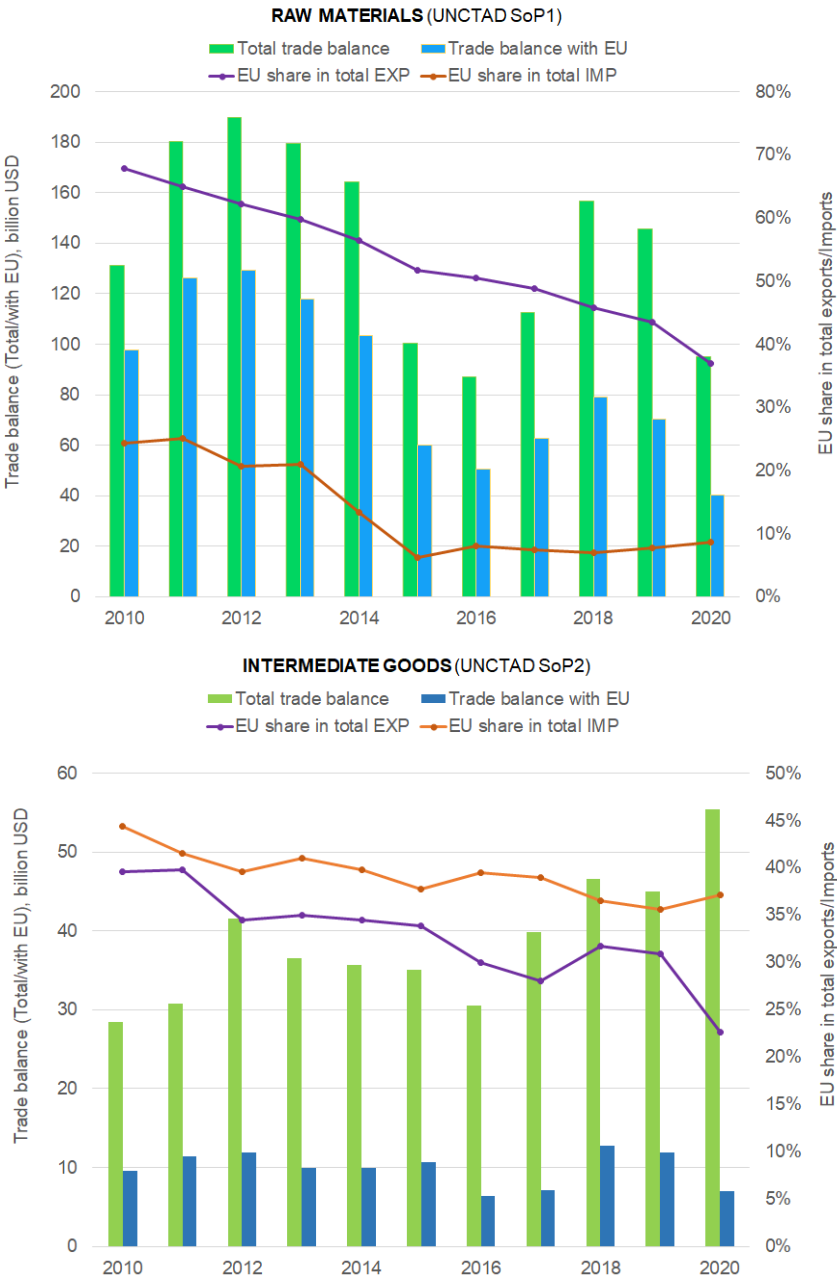
### 3 Russia trade patterns and the relative position of EU as a trading partner

#### Trade by stage of processing as defined by UNCTAD

Russia is a net exporter of both *Raw materials* and *Intermediate goods*, including in the trade relationship with EU (Figure 12). Over the last decade, *Raw materials* generated a much higher trade surplus as compared to *Intermediate goods*, but the gap between the two has diminished.

The net exports to EU have reduced their contribution to the overall trade surplus from 74% in 2010, to 42% in 2020 in case of *Raw materials* (SoP1) and from 34% to 13% for *Intermediate goods* (SoP2) over the same period.

**Figure 12.** Russia’s foreign trade by UNCTAD stage of processing\*: *trade balances (columns) and the EU share in total trade flows (lines)*



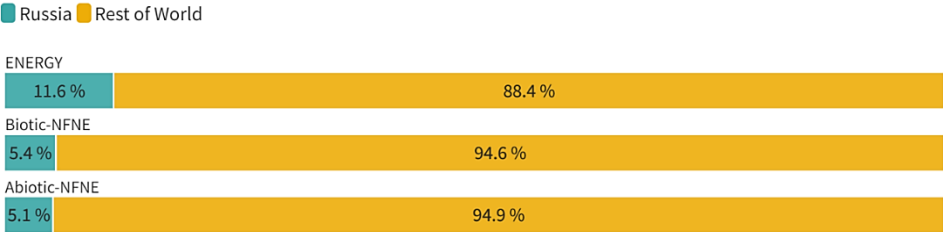
Note: agricultural and energy commodities included

Source: calculated based on COMTRADE

### Russia as a global exporter, by broad categories of raw materials (excl. food & finished/downstream)

In 2020, Russia accounted for 11.6% of world exports of energy raw materials, 5.4 % of biotic raw materials and 5.1% of abiotic (Figure 13).

**Figure 13.** The weight of Russia in the global exports of broad categories of raw materials (2020)

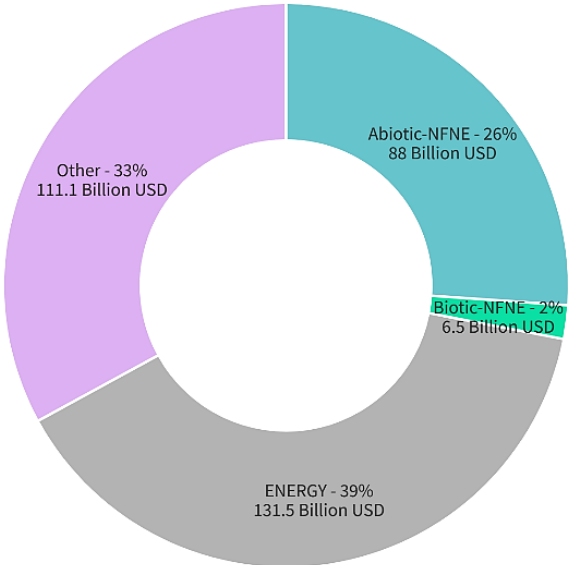


Note: JRC built a correspondence table between “Materials” (non-food raw materials, excluding downstream) and their corresponding trade codes and then the ‘Materials’ that have been allocated to 3 broad categories: Abiotic, Biotic and Energy. Details are presented in the Methodological notes.

Source: calculated based on COMTRADE, JRC list of non-food raw materials (Annex)

Non-food raw materials (including only primary/processed/secondary/ semi-finished) are making 2/3 of Russia exports, while the biggest category is Energy (Figure 14).

**Figure 14.** The share of the broad categories of raw materials in Russia total exports



Source: calculated based on COMTRADE, JRC list of non-food raw materials (Annex)

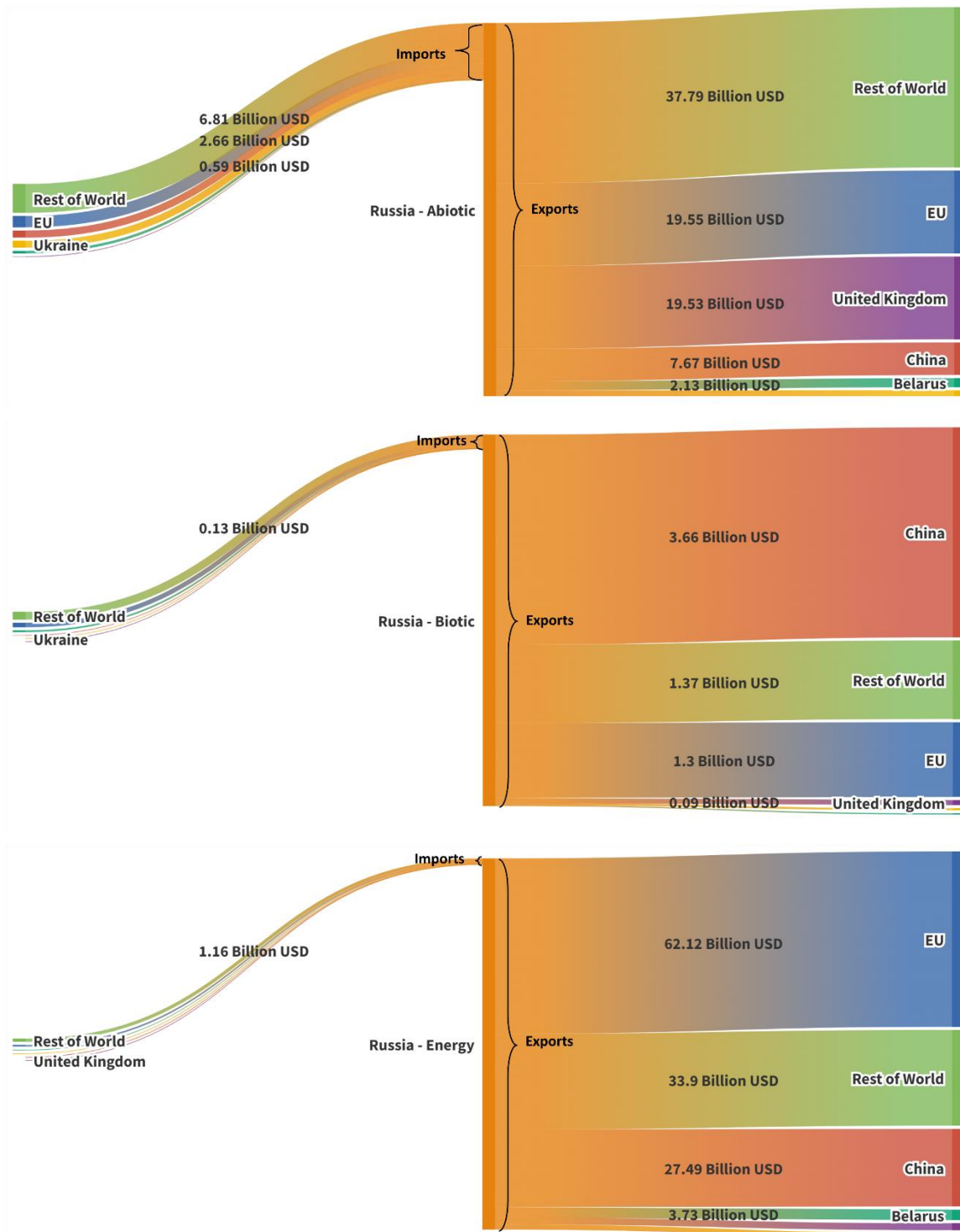
The charts in Figure 15 highlight a couple of trading partners besides the EU, namely: Ukraine, Belarus, China and UK and for three broad categories of raw materials– Abiotic and Biotic NFNE and Energy. For all of them, the Russian exports exceed by far the corresponding imports.

EU is an important trading partner for Russia, being the main destination of exports for energy and the second biggest destination for Abiotic materials (after UK) and Biotic commodities (after China). The latter ranks second as a geographical destination of Energy exports. Russia is sourcing from EU Abiotic raw materials of about 2.66 billion USD.

Ukraine is a relatively important trading partner for Abiotic imports (1.6 billion USD).

Belarus is importing from Russia Energy raw materials of about 3.8 billion USD and Abiotic raw materials of over 2 billion USD.

**Figure 15.** Russia trade by broad categories of raw materials and partners: EU, UK, Ukraine, Belarus and China (2020)



Source: calculated based on COMTRADE, JRC list of non-food raw materials (Annex)

### Trade by standard product group

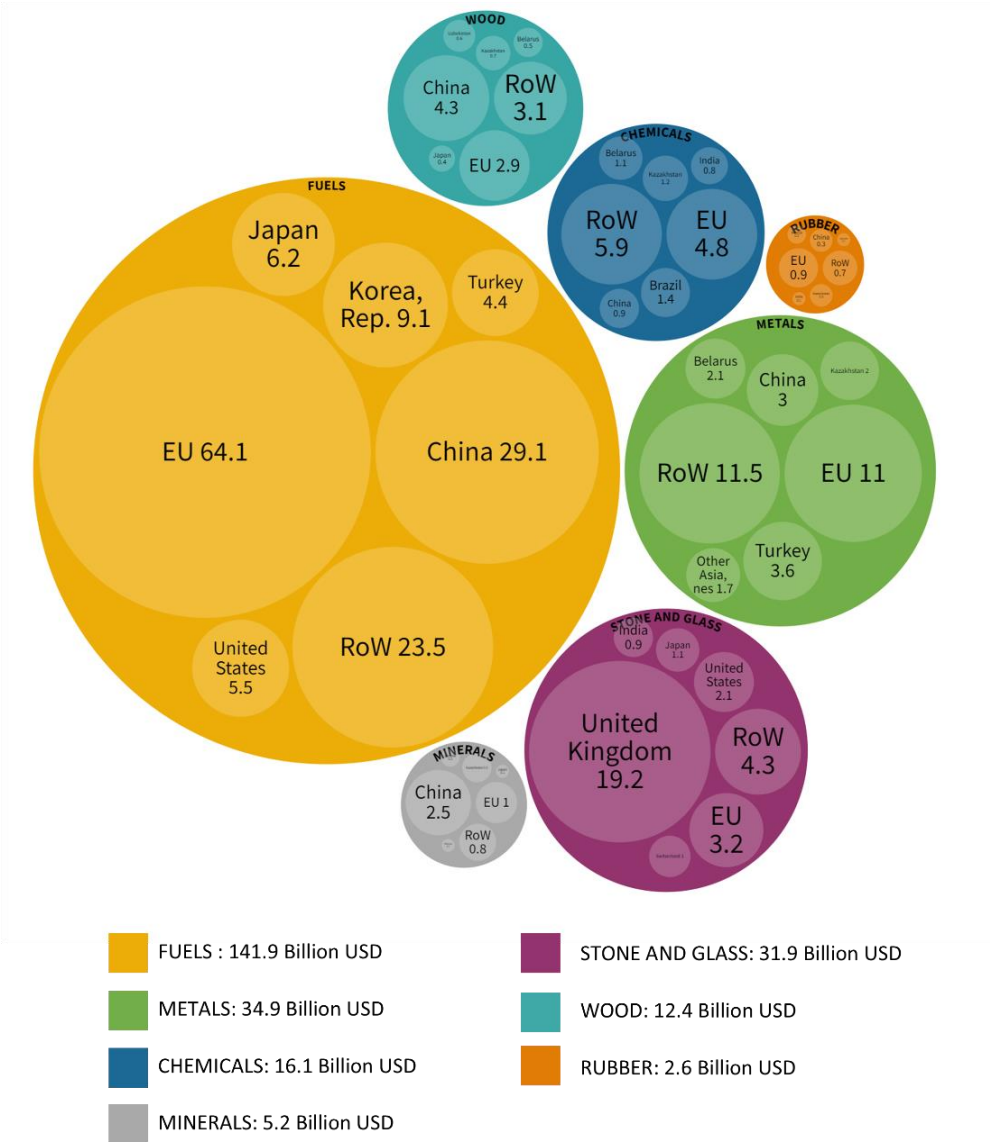
Among the Standard product groups (Figure 16), *Fuels* is dominating the Russian exports. EU is the main destination, capturing 45% of the total value of *Fuels'* exports. It is followed by China, with a share of 20%, Korea (9%) and Japan (6%).

EU has also the biggest shares in total Russian exports of *Metals* (32%), *Rubber* (35%) and *Chemicals* (30%). For *Wood*, the EU is the second largest destination, after China.



UK is capturing 60% of exports of *Stone and glass*. Belarus is a relatively important partner for *Chemicals*, with a share of 7% in Russian exports.

**Figure 16.** Destination of Russian exports, by Standard product group (2020)



Note: the trade data is not always consistent between the exports from Russia to the EU and the EU imports from Russia and sometimes the differences are very important (e.g. various trade codes from iron and steel, copper, potash etc.)

Source: COMTRADE, JRC list of non-food raw materials (Annex)

**Trade by materials**

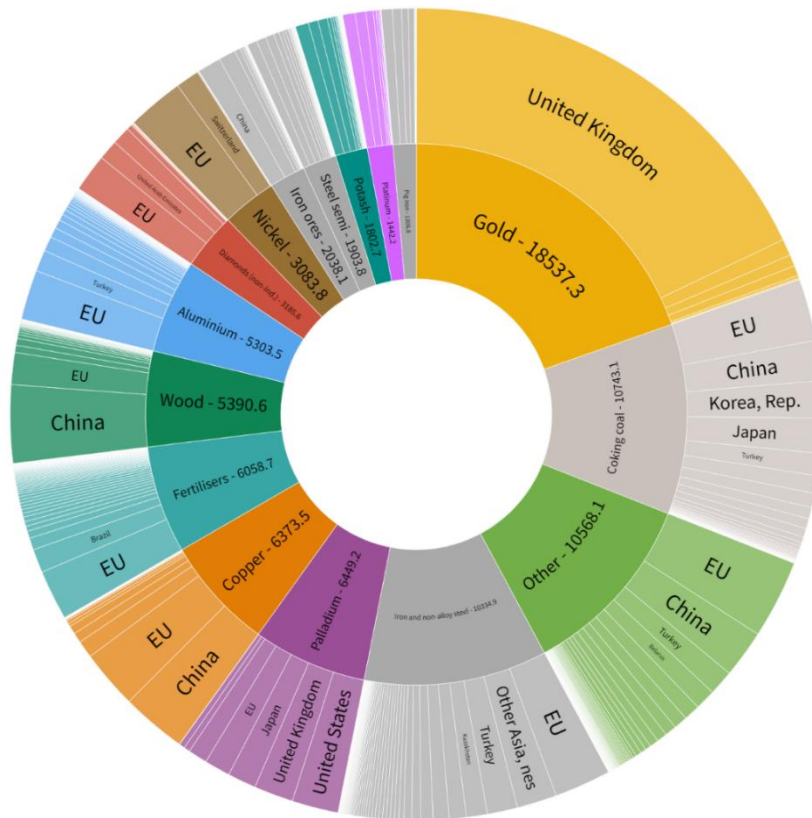
Russian NFNE exports are dominated by *gold, coking coal, iron and non-alloy steel, gold, palladium, copper, fertilisers, wood and aluminium* (Figure 17a).

EU is an important destination of the Top 15 NFNE materials exported by Russia, mainly for: *coking coal* (22% in total exports), *iron and non-alloy steel* (21%), *steel semi-finished* (20%), *palladium* (15%), *copper* (35%), *fertilisers* (31%), *wood* (23%), *aluminum* (35%), *non-industrial diamonds* (45%), *nickel* (70%), *potash* (20%) and *rhodium* (31%). China is capturing the biggest share of Russian exports of *copper, wood, paper and lead*.

About 90% of the energy raw materials exports are made of oils (petroleum products) and they are directed mainly towards the EU and China. The exports of natural gas go also mainly to the EU (49%) and China (22%) (Figure 17b).

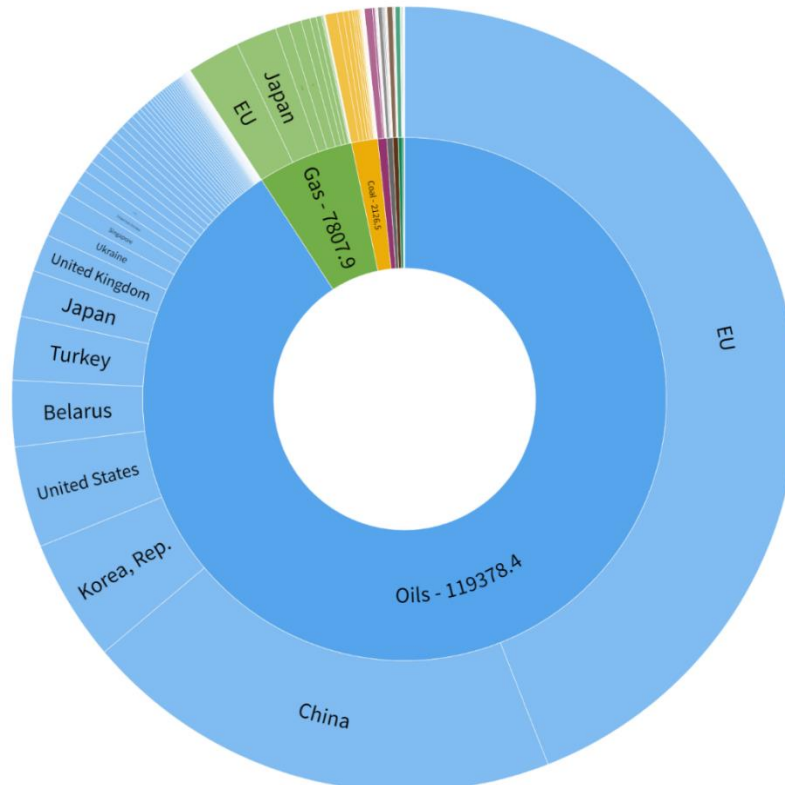
**Figure 17.** Top 15 NFNE materials exported by Russia, by destination (2020)

a. NFNE raw materials



Source: COMTRADE, JRC list of non-food raw materials (Annex)

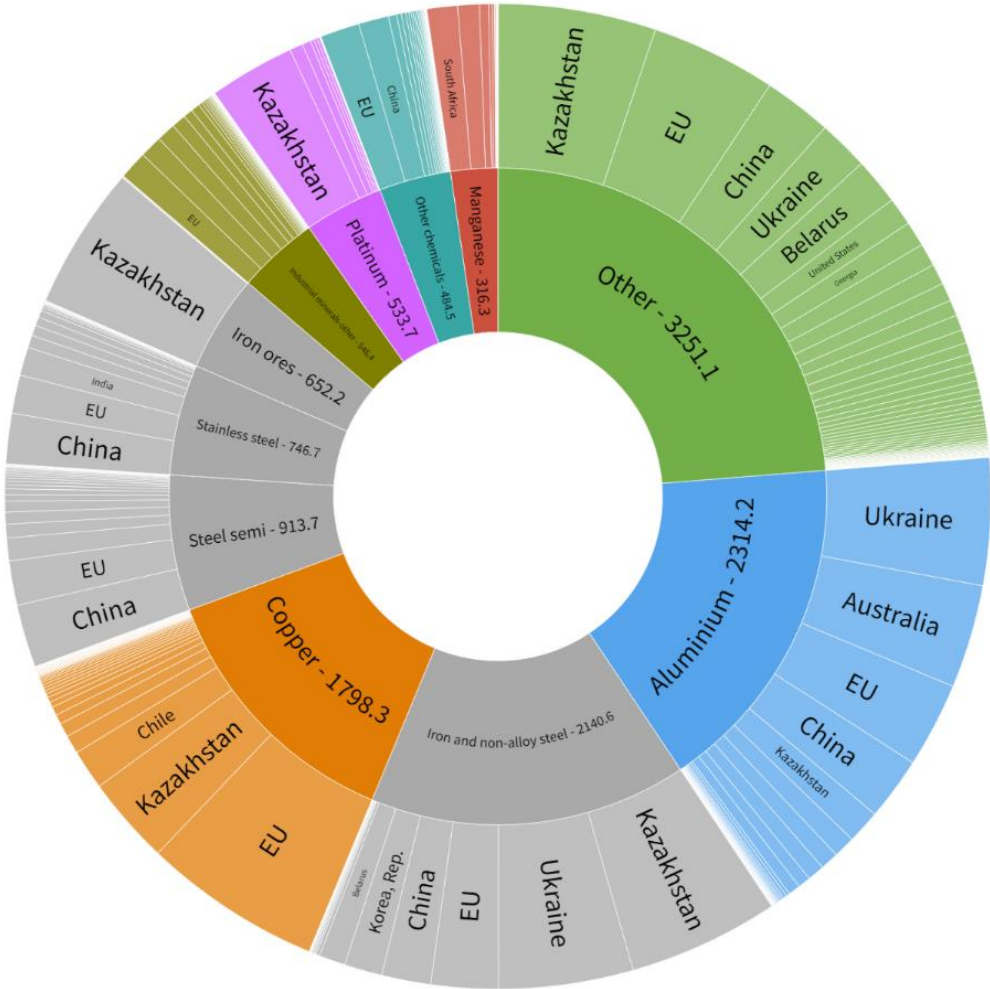
b. Energy raw materials



Source: COMTRADE, JRC list of non-food raw materials (Annex)

For Russia, the NFNE imports are much more modest as compared to NFNE exports. Among the Top 10 NFNE materials imported (Figure 18), *iron and steel* has the highest value of imports, followed by *aluminium* and *copper*. Kazakhstan appears as an important sourcing country for most of these materials. It is the biggest source of imports for both *iron ores* and *semi-finished products of iron/steel*, as well as for *platinum*, *copper* and *zinc*.

**Figure 18.** Top 10 NFNE materials imported by Russia, by sourcing country (2020)



Source: COMTRADE, JRC list of non-food raw materials (Annex)

## 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 Russia 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 Russian economy in comparison with the EU and global average, as highlighted by the natural resources rents indicator.
- Third, it looks at the developments of Russia exploration budgets for various raw materials, i.e the expenditures/financing of the mining projects in the pre-extraction stage. These might provide some indications on the prospective/strategic raw materials supply of the country.





### The unit value of EU imports for selected materials

Over the 2010-2021 period, the unit value of EU imports from Russia was slightly below the overall price of imports for several non-food raw materials: *other alloy steel, pig iron, steel semi-finished, titanium, vanadium, fertilisers, chromium, potash* and *non-industrial diamonds*.




























Over the same period, the overall EU import price increased more than 10 times for *rhodium* (unwrought, powder) and more than 7 times for *palladium* (unwrought). The prices of EU imports from Russia for these metals increased less, but the imports from Russia were more expensive than those from other sourcing countries.

On the other hand, for *tantalum* (unwrought), the import prices decreased and the unit value of EU imports from Russia remained higher than the overall import price.

**Table 5.** Unit value of imports from Russia (EUR/Kg) over the 2010-2021 period

| Material                       | HS code | Description   | EU imports from: | 2010 – 2021   |
|--------------------------------|---------|---|------------------|---|
| Aluminium                      | 760110  | Aluminium, not alloyed, unwrought   | World            | 1.73  2.14     |
| Aluminium                      | 760110  | Aluminium, not alloyed, unwrought   | Russia           | 1.73  2.14     |
| Aluminium                      | 760120  | Aluminium alloys, unwrought   | World            | 1.81  2.30     |
| Aluminium                      | 760120  | Aluminium alloys, unwrought   | Russia           | 1.75  2.22     |
| Caustic soda                   | 281511  | Sodium hydroxide (caustic soda), solid  | World            | 0.33  0.63     |
| Caustic soda                   | 281511  | Sodium hydroxide (caustic soda), solid  | Russia           | 0.29  0.57     |
| Caustic soda                   | 281512  | Sodium hydroxide (caustic soda), in aqueous solution (sida lye/liquid soda)   | World            | 0.14  0.15     |
| Caustic soda                   | 281512  | Sodium hydroxide (caustic soda), in aqueous solution (sida lye/liquid soda)   | Russia           | 0.11  0.18     |
| Chromium                       | 720249  | Ferro-chromium, other than that containing by weight >4% of carbon, in granular/powder form   | World            | 2.11  2.35     |
| Chromium                       | 720249  | Ferro-chromium, other than that containing by weight >4% of carbon, in granular/powder form   | Russia           | 2.08  2.50     |
| Chromium                       | 811221  | Chromium, unwrought; powders  | World            | 8.17  7.10     |
| Chromium                       | 811221  | Chromium, unwrought; powders  | Russia           | 6.75  6.49     |
| Coking coal                    | 270112  | Bituminous coal, whether/not pulverised but not agglomerated  | World            | 0.13  0.12     |
| Coking coal                    | 270112  | Bituminous coal, whether/not pulverised but not agglomerated  | Russia           | 0.09  0.10     |
| Copper                         | 740311  | Cathodes & sections of cathodes, of refined copper, unwrought   | World            | 5.63  7.77     |
| Copper                         | 740311  | Cathodes & sections of cathodes, of refined copper, unwrought   | Russia           | 5.58  7.76    |
| Diamonds (non-ind.)*           | 710231  | Diamonds, non-industrial, unworked/simplely sawn/cleaved/bruted   | World            | 70.32  80.64 |
| Diamonds (non-ind.)*           | 710231  | Diamonds, non-industrial, unworked/simplely sawn/cleaved/bruted   | Russia           | 58.26  48.98 |
| Ferrous waste and scrap        | 720421  | Waste & scrap of stainless steel  | World            | 1.56  1.25   |
| Ferrous waste and scrap        | 720421  | Waste & scrap of stainless steel  | Russia           | 1.95  1.56   |
| Fertilisers                    | 310520  | Mineral/chemical fertilisers containing the 3 fertilising elements nitrogen, phosphorus & potassium                                     | World            | 0.30  0.39   |
| Fertilisers                    | 310520  | Mineral/chemical fertilisers containing the 3 fertilising elements nitrogen, phosphorus & potassium                                     | Russia           | 0.25  0.33   |
| 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            | 0.42  0.65   |
| 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 | Russia           | 0.40  0.60   |
| Iron and steel granular/powder | 720310  | Ferrous products obt. by direct reduction of iron ore, in lumps/pellets/similar forms   | World            | 0.19  0.33   |
| Iron and steel granular/powder | 720310  | Ferrous products obt. by direct reduction of iron ore, in lumps/pellets/similar forms   | Russia           | 0.28  0.38   |
| Iron ores                      | 260112  | Iron ores & concentrates (excl. roasted iron pyrites), agglomerated   | World            | 0.13  0.18   |
| Iron ores                      | 260112  | Iron ores & concentrates (excl. roasted iron pyrites), agglomerated   | Russia           | 0.06  0.17   |
| Nickel                         | 750110  | Nickel mattes   | World            | 8.21  8.94   |
| Nickel                         | 750110  | Nickel mattes   | Russia           | 4.99  9.23   |
| Nickel                         | 750210  | Nickel, not alloyed, unwrought  | World            | 16.35  14.76 |
| Nickel                         | 750210  | Nickel, not alloyed, unwrought  | Russia           | 16.43  15.55 |

Note: \* for diamonds the price is in EUR per carat

| Material            | HS code | Description   | EU imports from: | 2010 – 2021   |
|---------------------|---------|---|------------------|---|
| Other alloy steel   | 722830  | Bars and rods of other alloy steel (excl. semi-finished, flat-rolled products ....)                                   | World            |    |
| Other alloy steel   | 722830  | Bars and rods of other alloy steel (excl. semi-finished, flat-rolled products ....)                                   | Russia           |    |
| Other alloy steel   | 722850  | Bars and rods of other alloy steel (excl. semi-finished, flat-rolled products ....)                                   | World            |    |
| Other alloy steel   | 722850  | Bars and rods of other alloy steel (excl. semi-finished, flat-rolled products ....)                                   | Russia           |    |
| Palladium           | 711021  | Palladium, unwrought/in powder form   | World            |    |
| Palladium           | 711021  | Palladium, unwrought/in powder form   | Russia           |    |
| Phosphorus          | 251010  | Natural calcium phosphates, natural aluminium calcium phosphates & phosphatic chalk, unground                         | World            |    |
| Phosphorus          | 251010  | Natural calcium phosphates, natural aluminium calcium phosphates & phosphatic chalk, unground                         | Russia           |    |
| Phosphorus          | 251020  | Natural calcium phosphates, natural aluminium calcium phosphates & phosphatic chalk, ground                           | World            |    |
| Phosphorus          | 251020  | Natural calcium phosphates, natural aluminium calcium phosphates & phosphatic chalk, ground                           | Russia           |    |
| Pig iron            | 720110  | Non-alloy pig iron containing by weight 0.5%/less of phosphorus, in pigs/blocks/other primary forms                   | World            |    |
| Pig iron            | 720110  | Non-alloy pig iron containing by weight 0.5%/less of phosphorus, in pigs/blocks/other primary forms                   | Russia           |    |
| Potash              | 310420  | Potassium chloride  | World            |    |
| Potash              | 310420  | Potassium chloride  | Russia           |   |
| Rhodium             | 711031  | Rhodium, unwrought/in powder form   | World            |  |
| Rhodium             | 711031  | Rhodium, unwrought/in powder form   | Russia           |  |
| Stainless steel     | 722300  | Wire of stainless steel   | World            |  |
| Stainless steel     | 722300  | Wire of stainless steel   | Russia           |  |
| Steel semi-finished | 730511  | Line pipe of a kind used for oil/ga   | World            |  |
| Steel semi-finished | 730511  | Line pipe of a kind used for oil/ga   | Russia           |  |
| Tantalum            | 720292  | Ferro-vanadium, in granular/powder form   | World            |  |
| Tantalum            | 720292  | Ferro-vanadium, in granular/powder form   | Russia           |  |
| Tantalum            | 810320  | Unwrought tantalum, incl. bars & rods obt. simply by sintering; powders   | World            |  |
| Tantalum            | 810320  | Unwrought tantalum, incl. bars & rods obt. simply by sintering; powders   | Russia           |  |
| Titanium            | 810890  | Titanium & articles thereof , n.e.s   | World            |  |
| Titanium            | 810890  | Titanium & articles thereof , n.e.s   | Russia           |  |
| Tungsten            | 720280  | Ferro-tungsten & ferro-silico-tungsten, in granular/powder form   | World            |  |
| Tungsten            | 720280  | Ferro-tungsten & ferro-silico-tungsten, in granular/powder form   | Russia           |  |
| Tungsten            | 810197  | Tungsten (wolfram) waste & scrap  | World            |  |
| Tungsten            | 810197  | Tungsten (wolfram) waste & scrap  | Russia           |  |
| Vanadium            | 282530  | Vanadium oxides & hydroxides  | World            |  |
| Vanadium            | 282530  | Vanadium oxides & hydroxides  | Russia           |  |
| Wood                | 440710  | Wood sawn/chipped length wise, sliced/peeled, whether/not planed, sanded/end-jointed, of a thickness >6mm, coniferous | World            |  |
| Wood                | 440710  | Wood sawn/chipped length wise, sliced/peeled, whether/not planed, sanded/end-jointed, of a thickness >6mm, coniferous | Russia           |  |

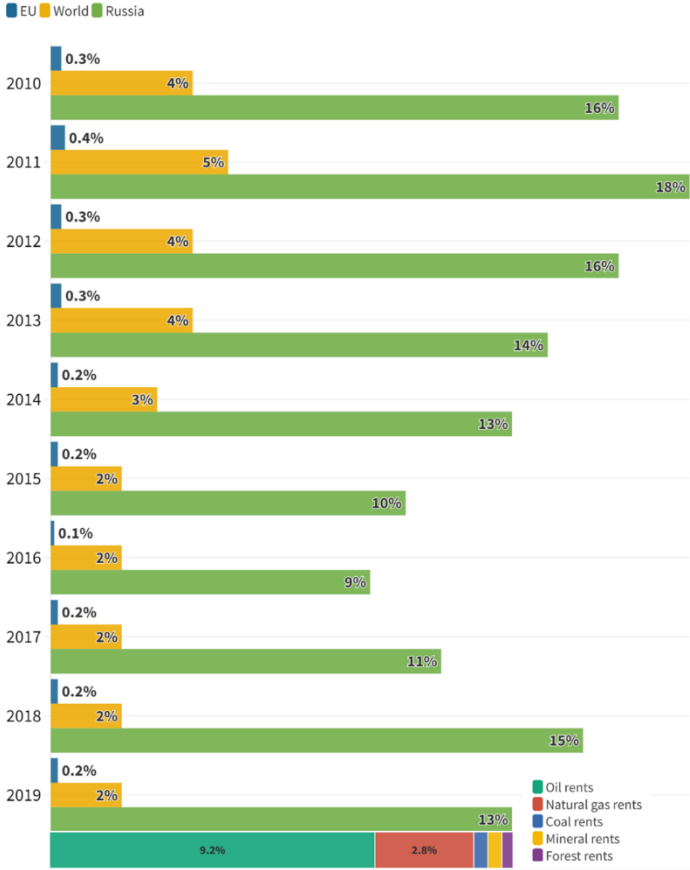
Source: COMTRADE, JRC list of raw materials (Annex)

### Natural resources rents

Natural resources have a high contribution to Russian economy. Their high importance is reflected in the World Bank indicator called *natural resources rents*, which shows the difference between the value of production and the total costs of production as percentage of GDP.

For Russia, this indicator is about 7 times higher as compared to the global average and much larger if compared to EU average (Figure 19). Oils and natural gas are the main contributors to total *natural resources rents*, with 70% and 21%, respectively. In 2019 minerals rents equalled 3% of GDP, while forest rents represented 2% of GDP.

**Figure 19.** Total natural resources rents (production value *minus* production costs, as % of GDP) of Russia in comparison with EU and global average. Their composition in 2019



Note: 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>)

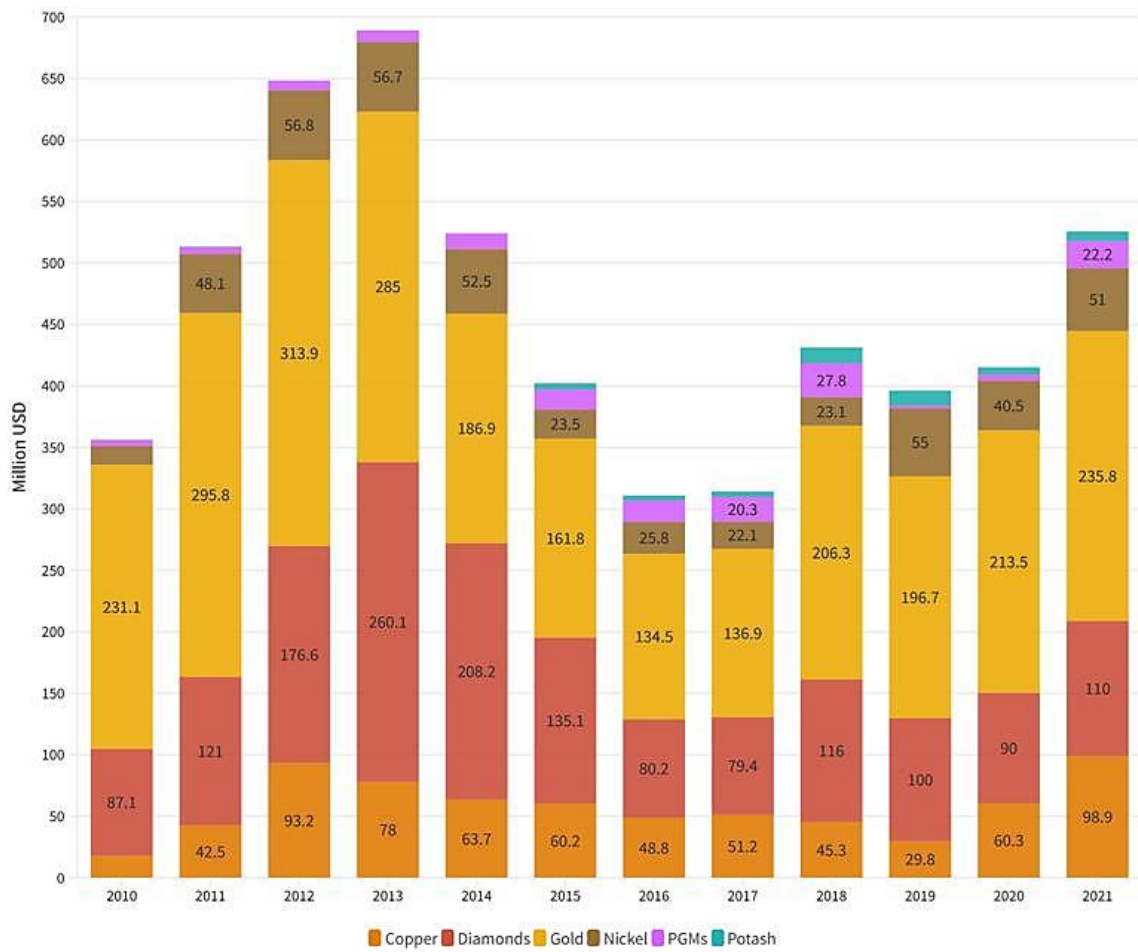
### Exploration budgets

The Russian exploration budgets of various raw materials (7) have expanded with the economic recovery after the Great Recession, dropped in 2014 and since 2018 slightly increased. The decline, especially the drop in 2014, reflected the national currency depreciation following economic and the geostrategic crisis. It also embedded the consequences of the Russia economic recession during the period 2014-2016.

The most significant cut of the exploration budgets occurred for diamonds and gold. Expenditures on the exploration of PGMs were volatile, oscillating between 5.1 and 27.8 million USD over the last decade. Potash started to attract exploration projects in 2015, but their annual budgets were lower with respect to other materials.

(7) Exploration budget comprise the expenditure relating to geological, geophysical, and geochemical surveys, exploration or appraisal drilling, or feasibility and environmental impact studies incurred in conducting mining projects.

**Figure 20.** Exploration budgets trends, by material



Source: S&P Global, accessed on 08/03/2022



## 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 did not make estimates for missing data (from confidentiality or other reasons). The confidentiality aspect caveat is particularly relevant to this report, because the selection of trade flows is made at a detailed level.

JRC operates a selection of detailed 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 is at HS 6-digits.

Firstly, the selected HS 6-digit trade codes were allocated by JRC to **“Materials”**. Such a classification was deemed necessary because trade flows related to the same element or 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.

The JRC has tried to maintain a balance between detail and usefulness, however in many cases it was not possible to distinguish a single element or material due to lack of detail in the original trade codes (e.g. Niobium/tantalum/vanadium ores & concentrates).

For *iron and steel*, due to its high share in EU imports, as well to a very large number of trade codes associated, it has been split into sub-categories <sup>(8)</sup>: *pig iron, ferro-alloys, iron and non-alloy steel, iron and steel granular/powder, ferrous waste and scrap, stainless steel and other alloy steel*.

Within “Materials”, we distinguished between **Critical raw materials (CRM)** and **non-critical raw materials (non-CRM)**. The list of commodities labelled as CRM was developed by JRC to reflect as much as possible the latest list of critical raw materials issued by the European Commission <sup>(9)</sup>. 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 commodities or semi-finished<sup>(10)</sup>: **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 trading codes from the chapters 25, 26, 28, 31 and 68-81, plus coking coal (HS 270111) and secondary battery materials (HS 854810).
- Energy raw materials are those raw materials that are mainly used as input to generate energy. They belong mostly to chapter HS 27, but include also wood for energy (eg fuel wood).
- **The stage of processing** is also highlighted for each trade code (HS 6-digit level): primary/secondary/processed, semi-finished and downstream. The analysis does not include downstream commodities, except for fertilisers (due to their relevance in the EU supply from Russia).

The Russian trade patterns have been also analysed at pre-defined aggregated product level: **Standard product groups (WITS)** and **Stage of processing as defined by UNCTAD** (*Raw Materials and Intermediate goods*, both including food commodities).

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 include commodities at all stages of the value chain (including downstream).

For **Russia-EU trade**, only the data reported by EU were used (e.g. EU imports from Russia instead of the Russia’s exports to EU). Note that imports reported by EU might differ from exports reported by the country.

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<sup>(8)</sup> based on the guidance for classifying iron and steel: <https://www.gov.uk/guidance/classifying-iron-and-steel>

<sup>(9)</sup> COM(2020) 474 final: COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS Critical Raw Materials Resilience: Charting a Path towards greater Security and Sustainability

<sup>(10)</sup> We kept also the *fertilisers’* downstream commodities, since they are critical for agriculture and Russia is the main EU sourcing.

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. 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 diamonds, where the price is per carat). The unit value of imports has been calculated for imports originating from Russia, as well as for the overall EU imports of the selected commodities (those with high value/share in the EU imports from Russia).

**The natural resources rents** is an indicator provided by the World Bank<sup>(11)</sup>, while the data source for the **exploration budgets** was S&P Global<sup>(12)</sup>, with no further processing.

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<sup>(11)</sup> World Bank World Development Indicators, (<https://data.worldbank.org/indicator/NY.GDP.TOTL.RT.ZS>)

<sup>(12)</sup> S&P Global, Exploration budgets trends.  
<https://www.capitaliq.spglobal.com/web/client?auth=inherit#country/explorationBudgetTrends?keycountry=AT>

## References

- [COM\(2020\) 474 final](#). COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS Critical Raw Materials Resilience: Charting a Path towards greater Security and Sustainability
- S&P Global, Exploration budgets trends. <https://www.capitaliq.spglobal.com/web/client?auth=inherit#country/explorationBudgetTrends?keycountry=AT>
- UN COMTRADE, <https://comtrade.un.org/>
- World Bank World Development Indicators, (<https://data.worldbank.org/indicator/NY.GDP.TOTL.RT.ZS>)
- World Integrated Trade Solution (WITS), <https://wits.worldbank.org/Default>
- World Trade Organisation (WTO), Trade profiles, [https://www.wto.org/english/res\\_e/statis\\_e/trade\\_profiles\\_list\\_e.htm](https://www.wto.org/english/res_e/statis_e/trade_profiles_list_e.htm)

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## Annex

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

| Category     | Material  | HS2007 | CRM | Description   | Stage                       |
|--------------|-----------|--------|-----|---|-----------------------------|
| Abiotic-NFNE | Aluminium | 260600 | *   | Aluminium ores & concentrates   | Primary/Processed/Secondary |
| Abiotic-NFNE | Aluminium | 262040 |     | Ash & residues (excl. from the manufacture of iron/steel) containing mainly aluminium   | Primary/Processed/Secondary |
| Abiotic-NFNE | Aluminium | 281810 |     | Artificial corundum, whether/not chemically defined   | Primary/Processed/Secondary |
| Abiotic-NFNE | Aluminium | 281820 |     | Aluminium oxide (excl. artificial corundum)   | Primary/Processed/Secondary |
| Abiotic-NFNE | Aluminium | 281830 |     | Aluminium hydroxide   | Primary/Processed/Secondary |
| Abiotic-NFNE | Aluminium | 760110 |     | Aluminium, not alloyed, unwrought   | Primary/Processed/Secondary |
| Abiotic-NFNE | Aluminium | 760120 |     | Aluminium alloys, unwrought   | Primary/Processed/Secondary |
| Abiotic-NFNE | Aluminium | 760200 |     | Aluminium waste & scrap   | Primary/Processed/Secondary |
| Abiotic-NFNE | Aluminium | 760310 |     | Powders of non-lamellar structure, of aluminium   | Primary/Processed/Secondary |
| Abiotic-NFNE | Aluminium | 760320 |     | Powders of lamellar structure, of aluminium; flakes of aluminium  | Primary/Processed/Secondary |
| Abiotic-NFNE | Aluminium | 760410 | *   | Bars, rods & profiles, of aluminium, not alloyed  | Semi-finished               |
| Abiotic-NFNE | Aluminium | 760421 | *   | Hollow profiles of aluminium  | Semi-finished               |
| Abiotic-NFNE | Aluminium | 760429 | *   | Bars, rods & profiles (excl. hollow profiles) of aluminium alloys   | Semi-finished               |
| Abiotic-NFNE | Aluminium | 760511 | *   | Wire of aluminium, not alloyed, of which the maximum cross-sectional dim. exceeds 7mm   | Semi-finished               |
| Abiotic-NFNE | Aluminium | 760519 | *   | Wire of aluminium, not alloyed (excl. of 7605.11)   | Semi-finished               |
| Abiotic-NFNE | Aluminium | 760521 | *   | Wire of aluminium alloys, of which the maximum cross-sectional dim. exceeds 7mm   | Semi-finished               |
| Abiotic-NFNE | Aluminium | 760529 | *   | Wire of aluminium alloys (excl. of 7605.21)   | Semi-finished               |
| Abiotic-NFNE | Aluminium | 760611 | *   | Plates, sheets & strip, rectangular (incl. square), of a thickness >0.2mm, of aluminium, not alloyed  | Semi-finished               |
| Abiotic-NFNE | Aluminium | 760612 | *   | Plates, sheets & strip, rectangular (incl. square), of a thickness >0.2mm, of aluminium alloys  | Semi-finished               |
| Abiotic-NFNE | Aluminium | 760691 | *   | Plates, sheets & strip other than rectangular (incl. square), of a thickness >0.2mm, of aluminium, not alloyed                                      | Semi-finished               |
| Abiotic-NFNE | Aluminium | 760692 | *   | Plates, sheets & strip other than rectangular (incl. square), of a thickness >0.2mm, of aluminium alloys  | Semi-finished               |
| Abiotic-NFNE | Aluminium | 760711 | *   | Aluminium foil, whether/not printed, not backed, of a thickness not >0.2mm, rolled but not further worked   | Semi-finished               |
| Abiotic-NFNE | Aluminium | 760719 | *   | Aluminium foil, whether/not printed, not backed, of a thickness not >0.2mm (excl. of 7607.11)   | Semi-finished               |
| Abiotic-NFNE | Aluminium | 760720 | *   | Aluminium foil, whether/not printed, backed with paper/paperboard/plastics/similar backing materials, of a thickness (excl. any backing) not >0.2mm | Semi-finished               |
| Abiotic-NFNE | Aluminium | 760810 | *   | Tubes & pipes of aluminium, not alloyed   | Semi-finished               |
| Abiotic-NFNE | Aluminium | 760820 | *   | Tubes & pipes of aluminium alloys   | Semi-finished               |
| Abiotic-NFNE | Aluminium | 760900 | *   | Aluminium tube/pipe fittings (e.g., couplings, elbows, sleeves)   | Semi-finished               |

| Category     | Material     | HS2007 | CRM | Description   | Stage                       |
|--------------|--------------|--------|-----|---|-----------------------------|
| Abiotic-NFNE | Antimony     | 261710 | *   | Antimony ores & concentrates  | Primary/Processed/Secondary |
| Abiotic-NFNE | Antimony     | 282580 | *   | Antimony oxides   | Primary/Processed/Secondary |
| Abiotic-NFNE | Antimony     | 811010 | *   | Unwrought antimony; powders   | Primary/Processed/Secondary |
| Abiotic-NFNE | Antimony     | 811020 | *   | Antimony waste & scrap  | Primary/Processed/Secondary |
| Abiotic-NFNE | Antimony     | 811090 | *   | Antimony & articles thereof , n.e.s. in 81.10   | Semi-finished               |
| Abiotic-NFNE | Arsenic      | 280480 |     | Arsenic   | Primary/Processed/Secondary |
| Abiotic-NFNE | Baryte       | 251110 | *   | Natural barium carbonate (witherite), whether/not calcined, other than barium oxide of 28.16  | Primary/Processed/Secondary |
| Abiotic-NFNE | Beryllium    | 811212 | *   | Beryllium, unwrought; powders   | Primary/Processed/Secondary |
| Abiotic-NFNE | Beryllium    | 811213 | *   | Beryllium waste & scrap   | Primary/Processed/Secondary |
| Abiotic-NFNE | Beryllium    | 811219 | *   | Beryllium & articles thereof , n.e.s. in 81.12  | Semi-finished               |
| Abiotic-NFNE | Bismuth      | 810600 | *   | Bismuth & articles thereof , incl. waste & scrap  | Primary/Processed/Secondary |
| Abiotic-NFNE | Borates      | 252810 | *   | Natural sodium borates & concentrates thereof (whether/not calcined)  | Primary/Processed/Secondary |
| Abiotic-NFNE | Borates      | 252890 |     | 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 | Borates      | 280450 | *   | Boron; tellurium  | Primary/Processed/Secondary |
| Abiotic-NFNE | Borates      | 281000 | *   | Oxides of boron; boric acids  | Primary/Processed/Secondary |
| Abiotic-NFNE | Borates      | 284011 | *   | Disodium tetraborate (refined borax), anhydrous   | Primary/Processed/Secondary |
| Abiotic-NFNE | Borates      | 284019 | *   | Disodium tetraborate (refined borax), other than anhydrous  | Primary/Processed/Secondary |
| Abiotic-NFNE | Borates      | 284020 | *   | Borates other than disodium tetraborate (refined borax)   | Primary/Processed/Secondary |
| Abiotic-NFNE | Borates      | 284030 | *   | Peroxoborates (perborates)  | Primary/Processed/Secondary |
| Abiotic-NFNE | Cadmium      | 810720 |     | Unwrought cadmium; powders  | Primary/Processed/Secondary |
| Abiotic-NFNE | Cadmium      | 810730 |     | Cadmium waste & scrap   | Primary/Processed/Secondary |
| Abiotic-NFNE | Cadmium      | 810790 |     | Cadmium & articles thereof , n.e.s. in 81.07  | Semi-finished               |
| Abiotic-NFNE | Carbonates   | 283699 |     | Carbonates(excl. of 2836.20-2836.92); peroxocarbonates (percarbonates); commercial ammonium carbonate containing ammonium carbamate.  | Primary/Processed/Secondary |
| Abiotic-NFNE | Caustic soda | 281511 |     | Sodium hydroxide (caustic soda), solid  | Primary/Processed/Secondary |
| Abiotic-NFNE | Caustic soda | 281512 |     | Sodium hydroxide (caustic soda), in aqueous solution (soda lye/liquid soda)   | Primary/Processed/Secondary |
| Abiotic-NFNE | Chromium     | 261000 |     | Chromium ores & concentrates  | Primary/Processed/Secondary |
| Abiotic-NFNE | Chromium     | 281910 |     | Chromium trioxide   | Primary/Processed/Secondary |
| Abiotic-NFNE | Chromium     | 281990 |     | Chromium oxides (excl. chromium trioxide) & hydroxides  | Primary/Processed/Secondary |
| Abiotic-NFNE | Chromium     | 284130 |     | Sodium dichromate   | Primary/Processed/Secondary |

| Category     | Material    | HS2007 | CRM | Description  | Stage                       |
|--------------|-------------|--------|-----|--|-----------------------------|
| Abiotic-NFNE | Chromium    | 284150 |     | Chromates&dichromates(excl. of 2841.30); peroxochromates   | Primary/Processed/Secondary |
| Abiotic-NFNE | Chromium    | 720241 |     | Ferro-chromium, containing by weight >4% of carbon, in granular/powder form  | Primary/Processed/Secondary |
| Abiotic-NFNE | Chromium    | 720249 |     | Ferro-chromium, other than that containing by weight >4% of carbon, in granular/powder form  | Primary/Processed/Secondary |
| Abiotic-NFNE | Chromium    | 811221 |     | Chromium, unwrought; powders   | Primary/Processed/Secondary |
| Abiotic-NFNE | Chromium    | 811222 |     | Chromium waste & scrap   | Primary/Processed/Secondary |
| Abiotic-NFNE | Cobalt      | 260500 | *   | Cobalt ores & concentrates   | Primary/Processed/Secondary |
| Abiotic-NFNE | Cobalt      | 810590 | *   | Cobalt & articles thereof , n.e.s. in 81.05  | Semi-finished               |
| Abiotic-NFNE | Cobalt      | 282200 | *   | Cobalt oxides & hydroxides; commercial cobalt oxides   | Primary/Processed/Secondary |
| Abiotic-NFNE | Cobalt      | 810520 | *   | Cobalt mattes & other intermediate products of cobalt metallurgy; unwrought cobalt; powders  | Primary/Processed/Secondary |
| Abiotic-NFNE | Cobalt      | 810530 | *   | Cobalt waste & scrap   | Primary/Processed/Secondary |
| Abiotic-NFNE | Coking coal | 270112 | *   | Bituminous coal, whether/not pulverised but not agglomerated   | Primary/Processed/Secondary |
| Abiotic-NFNE | Copper      | 260300 |     | Copper ores & concentrates   | Primary/Processed/Secondary |
| Abiotic-NFNE | Copper      | 262030 |     | Ash & residues (excl. from the manufacture of iron/steel) containing mainly copper   | Primary/Processed/Secondary |
| Abiotic-NFNE | Copper      | 282550 |     | Copper oxides & hydroxides   | Primary/Processed/Secondary |
| Abiotic-NFNE | Copper      | 282741 |     | Chloride oxides & chloride hydroxides, of copper   | Primary/Processed/Secondary |
| Abiotic-NFNE | Copper      | 283325 |     | Sulphates of copper  | Primary/Processed/Secondary |
| Abiotic-NFNE | Copper      | 740100 |     | Copper mattes; cement copper (precipitated copper).  | Primary/Processed/Secondary |
| Abiotic-NFNE | Copper      | 740200 |     | Unrefined copper; copper anodes for electrolytic refining  | Primary/Processed/Secondary |
| Abiotic-NFNE | Copper      | 740311 |     | Cathodes & sections of cathodes, of refined copper, unwrought  | Primary/Processed/Secondary |
| Abiotic-NFNE | Copper      | 740312 |     | Wire-bars of refined copper, unwrought   | Primary/Processed/Secondary |
| Abiotic-NFNE | Copper      | 740313 |     | Billets of refined copper, unwrought   | Primary/Processed/Secondary |
| Abiotic-NFNE | Copper      | 740319 |     | Unwrought products of refined copper (excl. of 7403.11-7403.13)  | Primary/Processed/Secondary |
| Abiotic-NFNE | Copper      | 740321 |     | Copper-zinc base alloys (brass), unwrought   | Primary/Processed/Secondary |
| Abiotic-NFNE | Copper      | 740322 |     | Copper-tin base alloys (bronze), unwrought   | Primary/Processed/Secondary |
| Abiotic-NFNE | Copper      | 740329 |     | 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 |
| Abiotic-NFNE | Copper      | 740400 |     | Copper waste & scrap   | Primary/Processed/Secondary |
| Abiotic-NFNE | Copper      | 740500 |     | Master alloys of copper  | Primary/Processed/Secondary |
| Abiotic-NFNE | Copper      | 740610 |     | Powders of non-lamellar structure, of copper   | Semi-finished               |
| Abiotic-NFNE | Copper      | 740620 |     | Powders of lamellar structure, of copper; flakes, of copper  | Semi-finished               |
| Abiotic-NFNE | Copper      | 740710 |     | Bars, rods & profiles, of refined copper   | Semi-finished               |



| Category     | Material            | HS2007 | CRM | Description  | Stage                       |
|--------------|---------------------|--------|-----|--|-----------------------------|
| Abiotic-NFNE | Copper              | 740721 |     | Bars, rods & profiles, of copper-zinc base alloys (brass)  | Semi-finished               |
| Abiotic-NFNE | Copper              | 740729 |     | Bars, rods & profiles, of copper alloys (excl. of 7407.21)   | Semi-finished               |
| Abiotic-NFNE | Copper              | 740811 |     | Copper wire, of refined copper of which the maximum cross-sectional dim. exceeds 6mm   | Semi-finished               |
| Abiotic-NFNE | Copper              | 740819 |     | Copper wire, of refined copper (excl. of 7408.11)  | Semi-finished               |
| Abiotic-NFNE | Copper              | 740821 |     | Wire of copper-zinc base alloys (brass)  | Semi-finished               |
| Abiotic-NFNE | Copper              | 740822 |     | Wire of copper-nickel base alloys (cupro-nickel)/copper-nickel-zinc base alloys (nickel silver)  | Semi-finished               |
| Abiotic-NFNE | Copper              | 740829 |     | Wire of copper alloys (excl. of 7408.21 & 7408.22)   | Semi-finished               |
| Abiotic-NFNE | Copper              | 740911 |     | Copper plates, sheets & strip, of a thickness >0.15mm, of refined copper, in coils   | Semi-finished               |
| Abiotic-NFNE | Copper              | 740919 |     | Copper plates, sheets & strip, of a thickness >0.15mm, of refined copper, other than in coils  | Semi-finished               |
| Abiotic-NFNE | Copper              | 740921 |     | Copper plates, sheets & strip, of a thickness >0.15mm, of copper-zinc base alloys (brass), in coils  | Semi-finished               |
| Abiotic-NFNE | Copper              | 740929 |     | Copper plates, sheets & strip, of a thickness >0.15mm, of copper-zinc base alloys (brass), other than in coils   | Semi-finished               |
| Abiotic-NFNE | Copper              | 740931 |     | Copper plates, sheets & strip, of a thickness >0.15mm, of copper-tin base alloys (bronze), in coils  | Semi-finished               |
| Abiotic-NFNE | Copper              | 740939 |     | Copper plates, sheets & strip, of a thickness >0.15mm, of copper-tin base alloys (bronze), other than in coils   | Semi-finished               |
| Abiotic-NFNE | Copper              | 740940 |     | Copper plates, sheets & strip, of a thickness >0.15mm, of copper-nickel base alloys (cupro-nickel)/copper-nickel-zinc base alloys (nickel silver)                    | Semi-finished               |
| Abiotic-NFNE | Copper              | 740990 |     | Copper plates, sheets & strip, of a thickness >0.15mm, of other copper alloys (excl. of 7409.11-7409.40)   | Semi-finished               |
| Abiotic-NFNE | Copper              | 741011 |     | Copper foil, whether/not printed, not backed with paper/paperboard/plastics/similar backing materials, of refined copper, of a thickness not >0.15mm                 | Semi-finished               |
| Abiotic-NFNE | Copper              | 741012 |     | Copper foil, whether/not printed, not backed with paper/paperboard/plastics/similar backing materials, of copper alloys, of a thickness not >0.15mm                  | Semi-finished               |
| Abiotic-NFNE | Copper              | 741021 |     | Copper foil, whether/not printed, backed with paper/paperboard/plastics/similar backing materials, of refined copper, of a thickness (excl. any backing) not >0.15mm | Semi-finished               |
| Abiotic-NFNE | Copper              | 741022 |     | Copper foil, whether/not printed, backed with paper/paperboard/plastics/similar backing materials, of copper alloys, of a thickness (excl. any backing) not >0.15mm  | Semi-finished               |
| Abiotic-NFNE | Copper              | 741110 |     | Copper tubes & pipes, of refined copper  | Semi-finished               |
| Abiotic-NFNE | Copper              | 741121 |     | Copper tubes & pipes, of copper-zinc base alloys (brass)   | Semi-finished               |
| Abiotic-NFNE | Copper              | 741122 |     | Copper tubes & pipes, of copper-nickel base alloys (cupro-nickel)/copper-nickel-zinc base alloys (nickel silver)   | Semi-finished               |
| Abiotic-NFNE | Copper              | 741129 |     | Copper tubes & pipes, of copper alloys (excl. of 7411.21 & 7411.22)  | Semi-finished               |
| Abiotic-NFNE | Copper              | 741210 |     | Copper tube/pipe fittings (e.g., couplings, elbows, sleeves), of refined copper  | Semi-finished               |
| Abiotic-NFNE | Copper              | 741220 |     | Copper tube/pipe fittings (e.g., couplings, elbows, sleeves), of copper alloys   | Semi-finished               |
| Abiotic-NFNE | Diamonds (non-ind.) | 710210 |     | Diamonds, unsorted   | Primary/Processed/Secondary |
| Abiotic-NFNE | Diamonds (non-ind.) | 710231 |     | Diamonds, non-industrial, unworked/simplely sawn/cleaved/bruted  | Primary/Processed/Secondary |
| Abiotic-NFNE | Diamonds (non-ind.) | 710239 |     | Diamonds, non-industrial other than unworked/simplely sawn/cleaved/bruted  | Primary/Processed/Secondary |

| Category     | Material                | HS2007 | CRM | Description   | Stage                       |
|--------------|-------------------------|--------|-----|---|-----------------------------|
| Abiotic-NFNE | Feldspar                | 252910 |     | Felspar   | Primary/Processed/Secondary |
| Abiotic-NFNE | Feldspar                | 252930 |     | Leucite; nepheline & nepheline syenite  | Primary/Processed/Secondary |
| Abiotic-NFNE | Ferro-alloys            | 720221 |     | Ferro-silicon, containing by weight >55% of silicon, in granular/powder form  | Primary/Processed/Secondary |
| Abiotic-NFNE | Ferro-alloys            | 720229 |     | Ferro-silicon, other than that containing >55% of silicon, in granular/powder form  | Primary/Processed/Secondary |
| Abiotic-NFNE | Ferro-alloys            | 720230 |     | Ferro-silico-manganese, in granular/powder form   | Primary/Processed/Secondary |
| Abiotic-NFNE | Ferro-alloys            | 720250 |     | Ferro-silico-chromium, in granular/powder form  | Primary/Processed/Secondary |
| Abiotic-NFNE | Ferro-alloys            | 720299 |     | Ferro-alloys (excl. of 7202.11-7202.93), in granular/powder form  | Primary/Processed/Secondary |
| Abiotic-NFNE | Ferrous waste and scrap | 720410 |     | Waste & scrap of cast iron  | Primary/Processed/Secondary |
| Abiotic-NFNE | Ferrous waste and scrap | 720421 |     | Waste & scrap of stainless steel  | Primary/Processed/Secondary |
| Abiotic-NFNE | Ferrous waste and scrap | 720429 |     | Waste & scrap of alloy steel other than stainless steel   | Primary/Processed/Secondary |
| Abiotic-NFNE | Ferrous waste and scrap | 720430 |     | Waste & scrap of tinned iron/steel  | Primary/Processed/Secondary |
| Abiotic-NFNE | Ferrous waste and scrap | 720441 |     | Ferrous turnings, shavings, chips, milling waste, sawdust, filings, trimmings & stampings, whether/not in bundles   | Primary/Processed/Secondary |
| Abiotic-NFNE | Ferrous waste and scrap | 720449 |     | Ferrous waste & scrap (excl. of 7204.10-7204.41)  | Primary/Processed/Secondary |
| Abiotic-NFNE | Ferrous waste and scrap | 720450 |     | Remelting ferrous scrap ingots  | Primary/Processed/Secondary |
| Abiotic-NFNE | Fertilisers             | 281410 |     | Anhydrous ammonia   | Downstream                  |
| Abiotic-NFNE | Fertilisers             | 310100 |     | Animal/vegetable fertilisers, whether/not mixed together/chemically treated; fertilisers produced by the mixing/chemical treatment of animal/vegetable products | Downstream                  |
| Abiotic-NFNE | Fertilisers             | 310210 |     | Urea, whether/not in aqueous solution   | Downstream                  |
| Abiotic-NFNE | Fertilisers             | 310221 |     | Ammonium sulphate   | Downstream                  |
| Abiotic-NFNE | Fertilisers             | 310229 |     | Double salts & mixtures of ammonium sulphate & ammonium nitrate   | Downstream                  |
| Abiotic-NFNE | Fertilisers             | 310230 |     | Ammonium nitrate, whether/not in aqueous solution   | Downstream                  |
| Abiotic-NFNE | Fertilisers             | 310240 |     | Mixtures of ammonium nitrate with calcium carbonate/other inorganic non-fertilising substance   | Downstream                  |
| Abiotic-NFNE | Fertilisers             | 310250 |     | Sodium nitrate  | Downstream                  |
| Abiotic-NFNE | Fertilisers             | 310260 |     | Double salts & mixtures of calcium nitrate & ammonium nitrate   | Downstream                  |
| Abiotic-NFNE | Fertilisers             | 310280 |     | Mixtures of urea & ammonium nitrate in aqueous/ammoniacal solution  | Downstream                  |
| Abiotic-NFNE | Fertilisers             | 310290 |     | Mineral/chemical fertilisers, nitrogenous (excl. of 3102.10-3102.80), including mixtures not specified in the foregoing subheadings                             | Downstream                  |
| Abiotic-NFNE | Fertilisers             | 310310 |     | Superphosphates   | Downstream                  |
| Abiotic-NFNE | Fertilisers             | 310390 |     | Mineral/chemical fertilisers, phosphatic(excl. of 3103.10)  | Downstream                  |
| Abiotic-NFNE | Fertilisers             | 310510 |     | Fertilisers of Ch.31 in tablets/similar forms/in packages of a gross weight not >10kg   | Downstream                  |
| Abiotic-NFNE | Fertilisers             | 310520 |     | Mineral/chemical fertilisers containing the 3 fertilising elements nitrogen, phosphorus & potassium   | Downstream                  |

| Category     | Material            | HS2007 | CRM | Description  | Stage                       |
|--------------|---------------------|--------|-----|--|-----------------------------|
| Abiotic-NFNE | Fertilisers         | 310530 |     | Diammonium hydrogenorthophosphate (diammonium phosphate)   | Downstream                  |
| Abiotic-NFNE | Fertilisers         | 310540 |     | Ammonium dihydrogenorthophosphate (monoammonium phosphate) & mixtures thereof with diammonium hydrogenorthophosphate (diammonium phosphate)                  | Downstream                  |
| Abiotic-NFNE | Fertilisers         | 310551 |     | Mineral/chemical fertilisers containing nitrates & phosphates  | Downstream                  |
| Abiotic-NFNE | Fertilisers         | 310559 |     | Mineral/chemical fertilisers containing the 2 fertilising elements nitrogen & phosphorus, other than those containing nitrates & phosphates                  | Downstream                  |
| Abiotic-NFNE | Fertilisers         | 310560 |     | Mineral/chemical fertilisers containing the 2 fertilising elements phosphorus & potassium  | Downstream                  |
| Abiotic-NFNE | Fertilisers         | 310590 |     | Mineral/chemical fertilisers containing two/three of the fertilising elements nitrogen, phosphorus & potassium; other fertilisers (excl. of 3105.20-3105.60) | Downstream                  |
| Abiotic-NFNE | Fluorspar           | 252921 | *   | Fluorspar, containing by weight 97%/less of calcium fluoride   | Primary/Processed/Secondary |
| Abiotic-NFNE | Fluorspar           | 252922 | *   | Fluorspar, containing by weight >97% of calcium fluoride   | Primary/Processed/Secondary |
| Abiotic-NFNE | Fluorspar           | 281111 | *   | Hydrogen fluoride (hydrofluoric acid)  | Primary/Processed/Secondary |
| Abiotic-NFNE | Fluorspar           | 282612 | *   | Fluorides, of aluminium  | Primary/Processed/Secondary |
| Abiotic-NFNE | Fluorspar           | 282630 | *   | Sodium hexafluoroaluminate (synthetic cryolite)  | Primary/Processed/Secondary |
| Abiotic-NFNE | Gases               | 280410 |     | Hydrogen   | Primary/Processed/Secondary |
| Abiotic-NFNE | Gases               | 280421 |     | Argon  | Primary/Processed/Secondary |
| Abiotic-NFNE | Gases               | 280429 |     | Rare gases other than argon  | Primary/Processed/Secondary |
| Abiotic-NFNE | Gases               | 280430 |     | Nitrogen   | Primary/Processed/Secondary |
| Abiotic-NFNE | Gases               | 280440 |     | Oxygen   | Primary/Processed/Secondary |
| Abiotic-NFNE | Ge/In/Hf/Ga         | 282560 | *   | Germanium oxides & zirconium dioxide   | Primary/Processed/Secondary |
| Abiotic-NFNE | Ge/In/Hf/Ga         | 811292 | *   | germanium, vanadium, gallium, hafnium, indium, niobium (columbium), rhenium, & articles of these metals, incl. waste & scrap, powder, unwrought.             | Primary/Processed/Secondary |
| Abiotic-NFNE | Ge/In/Hf/Ga         | 811299 | *   | germanium, vanadium, gallium, hafnium, indium, niobium (columbium), rhenium, & articles of these metals, excl. waste & scrap, powder, unwrought.             | Semi-finished               |
| Abiotic-NFNE | Gold                | 284330 |     | Gold comps.  | Primary/Processed/Secondary |
| Abiotic-NFNE | Gold                | 710811 |     | Gold (incl. gold plated with platinum), non-monetary, in powder form   | Primary/Processed/Secondary |
| Abiotic-NFNE | Gold                | 710812 |     | Gold (incl. gold plated with platinum), in unwrought forms (excl. powder)  | Primary/Processed/Secondary |
| Abiotic-NFNE | Gold                | 710813 |     | Gold (incl. gold plated with platinum), non-monetary, in semi-manufactured forms   | Semi-finished               |
| Abiotic-NFNE | Gold                | 710900 |     | Base metals/silver, clad with gold, not further worked than semi-manufactured  | Semi-finished               |
| Abiotic-NFNE | Gold                | 711230 |     | Ash containing precious metal/precious metal comps.  | Primary/Processed/Secondary |
| Abiotic-NFNE | Gold                | 711291 |     | Waste & scrap of gold, incl. metal clad with gold but excl. sweepings containing other precious metals   | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial diamonds | 710221 |     | Industrial diamonds, unworked/simplely sawn/cleaved/bruted   | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial diamonds | 710229 |     | Industrial diamonds, worked but not mounted/set  | Primary/Processed/Secondary |

| Category     | Material                  | HS2007 | CRM | Description   | Stage                       |
|--------------|---------------------------|--------|-----|---|-----------------------------|
| Abiotic-NFNE | Industrial diamonds       | 710510 |     | Dust & powder of natural/synthetic diamonds   | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 250200 |     | Unroasted iron pyrites  | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 250300 |     | Sulphur of all kinds (excl. sublimed sulphur/precipitated sulphur/colloidal sulphur)  | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 250510 |     | Silica sands & quartz sands, whether/not coloured   | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 250590 |     | Natural sands other than silica & quartz, whether/not coloured, other than metalbearing sands of Ch.26  | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 250610 |     | Quartz, other than natural sands  | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 250620 |     | 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 | Industrial minerals-other | 250700 |     | Kaolin & other kaolinic clays, whether/not calcined   | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 250810 |     | Bentonite   | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 250830 |     | Fire-clay   | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 250840 |     | Clays other than expanded clays of 68.06 (excl. of 2507.00, 2508.10 & 2508.30)  | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 250850 |     | Andalusite, kyanite & sillimanite   | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 250860 |     | Mullite   | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 250870 |     | Chamotte/dinas earths   | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 250900 |     | Chalk   | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 251120 |     | Natural barium carbonate (witherite), whether/not calcined, other than barium oxide of 28.16  | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 251200 |     | 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 | Industrial minerals-other | 251310 |     | Pumice stone, whether/not heat-treated.   | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 251320 |     | Emery, natural corundum, natural garnet & other natural abrasives, whether/not heat-treated   | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 251400 |     | Slate, whether/not roughly trimmed/merely cut, by sawing/othw., into blocks/slabs of a rectangular (incl. square) shape   | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 251511 |     | Marble & travertine, crude/roughly trimmed  | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 251512 |     | Marble & travertine, merely cut, by sawing/othw., into blocks/slabs of a rectangular (incl. square) shape   | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 251520 |     | 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 | Industrial minerals-other | 251611 |     | Granite, crude/roughly trimmed  | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 251612 |     | Granite, merely cut, by sawing/othw., into blocks/slabs of a rectangular (incl. square) shape   | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 251620 |     | Sandstone, whether/not roughly trimmed/merely cut, by sawing/othw., into blocks/slabs of a rectangular (incl. square) shape   | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 251690 |     | 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 | Industrial minerals-other | 251710 |     | 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 |

| Category     | Material                  | HS2007 | CRM | Description   | Stage                       |
|--------------|---------------------------|--------|-----|---|-----------------------------|
| Abiotic-NFNE | Industrial minerals-other | 251720 |     | Macadam of slag/dross/similar industrial waste, whether/not incorporating the materials cited in 2517.10  | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 251730 |     | Tarred macadam, whether/not incorporating pebbles/gravel/broken/crushed stone   | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 251741 |     | Granules, chippings & powder, of marble, whether/not heat-treated   | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 251749 |     | Granules, chippings & powder, of stones of 25.15/25.16 (excl. marble), whether/not heat-treated   | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 251810 |     | 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 | Industrial minerals-other | 251820 |     | 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 | Industrial minerals-other | 251830 |     | Dolomite ramming mix  | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 252010 |     | Gypsum; anhydrite   | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 252020 |     | Plasters (consisting of calcined gypsum/calcium sulphate) whether/not coloured, with/without small quantities of accelerators/retarders                               | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 252100 |     | Limestone flux; limestone & other calcareous stone, of a kind used for the manufacture of lime/cement   | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 252210 |     | Quicklime   | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 252220 |     | Slaked lime   | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 252230 |     | Hydraulic lime, other than calcium oxide & hydroxide of 28.25   | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 252310 |     | Cement clinkers   | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 252321 |     | White cement, whether/not artificially coloured   | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 252329 |     | Portland cement (excl. white cement, whether/not artificially coloured), whether/not coloured   | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 252330 |     | Aluminous cement, whether/not coloured/in the form of clinkers  | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 252390 |     | 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 | Industrial minerals-other | 252410 |     | Crocidolite   | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 252490 |     | Asbestos other than crocidolite   | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 252510 |     | Crude mica & mica rifted into sheets/splittings   | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 252520 |     | Mica powder   | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 252530 |     | Mica waste  | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 252610 |     | 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 | Industrial minerals-other | 252620 |     | 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 | Industrial minerals-other | 253010 |     | Vermiculite, perlite & chlorites, unexpanded  | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 261800 |     | Granulated slag (slag sand) from the manufacture of iron/steel  | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 280200 |     | Sulphur, sublimed/precipitated; colloidal sulphur   | Primary/Processed/Secondary |

| Category     | Material                  | HS2007 | CRM | Description   | Stage                       |
|--------------|---------------------------|--------|-----|---|-----------------------------|
| Abiotic-NFNE | Industrial minerals-other | 283640 |     | Potassium carbonates  | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 283650 |     | Calcium carbonate   | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 283660 |     | Barium carbonate  | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 380290 |     | Activated natural mineral products other than of activated carbon; animal black, incl. spent animal black   | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 680100 |     | Setts, curbstones & flagstones, of natural stone (except slate)   | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 680210 |     | 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 | Industrial minerals-other | 680221 |     | 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 | Industrial minerals-other | 680223 |     | 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 |
| Abiotic-NFNE | Industrial minerals-other | 680229 |     | 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 | Industrial minerals-other | 680291 |     | 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 | Industrial minerals-other | 680292 |     | Mosaic cubes & the like, of other calcareous stone...whether/not on a backing; artificially coloured granules, chippings & powder   | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 680293 |     | Mosaic cubes & the like, of granite, whether/not on a backing; artificially coloured granules, chippings & powder, of granite   | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 680299 |     | Mosaic cubes & the like, of other natural stone, incl. slate n.e.s. in heading 68.02, whether/not on a backing; artificially coloured granules, chippings & powder,   | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 680300 |     | Worked slate & articles of slate/agglomerated slate   | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 680620 |     | Exfoliated vermiculite, expanded clays, foamed slag & similar expanded mineral materials (incl. intermixtures thereof )   | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 681410 |     | Plates, sheets & strips of agglomerated/reconstituted mica, whether/not on a support  | Primary/Processed/Secondary |
| Abiotic-NFNE | Industrial minerals-other | 681490 |     | 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 | Industrial minerals-other | 710410 |     | Piezo-electric quartz   | Primary/Processed/Secondary |
| Abiotic-NFNE | Iodine                    | 280120 |     | Iodine  | Primary/Processed/Secondary |
| Abiotic-NFNE | Iodine                    | 282760 |     | Iodides & iodide oxides   | Primary/Processed/Secondary |
| Abiotic-NFNE | Iridium                   | 711041 | *   | Iridium, osmium & ruthenium, unwrought/in powder form   | Primary/Processed/Secondary |
| Abiotic-NFNE | Iridium                   | 711049 | *   | Iridium, osmium & ruthenium, in semi-manufactured forms   | Semi-finished               |
| Abiotic-NFNE | Iron and non-alloy steel  | 720610 |     | Iron & non-alloy steel in ingots (excl. iron of 72.03)  | Primary/Processed/Secondary |
| Abiotic-NFNE | Iron and non-alloy steel  | 720690 |     | Iron & non-alloy steel in primary forms other than ingots (excl. iron of 72.03)   | Primary/Processed/Secondary |
| Abiotic-NFNE | 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   | Primary/Processed/Secondary |

| Category     | Material                 | HS2007 | CRM | Description   | Stage                       |
|--------------|--------------------------|--------|-----|---|-----------------------------|
| Abiotic-NFNE | 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   | Primary/Processed/Secondary |
| Abiotic-NFNE | Iron and non-alloy steel | 720719 |     | 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 | Iron and non-alloy steel | 720720 |     | Semi-finished products of iron/non-alloy steel, containing by weight 0.25%/more of carbon   | Primary/Processed/Secondary |
| Abiotic-NFNE | Iron and non-alloy steel | 720810 |     | 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-finished               |
| Abiotic-NFNE | Iron and non-alloy steel | 720825 |     | 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-finished               |
| Abiotic-NFNE | Iron and non-alloy steel | 720826 |     | 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-finished               |
| Abiotic-NFNE | Iron and non-alloy steel | 720827 |     | 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-finished               |
| Abiotic-NFNE | Iron and non-alloy steel | 720836 |     | 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-finished               |
| Abiotic-NFNE | Iron and non-alloy steel | 720837 |     | 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-finished               |
| Abiotic-NFNE | Iron and non-alloy steel | 720838 |     | 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-finished               |
| Abiotic-NFNE | Iron and non-alloy steel | 720839 |     | 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-finished               |
| Abiotic-NFNE | Iron and non-alloy steel | 720840 |     | 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-finished               |
| Abiotic-NFNE | 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                                | Semi-finished               |
| Abiotic-NFNE | Iron and non-alloy steel | 720852 |     | 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-finished               |
| Abiotic-NFNE | Iron and non-alloy steel | 720853 |     | 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-finished               |
| Abiotic-NFNE | Iron and non-alloy steel | 720854 |     | 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-finished               |
| Abiotic-NFNE | Iron and non-alloy steel | 720890 |     | 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-finished               |
| Abiotic-NFNE | Iron and non-alloy steel | 720915 |     | 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-finished               |
| Abiotic-NFNE | Iron and non-alloy steel | 720916 |     | 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-finished               |
| Abiotic-NFNE | Iron and non-alloy steel | 720917 |     | 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-finished               |
| Abiotic-NFNE | Iron and non-alloy steel | 720918 |     | 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-finished               |
| Abiotic-NFNE | Iron and non-alloy steel | 720925 |     | 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-finished               |
| Abiotic-NFNE | Iron and non-alloy steel | 720926 |     | 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-finished               |

| Category     | Material                 | HS2007 | CRM | Description   | Stage         |
|--------------|--------------------------|--------|-----|---|---------------|
| Abiotic-NFNE | Iron and non-alloy steel | 720927 |     | 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/more but not >1mm                                     | Semi-finished |
| Abiotic-NFNE | Iron and non-alloy steel | 720928 |     | 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-finished |
| Abiotic-NFNE | Iron and non-alloy steel | 720990 |     | 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-finished |
| Abiotic-NFNE | Iron and non-alloy steel | 721011 |     | Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, of a thickness of 0.5mm/more  | Semi-finished |
| Abiotic-NFNE | Iron and non-alloy steel | 721012 |     | Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, of a thickness of <0.5mm  | Semi-finished |
| Abiotic-NFNE | Iron and non-alloy steel | 721020 |     | Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, plated/coated with lead, incl. terne-plate  | Semi-finished |
| Abiotic-NFNE | Iron and non-alloy steel | 721030 |     | Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, electrolytically plated/coated with zinc  | Semi-finished |
| Abiotic-NFNE | Iron and non-alloy steel | 721041 |     | Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, othw. plated/coated with zinc (excl. electrolytically), corrugated  | Semi-finished |
| Abiotic-NFNE | Iron and non-alloy steel | 721049 |     | 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-finished |
| Abiotic-NFNE | Iron and non-alloy steel | 721050 |     | Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, plated/coated with chromium oxides/with chromium & chromium oxides  | Semi-finished |
| Abiotic-NFNE | Iron and non-alloy steel | 721061 |     | Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, plated/coated with aluminium-zinc alloys  | Semi-finished |
| Abiotic-NFNE | Iron and non-alloy steel | 721069 |     | 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-finished |
| Abiotic-NFNE | Iron and non-alloy steel | 721070 |     | Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, painted/varnished/coated with plastics  | Semi-finished |
| Abiotic-NFNE | Iron and non-alloy steel | 721090 |     | Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, clad/plated/coated, n.e.s. in 72.10   | Semi-finished |
| Abiotic-NFNE | Iron and non-alloy steel | 721113 |     | 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 (excl. 7211.13 & .14) | Semi-finished |
| Abiotic-NFNE | Iron and non-alloy steel | 721114 |     | 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-finished |
| Abiotic-NFNE | Iron and non-alloy steel | 721119 |     | 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-finished |
| Abiotic-NFNE | Iron and non-alloy steel | 721123 |     | 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-finished |
| Abiotic-NFNE | Iron and non-alloy steel | 721129 |     | 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-finished |
| Abiotic-NFNE | Iron and non-alloy steel | 721190 |     | Flat-rolled products of iron/non-alloy steel, of a width of <600mm, not clad/plated/coated, n.e.s. in 72.11   | Semi-finished |
| Abiotic-NFNE | Iron and non-alloy steel | 721210 |     | Flat-rolled products of iron/non-alloy steel, of a width of <600mm, plated/coated with tin  | Semi-finished |
| Abiotic-NFNE | Iron and non-alloy steel | 721220 |     | Flat-rolled products of iron/non-alloy steel, of a width of <600mm, electrolytically plated/coated with zinc  | Semi-finished |
| Abiotic-NFNE | Iron and non-alloy steel | 721230 |     | Flat-rolled products of iron/non-alloy steel, of a width of <600mm, othw. plated/coated with zinc (excl. electrolytically)  | Semi-finished |
| Abiotic-NFNE | Iron and non-alloy steel | 721240 |     | Flat-rolled products of iron/non-alloy steel, of a width of <600mm, painted/varnished/coated with plastics  | Semi-finished |



| Category     | Material                 | HS2007 | CRM | Description   | Stage         |
|--------------|--------------------------|--------|-----|---|---------------|
| Abiotic-NFNE | Iron and non-alloy steel | 721250 |     | Flat-rolled products of iron/non-alloy steel, of a width of <600mm, othw. plated/coated (excl. of 7212.10-7212.40)  | Semi-finished |
| Abiotic-NFNE | Iron and non-alloy steel | 721260 |     | Flat-rolled products of iron/non-alloy steel, of a width of <600mm, clad  | Semi-finished |
| Abiotic-NFNE | Iron and non-alloy steel | 721310 |     | 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-finished |
| Abiotic-NFNE | Iron and non-alloy steel | 721320 |     | Bars & rods, hot-rolled, in irregularly wound coils, of iron/non-alloy steel (excl. of 7213.10), of free-cutting steel  | Semi-finished |
| Abiotic-NFNE | Iron and non-alloy steel | 721391 |     | 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-finished |
| Abiotic-NFNE | Iron and non-alloy steel | 721399 |     | Bars & rods, hot-rolled, in irregularly wound coils, of iron/non-alloy steel, n.e.s. in 72.13   | Semi-finished |
| Abiotic-NFNE | Iron and non-alloy steel | 721410 |     | Bars & rods of iron/non-alloy steel (excl. of 72.13), not further worked than forged  | Semi-finished |
| Abiotic-NFNE | Iron and non-alloy steel | 721420 |     | 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-finished |
| Abiotic-NFNE | Iron and non-alloy steel | 721430 |     | 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-finished |
| Abiotic-NFNE | Iron and non-alloy steel | 721491 |     | 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-finished |
| Abiotic-NFNE | Iron and non-alloy steel | 721499 |     | 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-finished |
| Abiotic-NFNE | Iron and non-alloy steel | 721510 |     | Bars & rods of iron/non-alloy steel, of free-cutting steel, not further worked than cold-formed/cold-finished   | Semi-finished |
| Abiotic-NFNE | Iron and non-alloy steel | 721550 |     | Bars & rods of iron/non-alloy steel other than free-cutting steel, not further worked than cold-formed/cold-finished  | Semi-finished |
| Abiotic-NFNE | Iron and non-alloy steel | 721590 |     | Bars & rods of iron/non-alloy steel, n.e.s.   | Semi-finished |
| Abiotic-NFNE | Iron and non-alloy steel | 721610 |     | 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-finished |
| Abiotic-NFNE | Iron and non-alloy steel | 721621 |     | 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-finished |
| Abiotic-NFNE | Iron and non-alloy steel | 721622 |     | 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-finished |
| Abiotic-NFNE | Iron and non-alloy steel | 721631 |     | 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-finished |
| Abiotic-NFNE | Iron and non-alloy steel | 721632 |     | 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-finished |
| Abiotic-NFNE | Iron and non-alloy steel | 721633 |     | 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-finished |
| Abiotic-NFNE | Iron and non-alloy steel | 721640 |     | Angles, shapes & sections of iron/non-alloy steel, L / T sections, not further worked than hot-rolled/hot-drawn/extruded, of a height of 80mm/more  | Semi-finished |
| Abiotic-NFNE | Iron and non-alloy steel | 721650 |     | Angles, shapes & sections of iron/non-alloy steel (excl. of 7216.10-7216.40), not further worked than hot-rolled/hot-drawn/extruded   | Semi-finished |
| Abiotic-NFNE | Iron and non-alloy steel | 721661 |     | Angles, shapes & sections of iron/non-alloy steel, not further worked than cold-formed/cold-finished, obt. from flat-rolled products  | Semi-finished |

| Category     | Material                       | HS2007 | CRM | Description  | Stage                       |
|--------------|--------------------------------|--------|-----|--|-----------------------------|
| Abiotic-NFNE | Iron and non-alloy steel       | 721669 |     | Angles, shapes & sections of iron/non-alloy steel, not further worked than cold-formed/cold-finished (excl. of 7216.61)                                      | Semi-finished               |
| Abiotic-NFNE | Iron and non-alloy steel       | 721691 |     | Angles, shapes & sections of iron/non-alloy steel (excl. of 7216.10-7216.69), cold-formed/cold-finished from flat-rolled products                            | Semi-finished               |
| Abiotic-NFNE | Iron and non-alloy steel       | 721699 |     | Angles, shapes & sections of iron/non-alloy steel, n.e.s. in 72.16   | Semi-finished               |
| Abiotic-NFNE | Iron and non-alloy steel       | 721710 |     | Wire of iron/non-alloy steel, not plated/coated, whether/not polished  | Semi-finished               |
| Abiotic-NFNE | Iron and non-alloy steel       | 721720 |     | Wire of iron/non-alloy steel, plated/coated with zinc  | Semi-finished               |
| Abiotic-NFNE | Iron and non-alloy steel       | 721730 |     | Wire of iron/non-alloy steel, plated/coated with other base metals   | Semi-finished               |
| Abiotic-NFNE | Iron and non-alloy steel       | 721790 |     | Wire of iron/non-alloy steel, n.e.s. in 72.17  | Semi-finished               |
| Abiotic-NFNE | Iron and non-alloy steel       | 721810 |     | Stainless steel in ingots & other primary forms  | Primary/Processed/Secondary |
| Abiotic-NFNE | Iron and non-alloy steel       | 721891 |     | Stainless steel, of rectangular (excl. square) cross-section   | Primary/Processed/Secondary |
| Abiotic-NFNE | Iron and non-alloy steel       | 721899 |     | Semi-finished products of stainless steel (excl. of 7218.91)   | Primary/Processed/Secondary |
| Abiotic-NFNE | Iron and steel granular/powder | 720310 |     | Ferrous products obt. by direct reduction of iron ore, in lumps/pellets/similar forms  | Primary/Processed/Secondary |
| Abiotic-NFNE | Iron and steel granular/powder | 720390 |     | 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 | Iron and steel granular/powder | 720510 |     | Granules of pig iron, spiegeleisen, iron/steel   | Primary/Processed/Secondary |
| Abiotic-NFNE | Iron and steel granular/powder | 720521 |     | Powders, of alloy steel  | Primary/Processed/Secondary |
| Abiotic-NFNE | Iron and steel granular/powder | 720529 |     | Powders, of pig iron, spiegeleisen, iron/steel (excl. alloy steel)   | Primary/Processed/Secondary |
| Abiotic-NFNE | Iron ores                      | 260111 |     | Iron ores & concentrates (excl. roasted iron pyrites), non-agglomerated  | Primary/Processed/Secondary |
| Abiotic-NFNE | Iron ores                      | 260112 |     | Iron ores & concentrates (excl. roasted iron pyrites), agglomerated  | Primary/Processed/Secondary |
| Abiotic-NFNE | Iron ores                      | 261900 |     | Slag, dross (excl. granulated slag), scalings & other waste from the manufacture of iron/steel   | Primary/Processed/Secondary |
| Abiotic-NFNE | Lead                           | 260700 |     | Lead ores & concentrates   | Primary/Processed/Secondary |
| Abiotic-NFNE | Lead                           | 262021 |     | Leaded gasoline sludges & leaded anti-knock compound sludges   | Primary/Processed/Secondary |
| Abiotic-NFNE | Lead                           | 262029 |     | Ash & residues (excl. from the manufacture of iron/steel) containing lead (excl. of 2620.21)   | Primary/Processed/Secondary |
| Abiotic-NFNE | Lead                           | 282410 |     | Lead monoxide (litharge, massicot)   | Primary/Processed/Secondary |
| Abiotic-NFNE | Lead                           | 282490 |     | Lead oxides (excl. of 2824.10);red lead&orange lead  | Primary/Processed/Secondary |
| Abiotic-NFNE | Lead                           | 780110 |     | Unwrought lead, refined  | Primary/Processed/Secondary |
| Abiotic-NFNE | Lead                           | 780191 |     | Unwrought lead other than refined, containing by weight antimony as the principal other element  | Primary/Processed/Secondary |
| Abiotic-NFNE | Lead                           | 780199 |     | Unwrought lead other than refined, n.e.s. in 78.01   | Primary/Processed/Secondary |
| Abiotic-NFNE | Lead                           | 780200 |     | Lead waste & scrap   | Primary/Processed/Secondary |
| Abiotic-NFNE | Lead                           | 780411 |     | Lead sheets, strip & foil of a thickness (excl. any backing) not >0.2mm  | Semi-finished               |

| Category     | Material   | HS2007 | CRM | Description  | Stage                       |
|--------------|------------|--------|-----|--|-----------------------------|
| Abiotic-NFNE | Lead       | 780419 |     | Lead plates, sheets, strip & foil (excl. of 7804.11)   | Semi-finished               |
| Abiotic-NFNE | Lead       | 780420 |     | Lead powders & flakes  | Primary/Processed/Secondary |
| Abiotic-NFNE | Lithium    | 282520 | *   | Lithium oxide & hydroxide  | Primary/Processed/Secondary |
| Abiotic-NFNE | Lithium    | 283691 | *   | Lithium carbonates   | Primary/Processed/Secondary |
| Abiotic-NFNE | Magnesite  | 251910 |     | Natural magnesium carbonate (magnesite)  | Primary/Processed/Secondary |
| Abiotic-NFNE | Magnesite  | 251990 |     | 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 | Magnesium  | 281610 |     | Hydroxide & peroxide of magnesium  | Primary/Processed/Secondary |
| Abiotic-NFNE | Magnesium  | 282731 |     | Magnesium chlorides  | Primary/Processed/Secondary |
| Abiotic-NFNE | Magnesium  | 810411 | *   | Unwrought magnesium, containing at least 99.8% by weight of magnesium  | Primary/Processed/Secondary |
| Abiotic-NFNE | Magnesium  | 810419 | *   | Unwrought magnesium (excl. of 8104.11)   | Primary/Processed/Secondary |
| Abiotic-NFNE | Magnesium  | 810420 | *   | Magnesium waste & scrap  | Primary/Processed/Secondary |
| Abiotic-NFNE | Magnesium  | 810430 | *   | Magnesium raspings, turnings & granules, graded according to size; magnesium powders   | Primary/Processed/Secondary |
| Abiotic-NFNE | Magnesium  | 810490 | *   | Magnesium & articles thereof, n.e.s. in 81.04  | Semi-finished               |
| Abiotic-NFNE | Manganese  | 282010 |     | Manganese dioxide  | Primary/Processed/Secondary |
| Abiotic-NFNE | Manganese  | 282090 |     | Manganese oxides other than manganese dioxide  | Primary/Processed/Secondary |
| Abiotic-NFNE | Manganese  | 284161 |     | Potassium permanganate   | Primary/Processed/Secondary |
| Abiotic-NFNE | Manganese  | 284169 |     | Manganites, manganates & permanganates (excl. of potassium)  | Primary/Processed/Secondary |
| Abiotic-NFNE | Manganese  | 720211 |     | Ferro-manganese, containing by weight >2% of carbon, in granular/powder form   | Primary/Processed/Secondary |
| Abiotic-NFNE | Manganese  | 720219 |     | Ferro-manganese, other than that containing by weight >2% of carbon, in granular/powder form   | Primary/Processed/Secondary |
| Abiotic-NFNE | Manganese  | 811100 |     | Manganese & articles thereof, incl. waste & scrap  | Primary/Processed/Secondary |
| Abiotic-NFNE | Manganese  | 260200 |     | 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 | Molybdenum | 261310 |     | Molybdenum ores & concentrates, roasted  | Primary/Processed/Secondary |
| Abiotic-NFNE | Molybdenum | 261390 |     | Molybdenum ores & concentrates, other than roasted   | Primary/Processed/Secondary |
| Abiotic-NFNE | Molybdenum | 282570 |     | Molybdenum oxides & hydroxides   | Primary/Processed/Secondary |
| Abiotic-NFNE | Molybdenum | 284170 |     | Molybdates   | Primary/Processed/Secondary |
| Abiotic-NFNE | Molybdenum | 720270 |     | Ferro-molybdenum, in granular/powder form  | Primary/Processed/Secondary |
| Abiotic-NFNE | Molybdenum | 810210 |     | Molybdenum powders   | Primary/Processed/Secondary |
| Abiotic-NFNE | Molybdenum | 810294 |     | Unwrought molybdenum, incl. bars & rods obt. simply by sintering   | Primary/Processed/Secondary |
| Abiotic-NFNE | Molybdenum | 810295 |     | Molybdenum bars & rods (excl. those obt. simply by sintering), profiles, plates, sheets, strip & foil  | Semi-finished               |

| Category     | Material          | HS2007 | CRM | Description  | Stage                       |
|--------------|-------------------|--------|-----|--|-----------------------------|
| Abiotic-NFNE | Molybdenum        | 810296 |     | Molybdenum wire  | Semi-finished               |
| Abiotic-NFNE | Molybdenum        | 810297 |     | Molybdenum waste & scrap   | Primary/Processed/Secondary |
| Abiotic-NFNE | Molybdenum        | 810299 |     | Molybdenum & articles thereof , n.e.s. in 81.02  | Semi-finished               |
| Abiotic-NFNE | Natural graphite  | 250410 | *   | Natural graphite, in powder/flakes   | Primary/Processed/Secondary |
| Abiotic-NFNE | Natural graphite  | 250490 | *   | Natural graphite other than in powders/flakes  | Primary/Processed/Secondary |
| Abiotic-NFNE | Natural graphite  | 380120 | *   | Colloidal/semi-colloidal graphite  | Primary/Processed/Secondary |
| Abiotic-NFNE | Nickel            | 260400 |     | Nickel ores & concentrates   | Primary/Processed/Secondary |
| Abiotic-NFNE | Nickel            | 282540 |     | Nickel oxides & hydroxides   | Primary/Processed/Secondary |
| Abiotic-NFNE | Nickel            | 282735 |     | Nickel chlorides   | Primary/Processed/Secondary |
| Abiotic-NFNE | Nickel            | 283324 |     | Sulphates of nickel  | Primary/Processed/Secondary |
| Abiotic-NFNE | Nickel            | 720260 |     | Ferro-nickel, in granular/powder form  | Primary/Processed/Secondary |
| Abiotic-NFNE | Nickel            | 750110 |     | Nickel mattes  | Primary/Processed/Secondary |
| Abiotic-NFNE | Nickel            | 750120 |     | Nickel oxide sinters & other intermediate products of nickel metallurgy  | Primary/Processed/Secondary |
| Abiotic-NFNE | Nickel            | 750210 |     | Nickel, not alloyed, unwrought   | Primary/Processed/Secondary |
| Abiotic-NFNE | Nickel            | 750220 |     | Nickel alloys, unwrought   | Primary/Processed/Secondary |
| Abiotic-NFNE | Nickel            | 750300 |     | Nickel waste & scrap   | Primary/Processed/Secondary |
| Abiotic-NFNE | Nickel            | 750400 |     | Nickel powders & flakes  | Primary/Processed/Secondary |
| Abiotic-NFNE | Nickel            | 750511 |     | Bars, rods, profiles & wire, of nickel, not alloyed  | Semi-finished               |
| Abiotic-NFNE | Nickel            | 750512 |     | Bars, rods, profiles & wire, of nickel alloys  | Semi-finished               |
| Abiotic-NFNE | Nickel            | 750521 |     | Wire of nickel, not alloyed  | Semi-finished               |
| Abiotic-NFNE | Nickel            | 750522 |     | Wire of nickel alloys  | Semi-finished               |
| Abiotic-NFNE | Nickel            | 750610 |     | Plates, sheets, strip & foil, of nickel, not alloyed   | Semi-finished               |
| Abiotic-NFNE | Nickel            | 750620 |     | Plates, sheets, strip & foil, of nickel alloys   | Semi-finished               |
| Abiotic-NFNE | Nickel            | 750711 |     | Tubes & pipes, of nickel, not alloyed  | Semi-finished               |
| Abiotic-NFNE | Nickel            | 750712 |     | Tubes & pipes, of nickel alloys  | Semi-finished               |
| Abiotic-NFNE | Nickel            | 750720 |     | Tube/pipe fittings (e.g., couplings, elbows, sleeves), of nickel   | Semi-finished               |
| Abiotic-NFNE | Niobium           | 720293 | *   | Ferro-niobium, in granular/powder form   | Primary/Processed/Secondary |
| Abiotic-NFNE | Other alloy steel | 722410 |     | Ingots & other primary forms of other alloy steel (excl. stainless steel)  | Primary/Processed/Secondary |
| Abiotic-NFNE | Other alloy steel | 722490 |     | Semi-finished products (excl. ingots & other primary forms) of alloy steel other than stainless steel, n.e.s.      | Primary/Processed/Secondary |
| Abiotic-NFNE | Other alloy steel | 722511 |     | Flat-rolled products of silicon-electrical steel, grain-oriented (excl. stainless steel), of a width of 600mm/more | Semi-finished               |

| Category     | Material          | HS2007 | CRM | Description   | Stage                       |
|--------------|-------------------|--------|-----|---|-----------------------------|
| Abiotic-NFNE | Other alloy steel | 722519 |     | Flat-rolled products of silicon-electrical steel, other than grain-oriented (excl. stainless steel), of a width of 600mm/more   | Semi-finished               |
| Abiotic-NFNE | Other alloy steel | 722530 |     | Other flat-rolled products of other alloy steel, of a width of 600 mm/more, not further worked than hot-rolled, in coils.   | Semi-finished               |
| Abiotic-NFNE | Other alloy steel | 722540 |     | 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-finished               |
| Abiotic-NFNE | Other alloy steel | 722550 |     | Other flat-rolled products of other alloy steel, of a width of 600 mm/more, not further worked than cold-rolled (cold-reduced),   | Semi-finished               |
| Abiotic-NFNE | Other alloy steel | 722591 |     | 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-finished               |
| Abiotic-NFNE | Other alloy steel | 722592 |     | 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-finished               |
| Abiotic-NFNE | Other alloy steel | 722599 |     | Other n.e.s. in 72.25, flat-rolled products of other alloy steel, of a width of 600 mm/more, other than of electrolytically/othw. plated/coated with zinc/.   | Semi-finished               |
| Abiotic-NFNE | Other alloy steel | 722611 |     | Flat-rolled products of silicon-electrical steel, grain-oriented (excl. stainless steel), of a width of <600mm  | Semi-finished               |
| Abiotic-NFNE | Other alloy steel | 722619 |     | Flat-rolled products of silicon-electrical steel, other than grain-oriented (excl. stainless steel), of a width of <600mm   | Semi-finished               |
| Abiotic-NFNE | Other alloy steel | 722620 |     | Flat-rolled products of high speed steel (excl. stainless steel), of a width of <600mm  | Semi-finished               |
| Abiotic-NFNE | Other alloy steel | 722691 |     | 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-finished               |
| Abiotic-NFNE | Other alloy steel | 722692 |     | 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-finished               |
| Abiotic-NFNE | Other alloy steel | 722699 |     | Other n.e.s. in 72.26 flat-rolled products of other alloy steel (excl. Stainless/silicon-electrical/high speed steel), of a width of less than 600 mm.  | Semi-finished               |
| Abiotic-NFNE | Other alloy steel | 722720 |     | Bars & rods, hot-rolled, in irregularly wound coils, of silico-manganese steel  | Semi-finished               |
| Abiotic-NFNE | Other alloy steel | 722790 |     | Bars & rods, hot-rolled, in irregularly wound coils (excl. of 72.13 & 7221.00), n.e.s. in 72.27   | Semi-finished               |
| Abiotic-NFNE | Other alloy steel | 722810 |     | Bars & rods of high speed steel   | Semi-finished               |
| Abiotic-NFNE | Other alloy steel | 722820 |     | Bars & rods of silico-manganese steel   | Semi-finished               |
| Abiotic-NFNE | Other alloy steel | 722830 |     | Bars & rods of other alloy steel (excl. of 72.27, 7228.10 & 7228.20), not further worked than hot-rolled/hot-drawn/extruded   | Semi-finished               |
| Abiotic-NFNE | Other alloy steel | 722840 |     | Bars & rods of other alloy steel (excl. of 72.27, 7228.10 & 7228.20), not further worked than forged  | Semi-finished               |
| Abiotic-NFNE | Other alloy steel | 722850 |     | Bars & rods of other alloy steel (excl. of 72.27), not further worked than cold-formed/cold-finished  | Semi-finished               |
| Abiotic-NFNE | Other alloy steel | 722860 |     | Bars & rods of other alloy steel (excl. of 72.27), n.e.s. in 72.28  | Semi-finished               |
| Abiotic-NFNE | Other alloy steel | 722870 |     | Angles, shapes & sections of alloy steel other than stainless steel   | Semi-finished               |
| Abiotic-NFNE | Other alloy steel | 722880 |     | Hollow drill bars & rods of alloy/non-alloy steel   | Semi-finished               |
| Abiotic-NFNE | Other chemicals   | 262060 |     | 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 | Other chemicals   | 262091 |     | Ash & residues (excl. from the manufacture of iron/steel) containing antimony/beryllium/cadmium/chromium/their mixtures   | Primary/Processed/Secondary |

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|--------------|-----------------|--------|-----|--|-----------------------------|
| Abiotic-NFNE | Other chemicals | 262099 |     | Ash & residues (excl. from the manufacture of iron/steel), n.e.s. in Ch.26   | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals | 280110 |     | Chlorine   | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals | 280511 |     | Sodium   | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals | 280512 |     | Calcium  | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals | 280519 |     | Alkali/alkaline-earth metals other than sodium & calcium   | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals | 280540 |     | Mercury  | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals | 280800 |     | Nitric acid; sulphonitric acids  | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals | 281121 |     | Carbon dioxide   | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals | 281122 |     | Silicon dioxide  | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals | 281129 |     | Inorganic oxygen comps. of non-metals (excl. of 2811.21& 2811.22),n.e.s.   | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals | 281210 |     | Chlorides & chloride oxides of non-metals  | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals | 281290 |     | Halides & halide oxides of non-metals other than chlorides & chloride oxides   | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals | 281310 |     | Carbon disulphide  | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals | 281390 |     | Sulphides of non-metals (excl. carbon disulphide); commercial phosphorus trisulphide   | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals | 281420 |     | Ammonia in aqueous solution  | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals | 282120 |     | Earth colours containing 70%/more by weight of combined iron evaluated as Fe2O3  | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals | 282510 |     | Hydrazine & hydroxylamine & their inorganic salts  | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals | 282590 |     | 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 | Other chemicals | 282619 |     | Fluorides other than of aluminium  | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals | 282710 |     | Ammonium chloride  | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals | 282720 |     | Calcium chloride   | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals | 282739 |     | Chlorides (excl. of 2827.10-2827.35), n.e.s.   | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals | 282749 |     | Chloride oxides & chloride hydroxides other than of copper   | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals | 282751 |     | Bromides of sodium/potassium   | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals | 282759 |     | Bromides & bromide oxides other than bromides of sodium/potassium  | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals | 282810 |     | Commercial calcium hypochlorite & other calcium hypochlorites  | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals | 282890 |     | Hypochlorites (excl. calcium); chlorites; hypobromites   | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals | 282911 |     | Chlorates, of sodium   | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals | 282919 |     | Chlorates other than of sodium   | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals | 282990 |     | Perchlorates; bromates & perbromates; iodates & periodates   | Primary/Processed/Secondary |

| Category     | Material        | HS2007 | CRM | Description   | Stage                       |
|--------------|-----------------|--------|-----|---|-----------------------------|
| Abiotic-NFNE | Other chemicals | 283010 |     | Sodium sulphides  | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals | 283090 |     | Sulphides (excl. of 2830.10); polysulphides, whether/not chemically defined   | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals | 283110 |     | Dithionites & sulphonylates, of sodium  | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals | 283190 |     | Dithionites & sulphonylates (excl. of sodium)   | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals | 283210 |     | Sodium sulphites  | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals | 283220 |     | Sulphites (excl. of sodium)   | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals | 283230 |     | Thiosulphates   | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals | 283410 |     | Nitrites  | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals | 283429 |     | Nitrates other than of potassium  | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals | 283510 |     | Phosphinates (hypophosphites) & phosphonates (phosphites)   | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals | 283522 |     | Phosphates of mono- /disodium   | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals | 283524 |     | Phosphates of potassium   | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals | 283525 |     | Calcium hydrogenorthophosphate (dicalcium phosphate)  | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals | 283531 |     | Sodium triphosphate (sodium tripolyphosphate)   | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals | 283539 |     | Polyphosphates (excl. of 2835.31)   | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals | 283630 |     | Sodium hydrogencarbonate (sodium bicarbonate)   | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals | 283711 |     | Cyanides & cyanide oxides, of sodium  | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals | 283719 |     | Cyanides & cyanide oxides (excl. of 2837.11)  | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals | 283720 |     | Complex cyanides  | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals | 283911 |     | Sodium metasilicates  | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals | 283919 |     | Silicates of sodium other than sodiummetasilicates  | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals | 283990 |     | Silicates other than of sodium; commercial alkali metal silicates   | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals | 284190 |     | Salts of oxometallic/peroxometallic acids (excl. of 2841.30-2841.80)  | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals | 284210 |     | Double/complex silicates, incl. aluminosilicates, whether/not chemically defined  | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals | 284290 |     | Salts of inorganic acids/peroxoacids (excl. of double/complex silicates), whether/not chemically defined (excl. azides)   | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals | 284310 |     | Colloidal precious metals   | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals | 284430 |     | 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 | Other chemicals | 284440 |     | 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 |

| Category     | Material                 | HS2007 | CRM | Description  | Stage                       |
|--------------|--------------------------|--------|-----|--|-----------------------------|
| Abiotic-NFNE | Other chemicals          | 284510 |     | Heavy water (deuterium oxide)  | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals          | 284590 |     | 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 | Other chemicals          | 284700 |     | Hydrogen peroxide, whether/not solidified with urea  | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals          | 284910 |     | Carbides, of calcium, whether/not chemically defined   | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals          | 284920 |     | Carbides, of silicon, whether/not chemically defined   | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals          | 284990 |     | Carbides (excl. of 2849.10 & 2849.20), whether/not chemically defined  | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals          | 285000 |     | 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 | Other chemicals          | 285200 |     | Compounds, inorganic/organic, of mercury, excluding amalgams.  | Primary/Processed/Secondary |
| Abiotic-NFNE | Other chemicals          | 285300 |     | 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 | Other chemicals          | 854810 |     | Waste & scrap of primary cells, primary batteries & electric accumulators; spent primary cells, spent primary batteries & spent electric accumulators  | Primary/Processed/Secondary |
| Abiotic-NFNE | Other mineral substances | 253020 |     | Kieserite, epsomite (natural magnesium sulphates)  | Primary/Processed/Secondary |
| Abiotic-NFNE | Other mineral substances | 253090 |     | Mineral substance, n.e.s. in Ch.25   | Primary/Processed/Secondary |
| Abiotic-NFNE | Other mineral substances | 260120 |     | Roasted iron pyrites   | Primary/Processed/Secondary |
| Abiotic-NFNE | Other ores               | 261790 | *   | Ores & concentrates (excl. of 2601.11-2617.10)   | Primary/Processed/Secondary |
| Abiotic-NFNE | Palladium                | 711021 | *   | Palladium, unwrought/in powder form  | Primary/Processed/Secondary |
| Abiotic-NFNE | Palladium                | 711029 | *   | Palladium, in semi-manufactured forms  | Semi-finished               |
| Abiotic-NFNE | Phosphate rock           | 280920 | *   | Phosphoric acid & polyphosphoric acids, whether/not chemically defined   | Primary/Processed/Secondary |
| Abiotic-NFNE | Phosphorus               | 251010 | *   | Natural calcium phosphates, natural aluminium calcium phosphates & phosphatic chalk, unground  | Primary/Processed/Secondary |
| Abiotic-NFNE | Phosphorus               | 251020 | *   | Natural calcium phosphates, natural aluminium calcium phosphates & phosphatic chalk, ground  | Primary/Processed/Secondary |
| Abiotic-NFNE | Phosphorus               | 280470 | *   | Phosphorus   | Primary/Processed/Secondary |
| Abiotic-NFNE | Pig iron                 | 720110 |     | Non-alloy pig iron containing by weight 0.5%/less of phosphorus, in pigs/blocks/other primary forms  | Primary/Processed/Secondary |
| Abiotic-NFNE | Pig iron                 | 720120 |     | Non-alloy pig iron containing by weight >0.5% of phosphorus, in pigs/blocks/other primary forms  | Primary/Processed/Secondary |
| Abiotic-NFNE | Pig iron                 | 720150 |     | Alloy pig iron; spiegeleisen, in pigs/blocks/other primary forms   | Primary/Processed/Secondary |
| Abiotic-NFNE | Platinum                 | 261690 |     | Precious metal ores & concentrates (excl. silver ores & concentrates)  | Primary/Processed/Secondary |
| Abiotic-NFNE | Platinum                 | 711011 | *   | Platinum, unwrought/in powder form   | Primary/Processed/Secondary |
| Abiotic-NFNE | Platinum                 | 711019 | *   | Platinum, in semi-manufactured forms   | Semi-finished               |
| Abiotic-NFNE | Platinum                 | 711292 |     | Waste & scrap of platinum, incl. metal clad with platinum but excl. sweepings containing other precious metals   | Primary/Processed/Secondary |
| Abiotic-NFNE | Potash                   | 281520 |     | Potassium hydroxide (caustic potash)   | Primary/Processed/Secondary |



| Category     | Material                  | HS2007 | CRM | Description   | Stage                       |
|--------------|---------------------------|--------|-----|---|-----------------------------|
| Abiotic-NFNE | Potash                    | 281530 |     | Peroxides of sodium/potassium   | Primary/Processed/Secondary |
| Abiotic-NFNE | Potash                    | 283421 |     | Nitrates of potassium   | Primary/Processed/Secondary |
| Abiotic-NFNE | Potash                    | 310420 |     | Potassium chloride  | Primary/Processed/Secondary |
| Abiotic-NFNE | Potash                    | 310430 |     | Potassium sulphate  | Primary/Processed/Secondary |
| Abiotic-NFNE | Potash                    | 310490 |     | Mineral/chemical fertilisers, potassic(excl. of 3104.20 & 3104.30)  | Primary/Processed/Secondary |
| Abiotic-NFNE | Precious metals compounds | 284390 |     | 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 | Precious metals compounds | 711299 |     | 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 | Precious stones/gems      | 710121 |     | Cultured pearls, unworked   | Semi-finished               |
| Abiotic-NFNE | Precious stones/gems      | 710122 |     | Cultured pearls, worked   | Semi-finished               |
| Abiotic-NFNE | Precious stones/gems      | 710420 |     | Synthetic/reconstructed precious/semi-precious stones (excl. piezo-electric quartz), unworked/simplely sawn/roughly shaped  | Semi-finished               |
| Abiotic-NFNE | Precious stones/gems      | 710490 |     | 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-finished               |
| Abiotic-NFNE | REEs                      | 280530 | *   | Rare-earth metals, scandium & yttrium, whether/not intermixed/interalloyed  | Primary/Processed/Secondary |
| Abiotic-NFNE | REEs                      | 284610 | *   | Cerium comps.   | Primary/Processed/Secondary |
| Abiotic-NFNE | REEs                      | 284690 | *   | Compounds, inorganic/organic, of rare-earth metals/yttrium/scandium/mixtures of these metals, other than cerium comps.  | Primary/Processed/Secondary |
| Abiotic-NFNE | Rhodium                   | 711031 | *   | Rhodium, unwrought/in powder form   | Primary/Processed/Secondary |
| Abiotic-NFNE | Rhodium                   | 711039 | *   | Rhodium, in semi-manufactured forms   | Semi-finished               |
| Abiotic-NFNE | Salt                      | 250100 |     | 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 | Selenium                  | 280490 |     | Selenium  | Primary/Processed/Secondary |
| Abiotic-NFNE | Silicon metal             | 280461 | *   | Silicon, containing by weight not <99.99% of silicon  | Primary/Processed/Secondary |
| Abiotic-NFNE | Silicon metal             | 280469 | *   | Silicon, containing by weight <99.99% of silicon  | Primary/Processed/Secondary |
| Abiotic-NFNE | Silver                    | 261610 |     | Silver ores & concentrates  | Primary/Processed/Secondary |
| Abiotic-NFNE | Silver                    | 284321 |     | Silver nitrate  | Primary/Processed/Secondary |
| Abiotic-NFNE | Silver                    | 284329 |     | Silver comps. other than silver nitrate   | Primary/Processed/Secondary |
| Abiotic-NFNE | Silver                    | 710610 |     | Silver (incl. silver plated with gold/platinum), in powder form   | Primary/Processed/Secondary |
| Abiotic-NFNE | Silver                    | 710691 |     | Silver (incl. silver plated with gold/platinum), unwrought  | Primary/Processed/Secondary |
| Abiotic-NFNE | Silver                    | 710692 |     | Silver (incl. silver plated with gold/platinum), in semi-manufactured forms   | Semi-finished               |
| Abiotic-NFNE | Silver                    | 710700 |     | Base metals clad with silver, not further worked than semi-manufactured   | Semi-finished               |

| Category     | Material        | HS2007 | CRM | Description  | Stage                       |
|--------------|-----------------|--------|-----|--|-----------------------------|
| Abiotic-NFNE | Soda ash        | 283620 |     | Disodium carbonate   | Primary/Processed/Secondary |
| Abiotic-NFNE | Stainless steel | 721911 |     | 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-finished               |
| Abiotic-NFNE | Stainless steel | 721912 |     | 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-finished               |
| Abiotic-NFNE | Stainless steel | 721913 |     | 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-finished               |
| Abiotic-NFNE | Stainless steel | 721914 |     | 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-finished               |
| Abiotic-NFNE | Stainless steel | 721921 |     | 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-finished               |
| Abiotic-NFNE | Stainless steel | 721922 |     | 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-finished               |
| Abiotic-NFNE | Stainless steel | 721923 |     | 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-finished               |
| Abiotic-NFNE | Stainless steel | 721924 |     | 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-finished               |
| Abiotic-NFNE | Stainless steel | 721931 |     | 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-finished               |
| Abiotic-NFNE | Stainless steel | 721932 |     | 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-finished               |
| Abiotic-NFNE | Stainless steel | 721933 |     | 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-finished               |
| Abiotic-NFNE | Stainless steel | 721934 |     | 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-finished               |
| Abiotic-NFNE | Stainless steel | 721935 |     | 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-finished               |
| Abiotic-NFNE | Stainless steel | 721990 |     | Flat-rolled products of stainless steel, of a width of 600mm/more, n.e.s. in 72.19   | Semi-finished               |
| Abiotic-NFNE | Stainless steel | 722011 |     | 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-finished               |
| Abiotic-NFNE | Stainless steel | 722012 |     | Flat-rolled products of stainless steel, of a width of <600mm, not further worked than hot-rolled, of a thickness of <4.75mm                                     | Semi-finished               |
| Abiotic-NFNE | Stainless steel | 722020 |     | Flat-rolled products of stainless steel, of a width of <600mm, not further worked than cold-rolled (cold-reduced)  | Semi-finished               |
| Abiotic-NFNE | Stainless steel | 722090 |     | Flat-rolled products of stainless steel, of a width of <600mm, n.e.s. in 72.20   | Semi-finished               |
| Abiotic-NFNE | Stainless steel | 722100 |     | Bars & rods, hot-rolled, in irregularly wound coils, of stainless steel  | Semi-finished               |
| Abiotic-NFNE | Stainless steel | 722211 |     | Bars & rods of stainless steel, not further worked than hot-rolled/hot-drawn/extruded, of circular cross-section   | Semi-finished               |
| Abiotic-NFNE | Stainless steel | 722219 |     | Bars & rods of stainless steel, not further worked than hot-rolled/hot-drawn/extruded other than of circular cross-section                                       | Semi-finished               |
| Abiotic-NFNE | Stainless steel | 722220 |     | Bars & rods of stainless steel, not further worked than cold-formed/cold-finished  | Semi-finished               |
| Abiotic-NFNE | Stainless steel | 722230 |     | Bars & rods of stainless steel, n.e.s. in 72.22  | Semi-finished               |

| Category     | Material            | HS2007 | CRM | Description  | Stage         |
|--------------|---------------------|--------|-----|--|---------------|
| Abiotic-NFNE | Stainless steel     | 722240 |     | Angles, shapes & sections of stainless steel   | Semi-finished |
| Abiotic-NFNE | Stainless steel     | 722300 |     | Wire of stainless steel  | Semi-finished |
| Abiotic-NFNE | Steel semi-finished | 722920 |     | Wire of silico-manganese steel   | Semi-finished |
| Abiotic-NFNE | Steel semi-finished | 722990 |     | Other wire of other alloy steel, other than of silico-manganese steel.   | Semi-finished |
| Abiotic-NFNE | Steel semi-finished | 730300 |     | Tubes, pipes & hollow profiles of cast iron  | Semi-finished |
| Abiotic-NFNE | Steel semi-finished | 730411 |     | Line pipe of a kind used for oil/gas pipelines, of stainless steel.  | Semi-finished |
| Abiotic-NFNE | Steel semi-finished | 730419 |     | Line pipe of a kind used for oil/gas pipelines, other than of stainless steel.   | Semi-finished |
| Abiotic-NFNE | Steel semi-finished | 730422 |     | Casing, tubing & drill pipe, of a kind used in drilling for oil/gas, of stainless steel  | Semi-finished |
| Abiotic-NFNE | Steel semi-finished | 730423 |     | Casing, tubing & drill pipe, of a kind used in drilling for oil/gas, other than of stainless steel   | Semi-finished |
| Abiotic-NFNE | Steel semi-finished | 730424 |     | Other casing, tubing, of a kind used in drilling for oil/gas, of stainless steel, other than drill pipe.   | Semi-finished |
| Abiotic-NFNE | Steel semi-finished | 730429 |     | Other casing, tubing, of a kind used in drilling for oil/gas (excl. of 7304.22/23/24), other than of drill pipe of stainless steel   | Semi-finished |
| Abiotic-NFNE | Steel semi-finished | 730431 |     | Tubes, pipes & hollow profiles (excl. of 7304.10-7304.29), seamless, of circular cross-section, of cold-drawn/cold-rolled (cold-reduced) steel                                   | Semi-finished |
| Abiotic-NFNE | Steel semi-finished | 730439 |     | Tubes, pipes & hollow profiles (excl. of 7304.10-7304.31), seamless, of circular cross section, of iron (excl. cast iron)/non-alloy steel  | Semi-finished |
| Abiotic-NFNE | Steel semi-finished | 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)                        | Semi-finished |
| Abiotic-NFNE | Steel semi-finished | 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)              | Semi-finished |
| Abiotic-NFNE | Steel semi-finished | 730451 |     | 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-finished |
| Abiotic-NFNE | Steel semi-finished | 730459 |     | 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-finished |
| Abiotic-NFNE | Steel semi-finished | 730490 |     | Tubes, pipes & hollow profiles (excl. of 7304.10-7304.59), seamless, of iron other than cast iron/steel  | Semi-finished |
| Abiotic-NFNE | Steel semi-finished | 730511 |     | 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-finished |
| Abiotic-NFNE | Steel semi-finished | 730512 |     | 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-finished |
| Abiotic-NFNE | Steel semi-finished | 730519 |     | 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-finished |
| Abiotic-NFNE | Steel semi-finished | 730520 |     | Casing of a kind used in drilling for oil/gas, having circular cross-sections, the external diameter of which exceeds 406.4mm  | Semi-finished |
| Abiotic-NFNE | Steel semi-finished | 730531 |     | 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-finished |
| Abiotic-NFNE | Steel semi-finished | 730539 |     | 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-finished |
| Abiotic-NFNE | Steel semi-finished | 730590 |     | 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-finished |

| Category     | Material                         | HS2007 | CRM | Description   | Stage                       |
|--------------|----------------------------------|--------|-----|---|-----------------------------|
| Abiotic-NFNE | Steel semi-finished              | 730611 |     | Line pipe of a kind used for oil/gas pipelines, welded, of stainless steel  | Semi-finished               |
| Abiotic-NFNE | Steel semi-finished              | 730619 |     | Other line pipe of a kind used for oil/gas pipelines, other than welded/of stainless steel  | Semi-finished               |
| Abiotic-NFNE | Steel semi-finished              | 730621 |     | Casing & tubing of a kind used in drilling for oil/gas, welded, of stainless steel  | Semi-finished               |
| Abiotic-NFNE | Steel semi-finished              | 730629 |     | Casing & tubing of a kind used in drilling for oil/gas, other than welded/of stainless steel  | Semi-finished               |
| Abiotic-NFNE | Steel semi-finished              | 730630 |     | Tubes, pipes & hollow profiles (excl. of 7306.10 & 7306.20), welded, of circular cross-section, of iron/non-alloy steel   | Semi-finished               |
| Abiotic-NFNE | Steel semi-finished              | 730640 |     | Tubes, pipes & hollow profiles (excl. of 7306.10-7306.30), welded, of circular cross-section, of stainless steel  | Semi-finished               |
| Abiotic-NFNE | Steel semi-finished              | 730650 |     | Tubes, pipes & hollow profiles (excl. of 7306.10-7306.40), welded, of circular cross-section, of alloy steel other than stainless steel   | Semi-finished               |
| Abiotic-NFNE | Steel semi-finished              | 730661 |     | Other tubes, pipes & hollow profiles (excl. of 7306.10-7306.40), welded, of non-circular cross-section, of square/rectangular cross-section   | Semi-finished               |
| Abiotic-NFNE | Steel semi-finished              | 730669 |     | 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-finished               |
| Abiotic-NFNE | Steel semi-finished              | 730690 |     | Tubes, pipes & hollow profiles of iron (excl. cast iron)/steel, n.e.s. (excl. of 73.04, 73.05 & 7306.10-7306.60)  | Semi-finished               |
| Abiotic-NFNE | Stones- precious & semi-precious | 710310 |     | Precious stones (excl. diamonds) & semi-precious stones, unworked/simplely sawn/roughly shaped but not strung/mounted/set   | Primary/Processed/Secondary |
| Abiotic-NFNE | Stones- precious & semi-precious | 710391 |     | Rubies, sapphires & emeralds, worked othw. than simply sawn/roughly shaped but not strung/mounted/set   | Primary/Processed/Secondary |
| Abiotic-NFNE | Stones- precious & semi-precious | 710399 |     | Precious stones (excl. diamonds, rubies, sapphires & 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 | Stones- precious & semi-precious | 710590 |     | Dust & powder of other natural/synthetic precious/semi-precious stones (excl. diamonds)   | Primary/Processed/Secondary |
| Abiotic-NFNE | Strontium                        | 281640 | *   | Oxides, hydroxides & peroxides, of strontium/barium   | Primary/Processed/Secondary |
| Abiotic-NFNE | Strontium                        | 283692 | *   | Strontium carbonate   | Primary/Processed/Secondary |
| Abiotic-NFNE | Sulphates                        | 283311 |     | Disodium sulphate   | Primary/Processed/Secondary |
| Abiotic-NFNE | Sulphates                        | 283319 |     | Sodium sulphates other than disodium sulphate   | Primary/Processed/Secondary |
| Abiotic-NFNE | Sulphates                        | 283322 |     | Sulphates of aluminium  | Primary/Processed/Secondary |
| Abiotic-NFNE | Sulphates                        | 283327 |     | Sulphates of barium   | Primary/Processed/Secondary |
| Abiotic-NFNE | Sulphates                        | 283329 |     | Sulphates other than Sodium sulphates(excl. of 2833.21-2833.27)   | Primary/Processed/Secondary |
| Abiotic-NFNE | Sulphates                        | 283330 |     | Alums   | Primary/Processed/Secondary |
| Abiotic-NFNE | Sulphates                        | 283340 |     | Peroxosulphates (persulphates)  | Primary/Processed/Secondary |
| Abiotic-NFNE | Ta/Nb/Va ores                    | 261590 | *   | Niobium/tantalum/vanadium ores & concentrates   | Primary/Processed/Secondary |
| Abiotic-NFNE | Tantalum                         | 720292 | *   | Ferro-vanadium, in granular/powder form   | Primary/Processed/Secondary |
| Abiotic-NFNE | Tantalum                         | 810320 | *   | Unwrought tantalum, incl. bars & rods obt. simply by sintering; powders   | Primary/Processed/Secondary |

| Category     | Material | HS2007 | CRM | Description   | Stage                       |
|--------------|----------|--------|-----|---|-----------------------------|
| Abiotic-NFNE | Tantalum | 810330 | *   | Tantalum waste & scrap  | Primary/Processed/Secondary |
| Abiotic-NFNE | Tantalum | 810390 | *   | Tantalum & articles thereof , n.e.s. in 81.03   | Semi-finished               |
| Abiotic-NFNE | Thallium | 811251 |     | Thallium, unwrought; powders  | Primary/Processed/Secondary |
| Abiotic-NFNE | Thallium | 811252 |     | Thallium waste & scrap  | Primary/Processed/Secondary |
| Abiotic-NFNE | Tin      | 260900 |     | Tin ores & concentrates   | Primary/Processed/Secondary |
| Abiotic-NFNE | Tin      | 800110 |     | Tin, not alloyed, unwrought   | Primary/Processed/Secondary |
| Abiotic-NFNE | Tin      | 800120 |     | Tin alloys, unwrought   | Primary/Processed/Secondary |
| Abiotic-NFNE | Tin      | 800200 |     | Tin waste & scrap   | Primary/Processed/Secondary |
| Abiotic-NFNE | Tin      | 800300 |     | Tin bars, rods, profiles & wire   | Semi-finished               |
| Abiotic-NFNE | Tin      | 800700 |     | Other articles of tin.  | Semi-finished               |
| Abiotic-NFNE | Titanium | 261400 | *   | Titanium ores & concentrates  | Primary/Processed/Secondary |
| Abiotic-NFNE | Titanium | 282300 | *   | Titanium oxides   | Primary/Processed/Secondary |
| Abiotic-NFNE | Titanium | 720291 | *   | Ferro-titanium & ferro-silico-titanium, in granular/powder form   | Primary/Processed/Secondary |
| Abiotic-NFNE | Titanium | 810820 | *   | Unwrought titanium; powders   | Primary/Processed/Secondary |
| Abiotic-NFNE | Titanium | 810830 | *   | Titanium waste & scrap  | Primary/Processed/Secondary |
| Abiotic-NFNE | Titanium | 810890 | *   | Titanium & articles thereof , n.e.s. in 81.08   | Semi-finished               |
| Abiotic-NFNE | Tungsten | 261100 | *   | Tungsten ores & concentrates  | Primary/Processed/Secondary |
| Abiotic-NFNE | Tungsten | 284180 | *   | Tungstates (wolframates)  | Primary/Processed/Secondary |
| Abiotic-NFNE | Tungsten | 720280 | *   | Ferro-tungsten & ferro-silico-tungsten, in granular/powder form   | Primary/Processed/Secondary |
| Abiotic-NFNE | Tungsten | 810110 | *   | Tungsten (wolfram) powders  | Primary/Processed/Secondary |
| Abiotic-NFNE | Tungsten | 810194 | *   | Unwrought tungsten (wolfram), incl. bars & rods obt. simply by sintering                                | Primary/Processed/Secondary |
| Abiotic-NFNE | Tungsten | 810196 | *   | Tungsten (wolfram) wire   | Semi-finished               |
| Abiotic-NFNE | Tungsten | 810197 | *   | Tungsten (wolfram) waste & scrap  | Primary/Processed/Secondary |
| Abiotic-NFNE | Tungsten | 810199 | *   | Other tungsten (wolfram) other than waste & scrap,wire/powder.  | Semi-finished               |
| Abiotic-NFNE | Vanadium | 282530 | *   | Vanadium oxides & hydroxides  | Primary/Processed/Secondary |
| Abiotic-NFNE | Zinc     | 260800 |     | Zinc ores & concentrates  | Primary/Processed/Secondary |
| Abiotic-NFNE | Zinc     | 262011 |     | Ash & residues (excl. from the manufacture of iron/steel), containing hard zinc spelter                 | Primary/Processed/Secondary |
| Abiotic-NFNE | Zinc     | 262019 |     | Ash & residues (excl. from the manufacture of iron/steel), containing zinc other than hard zinc spelter | Primary/Processed/Secondary |
| Abiotic-NFNE | Zinc     | 281700 |     | Zinc oxide; zinc peroxide   | Primary/Processed/Secondary |
| Abiotic-NFNE | Zinc     | 790111 |     | Zinc, not alloyed, unwrought, containing by weight 99.99%more of zinc                                   | Primary/Processed/Secondary |

| Category     | Material       | HS2007 | CRM | Description   | Stage                       |
|--------------|----------------|--------|-----|---|-----------------------------|
| Abiotic-NFNE | Zinc           | 790112 |     | Zinc, not alloyed, unwrought, containing by weight <99.99% of zinc  | Primary/Processed/Secondary |
| Abiotic-NFNE | Zinc           | 790120 |     | Zinc alloys, unwrought  | Primary/Processed/Secondary |
| Abiotic-NFNE | Zinc           | 790200 |     | Zinc waste & scrap  | Primary/Processed/Secondary |
| Abiotic-NFNE | Zinc           | 790310 |     | Zinc dust   | Primary/Processed/Secondary |
| Abiotic-NFNE | Zinc           | 790390 |     | Zinc powders & flakes   | Primary/Processed/Secondary |
| Abiotic-NFNE | Zinc           | 790400 |     | Zinc bars, rods, profiles & wire  | Semi-finished               |
| Abiotic-NFNE | Zinc           | 790500 |     | Zinc plates, sheets, strip & foil   | Semi-finished               |
| Abiotic-NFNE | Zirconium      | 261510 |     | Zirconium ores & concentrates   | Primary/Processed/Secondary |
| Abiotic-NFNE | Zirconium      | 810920 |     | Unwrought zirconium; powders  | Primary/Processed/Secondary |
| Abiotic-NFNE | Zirconium      | 810930 |     | Zirconium waste & scrap   | Primary/Processed/Secondary |
| Abiotic-NFNE | Zirconium      | 810990 |     | Zirconium & articles thereof , n.e.s. in 81.09  | Semi-finished               |
| Biotic-NFNE  | Cork           | 450110 |     | Natural cork, raw/simplely prepared   | Primary/Processed/Secondary |
| Biotic-NFNE  | Cork           | 450190 |     | Waste cork; crushed/granulated/ground cork  | Primary/Processed/Secondary |
| Biotic-NFNE  | Cork           | 450200 |     | Natural cork, debarked/roughly squared/in rectangular (incl. square) blocks/plates/sheets/strip (incl. sharp-edged blanks for corks/stoppers) | Primary/Processed/Secondary |
| Biotic-NFNE  | Cotton         | 140420 |     | Cotton linters  | Primary/Processed/Secondary |
| Biotic-NFNE  | Natural gum    | 130120 |     | Gum Arabic  | Primary/Processed/Secondary |
| Biotic-NFNE  | Natural gum    | 130190 |     | Lac; Natural gums (excl. of 1301.20), resins, gum-resins & oleoresins (e.g. balsams)  | Primary/Processed/Secondary |
| Biotic-NFNE  | Natural rubber | 400110 | *   | Natural rubber latex, whether/not pre-vulcanised  | Primary/Processed/Secondary |
| Biotic-NFNE  | Natural rubber | 400121 | *   | Natural rubber (excl. latex), in smoked sheets  | Primary/Processed/Secondary |
| Biotic-NFNE  | Natural rubber | 400122 | *   | Technically spec. natural rubber (TSNR)   | Primary/Processed/Secondary |
| Biotic-NFNE  | Natural rubber | 400129 | *   | Natural rubber other than latex/smoked sheets/technically spec. natural rubber  | Primary/Processed/Secondary |
| Biotic-NFNE  | Natural rubber | 400300 |     | Reclaimed rubber in primary forms/in plates/sheets/strip  | Primary/Processed/Secondary |
| Biotic-NFNE  | Natural rubber | 400400 |     | Waste, parings & scrap, of rubber (excl. hard rubber) & powders & granules obt. therefrom   | Primary/Processed/Secondary |
| Biotic-NFNE  | Natural rubber | 400811 | *   | Plates, sheets & strip, of cellular vulcanised rubber other than hard rubber  | Semi-finished               |
| Biotic-NFNE  | Natural rubber | 400819 | *   | Rods & profile shapes, of cellular vulcanised rubber, other than hard rubber  | Semi-finished               |
| Biotic-NFNE  | Natural rubber | 400821 | *   | Plates, sheets & strip, of non-cellular vulcanised rubber other than hard rubber  | Semi-finished               |
| Biotic-NFNE  | Natural rubber | 400821 | *   | Plates, sheets & strip, of non-cellular vulcanised rubber other than hard rubber  | Semi-finished               |
| Biotic-NFNE  | Natural rubber | 400829 | *   | Rods & profile shapes, of non-cellular vulcanised rubber other than hard rubber   | Semi-finished               |
| Biotic-NFNE  | Natural rubber | 400829 | *   | Rods & profile shapes, of non-cellular vulcanised rubber other than hard rubber   | Semi-finished               |
| Biotic-NFNE  | Paper          | 470100 |     | Mechanical wood pulp  | Primary/Processed/Secondary |

| Category    | Material                | HS2007 | CRM | Description   | Stage                       |
|-------------|-------------------------|--------|-----|---|-----------------------------|
| Biotic-NFNE | Paper                   | 470200 |     | Chemical wood pulp, dissolving grades   | Primary/Processed/Secondary |
| Biotic-NFNE | Paper                   | 470311 |     | Chemical wood pulp, soda/sulphate, other than dissolving grades, unbleached, coniferous   | Primary/Processed/Secondary |
| Biotic-NFNE | Paper                   | 470319 |     | Chemical wood pulp, soda/sulphate, other than dissolving grades, unbleached, non-coniferous   | Primary/Processed/Secondary |
| Biotic-NFNE | Paper                   | 470321 |     | Chemical wood pulp, soda/sulphate, other than dissolving grades, semi-bleached/bleached, coniferous   | Primary/Processed/Secondary |
| Biotic-NFNE | Paper                   | 470329 |     | Chemical wood pulp, soda/sulphate, other than dissolving grades, semi-bleached/bleached, non-coniferous   | Primary/Processed/Secondary |
| Biotic-NFNE | Paper                   | 470411 |     | Chemical wood pulp, sulphite, other than dissolving grades, unbleached, coniferous  | Primary/Processed/Secondary |
| Biotic-NFNE | Paper                   | 470419 |     | Chemical wood pulp, sulphite, other than dissolving grades, unbleached, non-coniferous  | Primary/Processed/Secondary |
| Biotic-NFNE | Paper                   | 470421 |     | Chemical wood pulp, sulphite, other than dissolving grades, semi-bleached/bleached, coniferous  | Primary/Processed/Secondary |
| Biotic-NFNE | Paper                   | 470429 |     | Chemical wood pulp, sulphite, other than dissolving grades, semi-bleached/bleached, non-coniferous  | Primary/Processed/Secondary |
| Biotic-NFNE | Paper                   | 470500 |     | Wood pulp obt. by a combination of mechanical & chemical pulping processes  | Primary/Processed/Secondary |
| Biotic-NFNE | Paper                   | 470610 |     | Cotton linters pulp   | Primary/Processed/Secondary |
| Biotic-NFNE | Paper                   | 470620 |     | Pulps of fibres derived from recovered (waste & scrap) paper/paperboard   | Primary/Processed/Secondary |
| Biotic-NFNE | Paper                   | 470630 |     | Pulps of fibres derived from recovered (waste & scrap) paper/paperboard/of other cellulosic material, of bamboo   | Primary/Processed/Secondary |
| Biotic-NFNE | Paper                   | 470691 |     | 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 | Paper                   | 470692 |     | 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 | Paper                   | 470693 |     | 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 | Paper                   | 470710 |     | Recovered (waste & scrap) unbleached kraft paper/paperboard/corrugated paper/paperboard   | Primary/Processed/Secondary |
| Biotic-NFNE | Paper                   | 470720 |     | Recovered (waste & scrap) paper/paperboard made mainly of bleached chemical pulp, not coloured in the mass  | Primary/Processed/Secondary |
| Biotic-NFNE | Paper                   | 470730 |     | Recovered (waste & scrap) paper/paperboard made mainly of mechanical pulp (e.g., newspapers, journals & similar printed matter)   | Primary/Processed/Secondary |
| Biotic-NFNE | Paper                   | 470790 |     | Recovered (waste & scrap) paper/paperboard (excl. of 4707.10-4707.30), incl. unsorted waste & scrap   | Primary/Processed/Secondary |
| Biotic-NFNE | Plaiting veg. materials | 140110 |     | Bamboos   | Primary/Processed/Secondary |
| Biotic-NFNE | Plaiting veg. materials | 140120 |     | Rattans   | Primary/Processed/Secondary |
| Biotic-NFNE | Plaiting veg. materials | 140190 |     | 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 | Rubber products         | 400130 |     | Balata, gutta-percha, guayule, chicle & similar natural gums  | Primary/Processed/Secondary |
| Biotic-NFNE | Wood                    | 440121 |     | Wood, in chips/particles, coniferous  | Primary/Processed/Secondary |
| Biotic-NFNE | Wood                    | 440122 |     | Wood, in chips/particles, non-coniferous  | Primary/Processed/Secondary |
| Biotic-NFNE | Wood                    | 440310 |     | Wood, in the rough, whether/not stripped of bark/sapwood/roughly squared, treated with paint/stains/creosote/other preservatives  | Primary/Processed/Secondary |

| Category    | Material | HS2007 | CRM | Description  | Stage                       |
|-------------|----------|--------|-----|--|-----------------------------|
| Biotic-NFNE | Wood     | 440320 |     | Wood, in the rough, whether/not stripped of bark/sapwood/roughly squared (excl. of 4403.10), coniferous  | Primary/Processed/Secondary |
| Biotic-NFNE | Wood     | 440341 |     | Dark Red Meranti, Light Red Meranti & Meranti Bakau, in the rough, whether/not stripped of bark/sapwood/roughly squared  | Primary/Processed/Secondary |
| Biotic-NFNE | Wood     | 440349 |     | 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 | Wood     | 440391 |     | Oak (Quercus spp.), in the rough, whether/not stripped of bark/sapwood/roughly squared   | Primary/Processed/Secondary |
| Biotic-NFNE | Wood     | 440392 |     | Beech (Fagus spp.), in the rough, whether/not stripped of bark/sapwood/roughly squared   | Primary/Processed/Secondary |
| Biotic-NFNE | Wood     | 440399 |     | Wood, in the rough (excl. of 4403.10-4403.92), whether/not stripped of bark/sapwood/roughly squared  | Primary/Processed/Secondary |
| Biotic-NFNE | Wood     | 440410 |     | 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 | Wood     | 440420 |     | 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 | Wood     | 440500 |     | Wood wool; wood flour  | Primary/Processed/Secondary |
| Biotic-NFNE | Wood     | 440710 |     | Wood sawn/chipped length wise, sliced/peeled, whether/not planed, sanded/end-jointed, of a thickness >6mm, coniferous  | Primary/Processed/Secondary |
| Biotic-NFNE | Wood     | 440721 |     | 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 | Wood     | 440722 |     | 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 | Wood     | 440725 |     | 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 | Wood     | 440726 |     | 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 | Wood     | 440727 |     | Wood sawn/chipped lengthwise, sliced/peeled, whether/not planed, sanded/end-jointed, of a thickness >6mm, of Sapelli   | Primary/Processed/Secondary |
| Biotic-NFNE | Wood     | 440728 |     | Wood sawn/chipped lengthwise, sliced/peeled, whether/not planed, sanded/end-jointed, of a thickness >6mm, of Iroko   | Primary/Processed/Secondary |
| Biotic-NFNE | Wood     | 440729 |     | 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 | Wood     | 440791 |     | Oak (Quercus spp.), sawn/chipped length wise, sliced/peeled, whether/not planed, sanded/end-jointed, of a thickness >6mm   | Primary/Processed/Secondary |
| Biotic-NFNE | Wood     | 440792 |     | Beech (Fagus spp.), sawn/chipped length wise, sliced/peeled, whether/not planed, sanded/end-jointed, of a thickness >6mm   | Primary/Processed/Secondary |
| Biotic-NFNE | Wood     | 440793 |     | Maple (Acer spp.), sawn/chipped lengthwise, sliced/peeled, whether/not planed, sanded/end-jointed, of a thickness >6mm   | Primary/Processed/Secondary |
| Biotic-NFNE | Wood     | 440794 |     | Cherry (Prunus spp.), sawn/chipped lengthwise, sliced/peeled, whether/not planed, sanded/end-jointed, of a thickness >6mm  | Primary/Processed/Secondary |
| Biotic-NFNE | Wood     | 440795 |     | Ash(Fraxinus spp.), sawn/chipped lengthwise, sliced/peeled, whether/not planed, sanded/end-jointed, of a thickness >6mm  | Primary/Processed/Secondary |



| Category    | Material                | HS2007 | CRM | Description   | Stage                       |
|-------------|-------------------------|--------|-----|---|-----------------------------|
| Biotic-NFNE | Wood                    | 440799 |     | 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      | Carbon                  | 280300 |     | Carbon (carbon blacks & other forms of carbon, n.e.s.)  | Primary/Processed/Secondary |
| ENERGY      | Coal                    | 270111 |     | Anthracite coal, whether/not pulverised but not agglomerated  | Primary/Processed/Secondary |
| ENERGY      | Coal                    | 270119 |     | Coal other than anthracite & bituminous, whether/not pulverised but not agglomerated  | Primary/Processed/Secondary |
| ENERGY      | Coal                    | 270120 |     | Briquettes, ovoids & similar solid fuels manufactured from coal   | Primary/Processed/Secondary |
| ENERGY      | Coal                    | 270210 |     | Lignite, whether/not pulverised but not agglomerated (excl. jet)  | Primary/Processed/Secondary |
| ENERGY      | Coal                    | 270220 |     | Agglomerated lignite (excl. jet)  | Primary/Processed/Secondary |
| ENERGY      | Coal                    | 270300 |     | Peat (incl. peat litter), whether/not agglomerated  | Primary/Processed/Secondary |
| ENERGY      | Coke from coal          | 270400 |     | Coke & semi-coke of coal/lignite/peat, whether/not agglomerated; retort carbon  | Primary/Processed/Secondary |
| ENERGY      | Fuel wood               | 440110 |     | Fuel wood, in logs/billets/twigs/faggots/similar forms  | Primary/Processed/Secondary |
| ENERGY      | Gas                     | 270500 |     | Coal gas, water gas, producer gas & similar gases (excl. petroleum gases & other gaseous hydrocarbons)  | Primary/Processed/Secondary |
| ENERGY      | Gas                     | 271111 |     | Natural gas, liquefied  | Primary/Processed/Secondary |
| ENERGY      | Gas                     | 271112 |     | Propane, liquefied  | Primary/Processed/Secondary |
| ENERGY      | Gas                     | 271113 |     | Butanes, liquefied  | Primary/Processed/Secondary |
| ENERGY      | Gas                     | 271119 |     | Petroleum gases other than natural gas/propane/butanes/ethylene, propylene, butylene & butadiene, liquefied   | Primary/Processed/Secondary |
| ENERGY      | Gas                     | 271121 |     | Natural gas, in gaseous state   | Primary/Processed/Secondary |
| ENERGY      | Gas                     | 271129 |     | Petroleum gases & gaseous hydrocarbons, other than natural gas, in gaseous state  | Primary/Processed/Secondary |
| ENERGY      | Oils                    | 270799 |     | 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      | Oils                    | 270900 |     | Petroleum oils & oils obt. from bituminous mins., crude   | Primary/Processed/Secondary |
| ENERGY      | Oils                    | 271011 |     | Light petroleum oils & preparations   | Primary/Processed/Secondary |
| ENERGY      | Oils                    | 271012 |     | Light oils and preparations   | Primary/Processed/Secondary |
| ENERGY      | Oils                    | 271019 |     | Petroleum oils & oils obtained from bituminous minerals (other than crude) & preparations not elsewhere specified/incl., 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      | Petroleum coke          | 271311 |     | Petroleum coke, not calcined  | Primary/Processed/Secondary |
| ENERGY      | Petroleum coke          | 271312 |     | Petroleum coke, calcined  | Primary/Processed/Secondary |
| ENERGY      | Petroleum oils residues | 271390 |     | Residues of petroleum oils/oils obt. from bituminous mins., other than petroleum coke/petroleum bitumen   | Primary/Processed/Secondary |
| ENERGY      | Petroleum products      | 270600 |     | Tar distilled from coal/lignite/peat, & other mineral tars, whether/not dehydrated/partially distilled, incl. reconstituted tars  | Primary/Processed/Secondary |
| ENERGY      | Petroleum products      | 270710 |     | Benzol (benzene)  | Primary/Processed/Secondary |

| Category | Material           | HS2007 | CRM | Description   | Stage                       |
|----------|--------------------|--------|-----|---|-----------------------------|
| ENERGY   | Petroleum products | 270720 |     | Toluol (toluene)  | Primary/Processed/Secondary |
| ENERGY   | Petroleum products | 270730 |     | Xylol (xylenes)   | Primary/Processed/Secondary |
| ENERGY   | Petroleum products | 270740 |     | Naphthalene   | Primary/Processed/Secondary |
| ENERGY   | Petroleum products | 270750 |     | 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   | Petroleum products | 270791 |     | Creosote oils   | Primary/Processed/Secondary |
| ENERGY   | Petroleum products | 270810 |     | Pitch, obt. from coal tar/other mineral tars  | Primary/Processed/Secondary |
| ENERGY   | Petroleum products | 270820 |     | Pitch coke, obt. from coal tar/other mineral tars   | Primary/Processed/Secondary |
| ENERGY   | Petroleum products | 271114 |     | Ethylene, propylene, butylene & butadiene, liquefied  | Primary/Processed/Secondary |
| ENERGY   | Petroleum products | 271210 |     | Petroleum jelly   | Primary/Processed/Secondary |
| ENERGY   | Petroleum products | 271220 |     | Paraffin wax containing by weight <0.75% of oil   | Primary/Processed/Secondary |
| ENERGY   | Petroleum products | 271290 |     | 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   | Petroleum products | 271320 |     | Petroleum bitumen   | Primary/Processed/Secondary |
| ENERGY   | Petroleum products | 271410 |     | Bituminous/oil shale & tar sands  | Primary/Processed/Secondary |
| ENERGY   | Petroleum products | 271490 |     | Bitumen & asphalt, natural; asphaltites & asphaltic rocks   | Primary/Processed/Secondary |
| ENERGY   | Petroleum products | 271500 |     | 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   | Thorium            | 261220 |     | Thorium ores & concentrates   | Primary/Processed/Secondary |
| ENERGY   | Uranium            | 261210 |     | Uranium ores & concentrates   | Primary/Processed/Secondary |
| ENERGY   | Uranium            | 284410 |     | Natural uranium & its comps.; alloys, dispersions (incl. cermet), ceramic products & mixtures containing natural uranium/natural uranium comps.   | Primary/Processed/Secondary |
| ENERGY   | Uranium            | 284420 |     | Uranium enriched in U 235 & its compounds; plutonium & its compounds; alloys, dispersions (including cermet), ceramic products & mixtures containing uranium enriched in U 235, plutonium/compounds of these products | Primary/Processed/Secondary |
| ENERGY   | Waste oils         | 271091 |     | Waste oils containing polychlorinated biphenyls (PCBs)/polychlorinated terphenyls (PCTs)/polybrominated biphenyls (PBBs)  | Primary/Processed/Secondary |
| ENERGY   | Waste oils         | 271099 |     | Waste oils other than those containing polychlorinated biphenyls (PCBs)/polychlorinated terphenyls (PCTs)/polybrominated biphenyls (PBBs)   | Primary/Processed/Secondary |
| ENERGY   | Wood charcoal      | 440210 |     | Wood charcoal of bamboo(including shell/nut charcoal), whether/not agglomerated.  | Primary/Processed/Secondary |
| ENERGY   | Wood charcoal      | 440290 |     | Wood charcoal (including shell/nut charcoal, excl. of 440210), whether/not agglomerated.  | Primary/Processed/Secondary |
| ENERGY   | Wood waste&scrap   | 440130 |     | Sawdust & wood waste & scrap, whether/not agglomerated in logs/briquettes/pellets/similar forms   | Primary/Processed/Secondary |

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