



Strategic Dialogue on Sustainable Raw Materials for Europe (STRADE)



The EU raw material engagement with Industrial countries

Australia, Canada, China, Japan, Russia and the United States

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Executive summary

This report finds that the mineral raw material engagement between the EU and industrial countries forms a small part of the wider engagement between these economic super powers. The trade flows between the industrial countries and the EU indicates that trade of processed minerals, relative to mineral ores and concentrates, is of much higher value and that the EU is also a source of minerals for partner industrialised countries.

The report documents the current areas of bilateral economic and trade engagement between the EU and a set of industrial country partners - Australia, Canada, China, Japan, the USA and the Russian Federation.

For the **EU-Australia engagement**, this report finds that it is of greater interest to Australia to diversify its raw material export markets away from China, relative to the EU need to diversify its source of imports. The negotiations on the EU-Australia trade agreement are in their infancy, with a significant proportion of the initial document relating to raw materials and energy. The inclusion of EIA standards is a promising indication of harmonising standards between the two regions. Finally, direct Australian investment in the EU mining sector may appear to be limited but there is strong exploration interest from Australian based companies in the EU.

The **EU-Canada engagement** sees the EU's share of mineral imports from Canada mostly in the ores and concentrates category; Canada in return imports refined metal from the EU. There is a cordial economic relationship between the two regions. The ratification of CETA by all Member States, may bring unintended consequences to the mineral regimes of certain Member States. Under CETA rules, where discretionary government decision making has occurred, CETA provides Canadian companies the right to challenge such licensing decisions. While there are some safeguards in place within the treaty, it remains to be seen whether any Canadian mining company will resort to using this mechanism.

The **EU-China engagement** is driven by wider economic engagements and raw materials tends to be a small part of this engagement. China is both a competitor and a partner to the EU in the raw materials sector. This report recommends EU engagement with China on the three issues: Development and implementation of supply chain due diligence with a focus on conflict minerals; Support Chinese domestic mining operations to meet international best practice; Assist Chinese international mining operations to meet international best practice.

The **EU-Japan engagement** is found to be based on wider industrial and economic platforms, with very limited attention given to raw materials themselves. The trade profile also indicates limited raw-material engagement between the two regions. The report finds no reason or need to develop the raw materials engagement with Japan further than their current status. Cooperation on innovation and green technology should continue as is on the bi-annual EU-USA-Japan Trilateral Conference on Raw Materials.

The **EU-USA engagement**, under the current USA administration, has led to (global) economic and trade instability, as well as between the two regions. This has created wider implications for the EU's access to raw materials from third countries. Bi-lateral minerals and ores trade has a low priority with the bi-lateral engagement, and the larger economic and geo-political issues subsume the raw materials engagement.



The **EU-Russian** raw materials engagement is significant in terms of raw material flows, particularly when compared to some of the other industrial countries. Preliminary findings suggest that the impact on Russia as an EU source of raw materials could be hampered in the future, due to third party sanctions (such as those by USA). Further complications from Russian actions in international politics are also a source of risk for supply disruptions.

In summary, the report finds that the direct raw material flows between Australia, Canada, Japan and the USA are well established and in little need of engagement beyond 'care and maintenance' that is being addressed by current and proposed trade and investment agreements. EU engagement with China continues to evolve and the EU engagement with Russia is significant and requires a more detailed analysis than this project can offer.

List of Abbreviations

ASEAN	Association of Southeast Asian Nations
CETA	Comprehensive Economic and Trade Agreement
CIEL	Centre of International Environmental Law
CSR	Corporate Social Responsibility
EIA	Environmental Impact Assessment
EPA	Economic Partnership Agreement
EU	European Union
FTA	Free Trade Agreement
G4	Group of 4 – Australia, Canada, Japan & USA
GDP	Gross Domestic Product
ILO	International Labour Organisation
Mn.	Million
NATO	North Atlantic Treaty Organisation
NEEI	Non-Energy Extractive Industry
OECD	Organisation for Economic Cooperation and Development
R&D	Research and Development
RMI	Raw Materials Initiative
SSA	Sub Saharan Africa
TSX	Toronto Stock Exchange
USA	United States of America

1. Introduction

The European Union (EU) is a major global consumer of base and non-ferrous metals, (second behind China for copper and steel). While the EU28 are no longer major global producers of minerals, their production of semi-manufactured and refined metallic products remains significant within global production. For example, four EU Member States (Belgium, Spain, Poland and German) accounted for 8.5% of global copper production in 2016¹. The EU is the second largest global producer of steel, after China. Nickel as an input, is mostly in the stainless-steel sector, where the EU accounts for nearly 35% of global stainless-steel production². Belgium and Italy are in the top five lead metal producers and in the top ten zinc metal producers in the world³.

The EU's metallic mineral use is supported by scrap use – often the largest source of raw materials – its own mine production, which is modest for most metals, and by the direct import of concentrates from resource-rich developing and emerging countries (such as South Africa and Brazil) and from industrial countries such as Canada and the United States of America. A third source of imports is that of semi-refined metallic minerals from other countries (such as China and Japan) that in turn import virgin raw materials from other developing and emerging countries. See Box 1 for the EU sources for copper raw materials supply.

Box 1: EU Copper Raw Materials Supply Sources

EU Annual Demand = 4 million tonnes
 20% - Mining operations in the EU
 43% - Domestic & industrial scrap within the EU
 25% - Imports of ores & concentrates
 12% - Metal net imports from other regions

Source: European Copper Institute

In terms of international sources of supply, the imports of raw materials come from different regions; developing, emerging and industrial countries. In 2017, the EU28 imported (by value) 23% of its industrial minerals, 25% of its metallic minerals and 19% of their semi-refined metallic minerals imports from the advanced countries (G4 - Australia, Canada, Japan and the USA) and China.

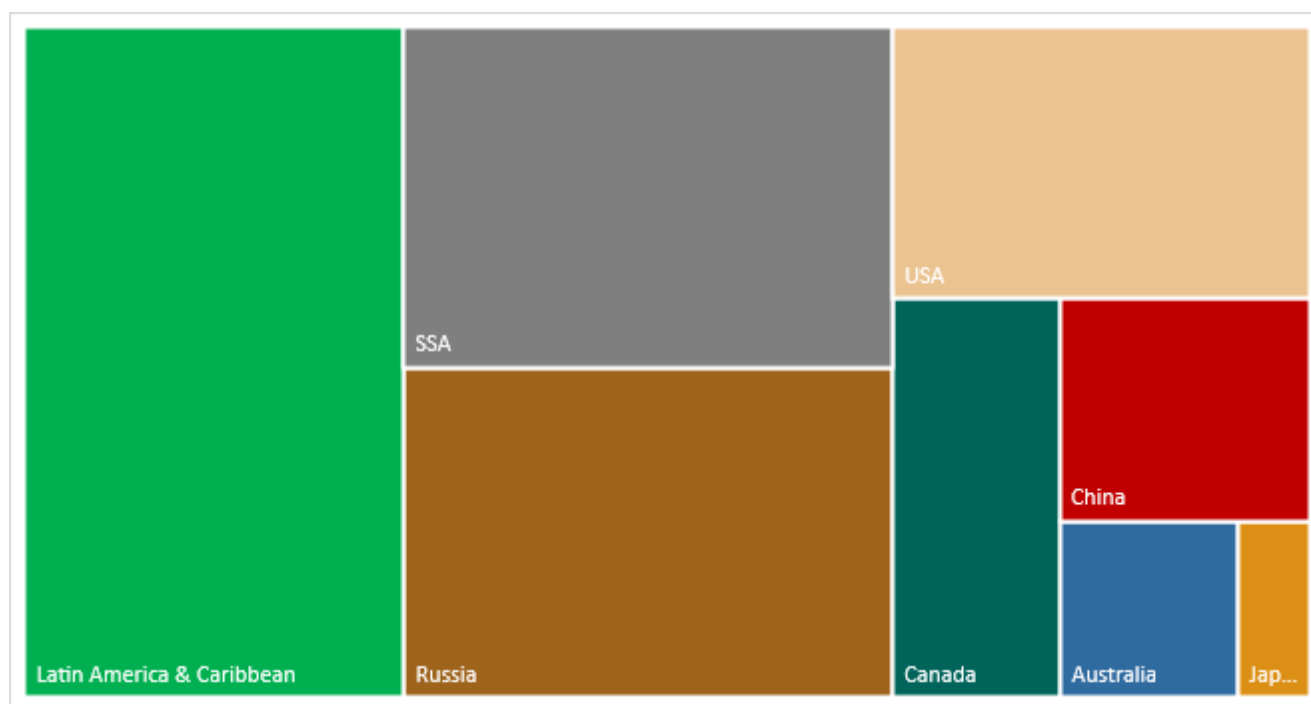
In turn, 29% of the EU28 exports of industrial minerals, 42% of metallic minerals and 35% of semi-refined metallic minerals exports were destined for the G4 and China. These raw material imports support a large metal refining and production industry in the EU; supplying both the EU internal markets as well as exports of metals and manufactured goods.

The Latin American region is a major source of raw materials for the EU, followed by Sub Saharan Africa. In terms of countries, Russia is a major source of minerals, followed by the USA. China is a significant source for industrial minerals and semi-refined products, while Canada is significant only for metallic minerals. Imports from Australia are insignificant as are those from Japan. Therefore, in terms of sourcing of mineral supply, the economic significance of the G4 to the EU is limited. For bulk materials, shipping costs can often prove to be an inhibiting factor; for example iron ore shipments from Latin America to the EU are more cost efficient than from Australia, because of shipping costs.

¹ <http://www.metalbulletin.com/events/download.ashx/document/speaker/8450/a0ID000000X0j5aMAB/Presentation>

² <https://www.oma.on.ca/en/multimedialibrary/resources/NickelintheEuropeanUnionPDF.pdf>

³ <file:///Users/masumafarooki/Downloads/ILZSG%20Market%20Outlook%20April%202018.pdf>

Figure 1 Source of EU imports of minerals & metals by value, by major partners (2017)

**does not reflect total EU imports of minerals & metals; rest of the world & intra-EU trade is not included
Source: MineHutte Consulting calculations based on WITS Trade Data, accessed August 2018*

The full list of minerals and metals covered under this report is provided in Annex 1. Steel statics are not included in the mineral trade and production data in this report. The dynamics and size of the steel sector are different from those of most other base and industrial minerals, and would require a different discussion. Within STRADE limitations this was not possible; therefore steel is not discussed in this report.

1.1 Global Economic and Political Engagement

While this report focuses on mineral ores and concentrates and refers to refined metals where required, it is important to understand the context of the EU's engagement with the G4 and China, within the larger global economy.

As advanced and industrialised countries, in 2017, the EU, G4 and China collectively account for 77% of global exports and 70% of global GDP⁴. The USA remains the largest single economy accounting for 24% of the global GDP, the EU collectively accounts for 21%, followed by China at 15%. Japan (6%), Australia (2%) and Canada (2%) remain significant players in the global economy.

According to the World Economic Outlook⁵, growth projections for Japan, the euro area and the UK have been revised downwards for 2018 and 2019. Rising oil prices and trade tensions will continue to create uneven prospects for these economies over the next two years at least.

As 'economic superpowers', the engagement between these group of countries is based on balances in financial flows as well as the movement of physical goods and services. They are also the major markets for

⁴ World Development Indicators accessed July 2018.

⁵ 2 July 2018 update

each other's manufactured and agricultural products. Firms headquartered in one country will have regional offices and production sites in others. Global foreign investment flows and transactions are largely between this group of countries.

Given the significance of these larger economic and trade ties, the physical flows of minerals are less significant on their own, relative to engagements on other issues (for example on automobiles between the EU and Japan, on agricultural goods between the EU and Australia, on forestry products between the EU and Canada). However, since none of the countries/regions has vertically integrated supply chains and because there is considerable specialization for instance in steel production, raw materials trade is more important and more sensitive to disturbances than would be expected at first glance. The raw materials engagement is therefore part of a larger trade and investment agenda.

This economic and financial inter-dependency suggests that the economic 'collective good' for the group is important, and the recent spate of tariff wars, initiated by the USA, has put this collective good at risk. At a time where the growth rate in the euro area economies is projected to decline from 2.4% in 2017 to 2.2% in 2018 and 1.9% in 2019⁶, with the challenges faced internally by the EU (Brexit, immigration, increased emergence of far-right political parties and nationalism) the issue of 'openness vs. nationalism' has become central to all economies. These concerns are not unique to the EU, many are shared with Australia, Canada, China and Japan and to some extent the USA. However, the political discourse in addressing these issues has been different in each region.

Previous STRADE reports focused on the raw material engagement between the EU and resource rich developing countries ([Report 02/2017](#)), as well as the engagements between the non-EU industrial countries and resource rich developing countries ([Report 01/2018](#)). This report addresses the third side of the triangle; EU and industrial country engagements. The major difference between EU engagement with resource-rich developing countries and the industrial countries is the balance of economic power – illustrated by the level of trade and investment with the latter regions as compared to the former. The EU, G4 and China act as both source of raw materials as well as export market destinations.

The report looks at three sets of factors; first the level and nature of mineral flows between the EU and Australia, Canada, Japan and the USA (G4), China and the Russian Federation⁷. Second, it considers the rules and regulations governing these flows, including the possible impacts of recent trade agreements, as well as the wider implications of recent trade tariffs on steel⁸, imposed by the USA on Canada, China and the EU.

In contrast to other STRADE publications, which look at EU's engagement with resource-rich developing and emerging countries, this report focuses more on the investment and trade dynamics of the engagement, rather than sustainability issues. The G4, as is shown in later chapters, share (mostly) the common principles and international best practice standards for mining activity and are participants on a number of international platforms where these issues are addressed. The report therefore focuses on the issues faced in bi-lateral engagements rather than multilateral relations⁹.

⁶ IMF World Economic Outlook (2 July 2018)

⁷ During engagements with EU stakeholders, Russia was mentioned as an important raw material exporter to the EU. While Russia was not included in the original terms of reference for this project, this report does briefly address the EU-Russia raw material engagement.

⁸ STRADE focuses on raw mineral

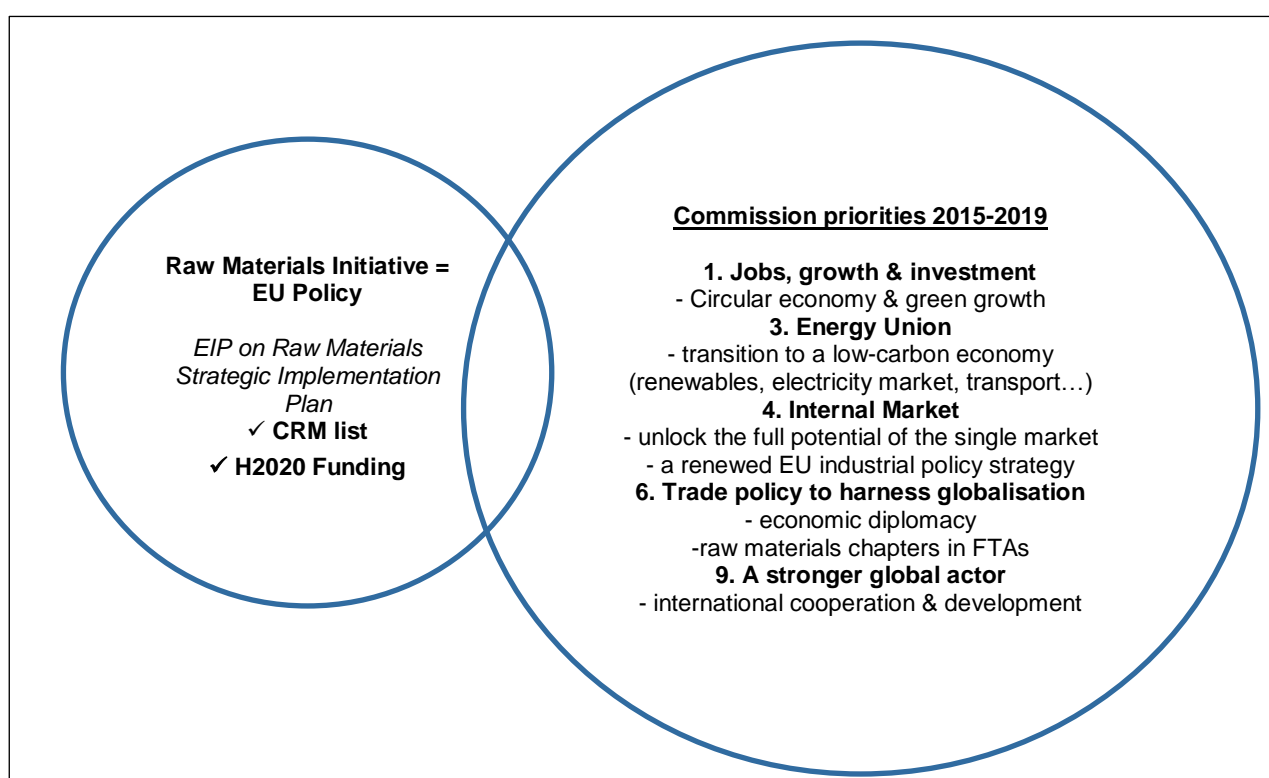
⁹ Issues relating to multilateral relations will be covered in forthcoming STRADE policy brief on new paths of raw materials cooperation.

1.2 RMI and European Priorities

The EU's raw material policy outlined by the [Raw Materials Initiative](#) (RMI) was set out in 2008, largely as a response to the extraordinary increase in global metal prices in the 2003-2008 period. The initiative focused on three pillars to secure raw materials supply – (i) fair and sustainable supply of raw materials from global markets; (ii) Sustainable supply of raw materials from within the EU and; (iii) Resource efficiency and supply of secondary raw materials through recycling.

As the concepts of fair and sustainability have further developed in the mining sector, and as the EU's engagement with resource-rich third countries has also evolved, the RMI is evolving. Its revision is expected in the near term and its alignment strengthened with the Commission's priorities for 2015-2019. The latter are much wider and encapsulate industrial, employment and trade policies as well as addressing a larger number of sectors.

Figure 2 EU Raw materials strategy in the context of wider EC priorities



Source: Milan Grohol (DG Grow) presentation at Cluster event for ongoing Horizon 2020 funded projects – EASME (5, June 2018, Brussels)

The future engagement on raw materials is expected to take part of its directions from the Industrial Policy Strategy (see Figure 2). Access to secure and sustainable raw materials supply is linked to the expected trajectory of the EU economies over the next few decades. This includes raw materials that will support a low-carbon economy and domestic raw material production needs to be aligned with EU industrial value

chains¹⁰. For example, the EU Battery Alliance will have demands for minerals on the EU's Critical Raw Materials list, which in turn can influence the priority of EU's external and internal raw materials engagement focusing on sources of supply for these materials. Access to other materials, such as copper and nickel, which are not listed on the EU's Critical Raw Material's list but will be significant input into green technologies (an electric car requires three times the copper as a normal car) also needs to be assured.

Secondary to the direct contribution to the industrial strategy, raw materials engagements (internal & external) must also consider job creation, with a particular emphasis on creating the skill and the knowledge within the younger generation to support the sector in the future. While the employment directly generated by the EU mining sector may be relatively low to other industries, it leads to secondary employment in ancillary industries (such as equipment and services), and external engagements can create investment opportunities abroad and hence support employment in home countries.

While this report focuses on the mineral flows and engagements between the EU, G4 and China, it is important to remember these engagements are part of the wider economic changes and pressures facing the EU, G4 and China. Also, there are many multilateral forums for raw material engagement where the EU and industrial countries will work together with developing and emerging countries. This report only focuses on the bi-lateral engagement, while multilateral cooperation is discussed in the final report for the STRADE project.

→ STRADE finds that the raw material engagement between the EU and industrial countries forms a small part of their larger economic and trade relations and therefore must be considered as part of the wider economic engagement between these more economically balanced countries.

¹⁰ EC – DG Grow presentation at Cluster event for ongoing Horizon 2020 funded projects – EASME (5, June 2018, Brussels)

2. EU Engagement with Australia

There are several on-going dialogues between the EU and Australia, which cover diverse issues such as foreign policy, security, counter-terrorism efforts, migration and the environment. Australia's engagement with the EU is driven by three major concerns; Firstly, is the unpredictability brought to the global economy by the current USA administration. Second is to avoid over-dependence on the Chinese economy – nearly 70% of Australian exports of metallic minerals concentrates and 71% of industrial minerals went to China in 2017. A third, non-economic factor is Australia's defence ties with NATO.

In 2017, Australia accounted for 0.7% of EU imports and 1.8% of EU exports, with an EU trade surplus of €21.6 billion. Australian exports to the EU are mainly in agricultural products (notably wine), and the country is the EU's 20th largest trading partner. The EU is Australia's second largest trade partner, the third largest export destination and the largest source of foreign investment in 2017. Therefore, the trade and investment ties between the two regions are of great significance to both Australia and the EU.

2.1 Mineral Trade Profile

In 2017, the EU exports of minerals and metals to Australia were valued at US\$292 million, accounting for 0.2% of the EU's total exports in this category. The share of Australia in the EU's exports of ores and concentrates, refined metals and industrial minerals is almost insignificant¹¹. Australia's share in the EU's imports of minerals and metals is 1% (US\$2 billion). Australian ores and concentrates account for 1.5% of all EU imports in this category, while the share of Australia in refined metals and for industrial metals is less than 1% for each of these categories.

Top Mineral Products (EU Trade): Refined metals (aluminium, copper and silver/platinum) account for the top EU products exported to Australia, while copper and zinc ores & concentrates account for two of the top five products EU imports from Australia. The smaller metals (molybdenum, niobium, tantalum, titanium and zirconium) together account for US\$217 million in EU imports from Australia, in 2017.

Table 1 Australia's share in EU mineral trade (2017)

Value & Share of category	EU Exports to Australia		EU Imports from Australia	
Category	US\$Mn.	Share in category	US\$Mn.	Share in category
Ores & concentrates	51	0.1%	1,002	1.5%
Metals (refined)	223	0.2%	880	0.8%
Industrial Minerals	17	0.2%	86	0.8%
Total Minerals & Metals	292	0.2%	1,968	1.0%
Top 5 EU exports to Australia		Top 5 EU Imports from Australia		
Product	Value (US\$Mn.)	Product	Value (US\$Mn)	
Aluminium (refined)	73	Lead (refined)	456	
Copper (refined)	61	Copper ores/concentrates	292	
Monument/building stone	41	Zinc ores/concentrates	255	
Silver/platinum etc (refined)	34	Silver/platinum etc (refined)	221	
Non-ferrous metal scrap/waste	19	Moly/Niobium//tantalum/titanium/zirconium ore/con	217	

Source: MineHutte Consulting, trade data calculations based on WITS Trade Data, accessed August 2018

¹¹ Please see Annex 1 for details of minerals & metals covered.

The EU applies a 0% tariff on the imports of ores and concentrates from Australia. For semi-refined and refined metals, the tariff rate varies. For example, for refined lead the tariff rate is 2.50%. For copper mattes (requiring simple refinement) the tariff rate is 0%, however for copper wire the tariff rate increases to 4.7%.

Australian exports of minerals and metals to the EU were reported at US\$1.3 billion, in 2017¹². 8.8% of Australian global exports of refined metals and 4.4% of its industrial mineral global exports were destined for the EU. 2% of all Australian imports of minerals and metals originated from the EU Member States, with 14% of its refined metal imports and 7% of its industrial mineral imports were from the EU. The significance of the EU as a trade partner for ores and concentrates remains limited for Australia.

Top Mineral Products (Australian Trade). Refined lead was the largest Australian export to the EU, followed by zinc ores and concentrates, refined silver/platinum and ores and concentrate of other precious metals. Exports of non-ferrous metal scrap and waste also make it into the top 5 product category in 2017. Australia mainly imported refined metals from the EU (Aluminium, copper, silver/platinum and nickel).

Table 2 EU's share in Australia's mineral trade (2017)

Category	Australia's exports to EU		Australia's imports from EU	
	US\$Mn.	Share in category	US\$Mn.	Share in category
Ores & concentrates	584	0.9%	35	4%
Metals (refined)	668	8.8%	273	14%
Industrial Minerals	53	4.4%	18	7%
Total Minerals & Metals	1,305	1.8%	1,305	2%

Top 5 Australia exports to EU		Top 5 Australia imports from EU	
Product	Value (US\$Mn.)	Product	Value (US\$Mn.)
Lead (refined)	384	Aluminium (refined)	135
Zinc ores/concentrates	242	Copper (refined)	67
Silver/platinum (refined)	228	Monument/building stone	46
Precious metal ore/conc.	185	Silver/platinum (refined)	26
Base metal scrap/waste	56	Nickel (refined)	18

Source: MineHuthe Consulting, trade data calculations based on WITS Trade Data, accessed August 2018

Australian Mining Companies. Australia is host to some of the largest mining companies in the world (Figure 3), operating in Australia and abroad, with a considerable presence in Africa. Australian companies include some of the largest mining companies in the world; BHP, Rio Tinto (dual listed in the UK and Australia), Newcrest Mining and Fortescue Metals. The total revenue for Australian mining companies (listed) is near US\$178 billion in 2017. US\$49 million (less than 0.3%) of this revenue was generated by Australian operations in the EU member states.

Within the EU, Australian headquartered companies can be mainly found in the gold and silver mineral sector, with most of their projects still at different stages of exploration. Australian projects (operating) were identified in Finland, France, Italy, Slovakia, Sweden and the UK (See Figure 3).

¹² While the reported value of EU imports from Australia and Australian exports to the EU should mirror each other, differences arise for a number of reasons. The first can be attributed to the recording of value; imports include a CIF (Cost Insurance Freight) cost, but exports reflect a FOB (Free on Board) value. Other differences may arise due to reporting practices.

Figure 3 Australian mining operations; global & EU (2017)

Australia's Global Mineral Projects & Operations





Mines & advanced projects		
Country	Company	Primary Commodity
Finland	Dragon Mining	Gold
France	Apollo Minerals	Tungsten
Italy	Alta Zinc	lead/Zinc
Slovakia	European Cobalt	Multiple
Sweden	Berkut Minerals	Copper/cobalt
	Dragon Mining	Gold
United Kingdom	Scotgold Resources	Gold
	Wolf Minerals	Tin & Tungsten

Source: MineHutte Consulting, Project/Company information based on Mining Intelligence data

2.2 Bi-lateral Engagements

2.2.1 EU-Australia Free Trade Agreement

In June 2018, the EU officially launched negotiations with the Australian government for a [Free Trade Agreement](#). While still at a very early stage, the negotiations are expected to be consistent with the objectives of the Treaty on European Union, that addresses access to raw materials for the Member States. Metals has been identified as one of the sectors likely to gain from these negotiations¹³.

The proposal specific to the FTA on Energy and Raw Materials¹⁴ includes a number of principles that will govern both the trade relations in raw materials between the two countries as well as aspects of mineral production. Here we outline the proposals relevant to mineral production.

Price. Monopoly pricing will not be permitted and the principle of non-discriminatory pricing of minerals for imports and exports between the two regions will be adopted. This is standard text for any free trade agreement. When the FTA is implemented, each country will use the lowest price it charges any customer, i.e. in addition to tariff barriers being removed, the EU buyers will not face higher prices than other countries. The agreement would therefore guarantee EU and Australian consumers of the most competitive market price for mineral and metallic imports.

Environmental Impact Assessment. It is required of both parties to ensure an Environmental Impact Assessment (EIA) for a raw materials project is conducted, before the authorisation to start such a project is granted. [Article X.8](#) further specifies the issues that need to be addressed within the EIA as significant impacts of the project on:

- Population and human health
- Biodiversity
- Land, soil, water, air and climate
- Cultural heritage and landscape, including the expected effects from major accidents.

Community and stakeholder consultations, including comments on the EIA are required. These documents are to be made available to the public.

Cooperation on Standards, Technical Regulations and Conformity Assessments. The proposed treaty includes cooperation between the regulators/standardisation authorities in both regions on energy efficiency and sustainable renewable energy, with the aim of convergence of standards in these fields. Development of

¹³ http://trade.ec.europa.eu/doclib/docs/2018/june/tradoc_156941.pdf

¹⁴ http://trade.ec.europa.eu/doclib/docs/2018/july/tradoc_157188.pdf

new common standards, joint research to facilitate tests and measurements of efficiency and appropriate common labelling of equipment is also proposed.

Apart from the emphasis on energy efficiency and renewable energy throughout the document, the proposal also encourages research and development and innovation in the raw materials sectors.

Cooperation in third countries. The proposal, apart from EU-Australia cooperation, also looks at promoting joint efforts in addressing issues in third countries that can support the reduction or elimination of trade and investment distorting measures in third countries affecting energy and raw materials ([Article X.17](#)). This includes efforts on the following:

- Coordination at international forums where trade & investment issues related to the raw materials sector arise
- Promote CSR activities, in line with international best practice guidelines such as the OECD Guidelines for Multinational Enterprises and Due Diligence Guidelines.
- Promote responsible sourcing and mining globally, with the aim of maximising the contribution from the mining sector to third countries, to fulfil the Sustainable Development Goals.
- Promote international high standards of safety and environment protection for offshore oil, gas and mining operations.

While the FTA negotiations are at a very early stage, two of the four issues highlighted above are as expected in a trade negotiation. The first deals with non-discriminatory pricing, which is the main aim of an FTA, including the removal of any tariff barriers on mineral and metal. The second is the emphasis on cooperation and coordination on energy efficiency and sustainable renewable energy production. Again, as a growing area of common interest and the country/region's commitments to the Paris Accord, inclusion of this clause is to be expected.

The other two issues are of more interest to STRADE, as they highlight the objective of achieving 'global' international best practices by both regions. First, is the commitment to have convergence on Environmental Impact Assessments. Specifying this in regulations governing trade, both parties are attempting to ensure similar best practice standards are being followed.

At this time, both regions have fairly stringent EIA regulations in place¹⁵. The aim of including these in the proposed treaty would be to acknowledge the common approach to environmental impact and mitigation efforts. More likely is the continued efforts by the EU to link all its upcoming trade agreements with environmental issues¹⁶.

The second is the emphasis on joint cooperation and promotion in third countries. These are likely to be achieved through two means; direct ODA support to third countries and through the operations of EU/Australian based private sector firms (exploration and mining companies etc) in third countries.

The mention of the OECD guidelines within the draft documents, also points to what international best practice standards are to be considered. There is formal acknowledgment of supporting responsible sourcing and mining practices in third countries.

¹⁵ In Australia, the mining sector is largely governed by the legislation and regulations of each state. Domestic production and extraction activity are subject to stringent Environmental Regulations and indigenous peoples' rights. In addition, companies registered on the Australian Stock Exchange are required to include reporting based on [Corporate Governance Principles and Regulations](#) and recommendations issued by the ASX governance council. Further, the large number of Majors and Medium mining companies involved in production activity will also observe voluntary codes of conduct and best practices. Australia has laws that specifically address its aboriginal population where mining activity and land access are concerned.

¹⁶ http://governanceinnovation.org/wordpress/wp-content/uploads/2015/11/PB_Postnikov_final.pdf

While both the EU and Australia individually support such activities in third countries, the inclusion in the FTA suggests the formalisation of these principles as common goals. While both regions have informally worked together in Asia and Africa (through joint funding for government support projects), should this Article form part of the final agreement, the official acknowledgment of the principles will lead to more focused financial and other assistance by the two regions in the future.

2.2.2 Other bi-lateral platforms

As Table 1 indicated, the level of trade between the EU and Australia in the minerals sector is fairly limited. At this time, STRADE was unable to identify an active EU-Australia platform on raw materials. The [EU-Australian Partnership Framework](#) (2008) facilitates trade in industrial products and apart from collaboration to promote and protect human rights, makes no particular mention of the mineral sector.

The [EU-Australia Leadership Forum](#) launched in 2016, is a wider diplomatic platform to encourage greater cooperation between the EU and Australia. While the past events covered by the forum (senior leaders, emerging leaders and sector policy workshops) have not addressed the raw materials sector, it may be worth considering at future events. In both the EU and Australia, there is considerable controversy around migration. In both regions, some have argued that to provide economic opportunities within developing countries could be a means of addressing this issue. Employment opportunities through investment in the raw materials sector are an area of mutual interest that could be discussed at this forum.

The low trade volume between EU and Australia is hampered by the geographical distance between the two regions and this should not be seen as an indication of low mutual benefits from raw materials engagement. With Australian companies operating in both exploration and production in a number of global regions, they contribute to the global supply of minerals that indirectly find their way to the EU. Australia is a strong potential partner for the EU, through its operations in third countries.

→ STRADE finds that while the trade of raw materials is limited between the EU and Australia, it appears to be of greater interest to Australia to diversify its export markets away from China, relative to the EU to diversify its source of imports. The negotiations on the EU-Australia trade agreement are in their infancy, but the inclusion of EIA standards is a promising indication of harmonising standards between the two regions. Finally, while direct Australian investment in the EU mining sector appears to be limited in the past, it has shown signs of increased interest in recent years.

3. EU Engagement with Canada

The EU-Canadian partnership can be traced back to 1976, when the European Economic Community and Canada concluded a Framework Commercial and Economic Agreement, with the EU opening its third overseas diplomatic mission in Ottawa. Common democratic values, responsibility in defending human rights, a strong commitment to multilateralism and rules-based international order and free trade are some of the factors behind the EU-Canada relationship. The [Annual Report 2018](#) on the state of the EU-Canada relationship offers more details on specific and general issues that the two regions are collectively addressing.

In 2017, Canada accounted for 1.7% of EU imports and 2.0% of EU exports, with the EU having a trade surplus of €6.3 billion. Nearly 45% of Canadian exports to the EU, in 2017, were of manufactured products, followed by ores and metals (19%) and then agricultural goods (16%). The largest Canadian imports from the EU were also in manufactured products (64%), followed by chemicals (19%) and then agricultural products (9%)¹⁷.

3.1 Mineral Trade Profile

In 2017, EU's exports to Canada for industrial minerals was valued at US\$26 million, ores and concentrates at US\$308 million and refined metals at US\$424 million. However, as a share of EU mineral and metals exports, Canada accounts only for 0.5%¹⁸. EU imported US\$23 million worth of industrial minerals and US\$595 million refined metals from Canada. The largest category of imports was ore and concentrates, valued at US\$3.5 billion. Canada accounted for 2.2% of the EU's mineral and metals imports.

Table 3 Canada's share in EU mineral trade (2017)

Value & Share of category	EU Exports to Canada		EU Imports from Canada	
Category	US\$Mn.	Share in category	US\$Mn.	Share in category
Ores & concentrates	308	0.6%	3,541	5.3%
Metals (refined)	424	0.4%	595	0.5%
Industrial Minerals	26	0.3%	23	0.2%
Total Minerals & Metals	759	0.5%	4,159	2.2%
Top 5 EU exports to Canada		Top 5 EU Imports from Canada		
Product	Value (US\$Mn.)	Product	Value (US\$Mn.)	
Non-ferrous base metal waste	170	Iron ore/concentrates	1,509	
Aluminium	132	Copper ores/concentrates	640	
Silver/platinum etc (refined)	125	Nickel ores/concs/etc	363	
Copper (refined)	99	Nickel (refined)	339	
Nickel ores/concs/etc	85	Mo/nb/v/ta/ti/zr ore/con	162	

Source: MineHutte Consulting, trade date calculations based on WITS Trade Data, accessed August 2018

Top Mineral Products (EU Trade). The top five EU exports to Canada include non-ferrous base metal waste and scrap (US\$170 million), followed by aluminium, silver/platinum (refined), refined copper and nickel ores and concentrates. The top five EU imports from Canada include iron ore & concentrates (US\$1.5

¹⁷ All data from [WITS](#), accessed August 2018.

¹⁸ Please see Annex 1 for details of minerals & metals covered.

billion), copper ores/concentrates, nickel ores/concentrate, refined nickel and a variety of alloy metal concentrates including molybdenum, niobium, zirconium etc.

13.6% of Canadian global exports of minerals and metals were destined for the EU in 2017. Of the total ores and concentrates Canada exported, 27% were to the EU. 14% of Canada's imports of minerals and metals were from the EU, with 11% of Canada's refined metals imports coming from the EU¹⁹.

Top Mineral Products (Canadian Trade). The top Canadian exports to the EU were in iron ore and concentrates, copper and ore/concentrates and refined nickel and non-ferrous waste materials. The largest imports by Canada for the EU were for silver/platinum, aluminium, refined copper, nickel ores/concentrates and monument/building stones

Table 4 EU's share in Canada's mineral trade (2017)

Canada's exports to EU			Canada's imports from EU	
Category	US\$Mn.	Share in category	US\$Mn.	Share in category
Ores & concentrates	3,216	27.4%	169	3%
Metals (refined)	612	3.9%	595	11%
Industrial Minerals	19	2.1%	40	5%
Total Minerals & Metals	3,847	13.6%	3,850	14%
Top 5 Canada exports to EU		Top 5 Canada imports from EU		
Product	Value (US\$Mn.)		Product	Value (US\$Mn.)
Iron ore/concentrates	1,680		Silver/platinum etc	239
Copper ores/concentrates	667		Aluminium	163
Nickel ores/concs/etc	469		Copper (refined)	115
Nickel (refined)	353		Nickel ores/concs/etc	52
Non-ferrous base metal waste	264		Monument/building stone	51

Source: MineHutte Consulting, trade data calculations based on WITS Trade Data, accessed August 2018

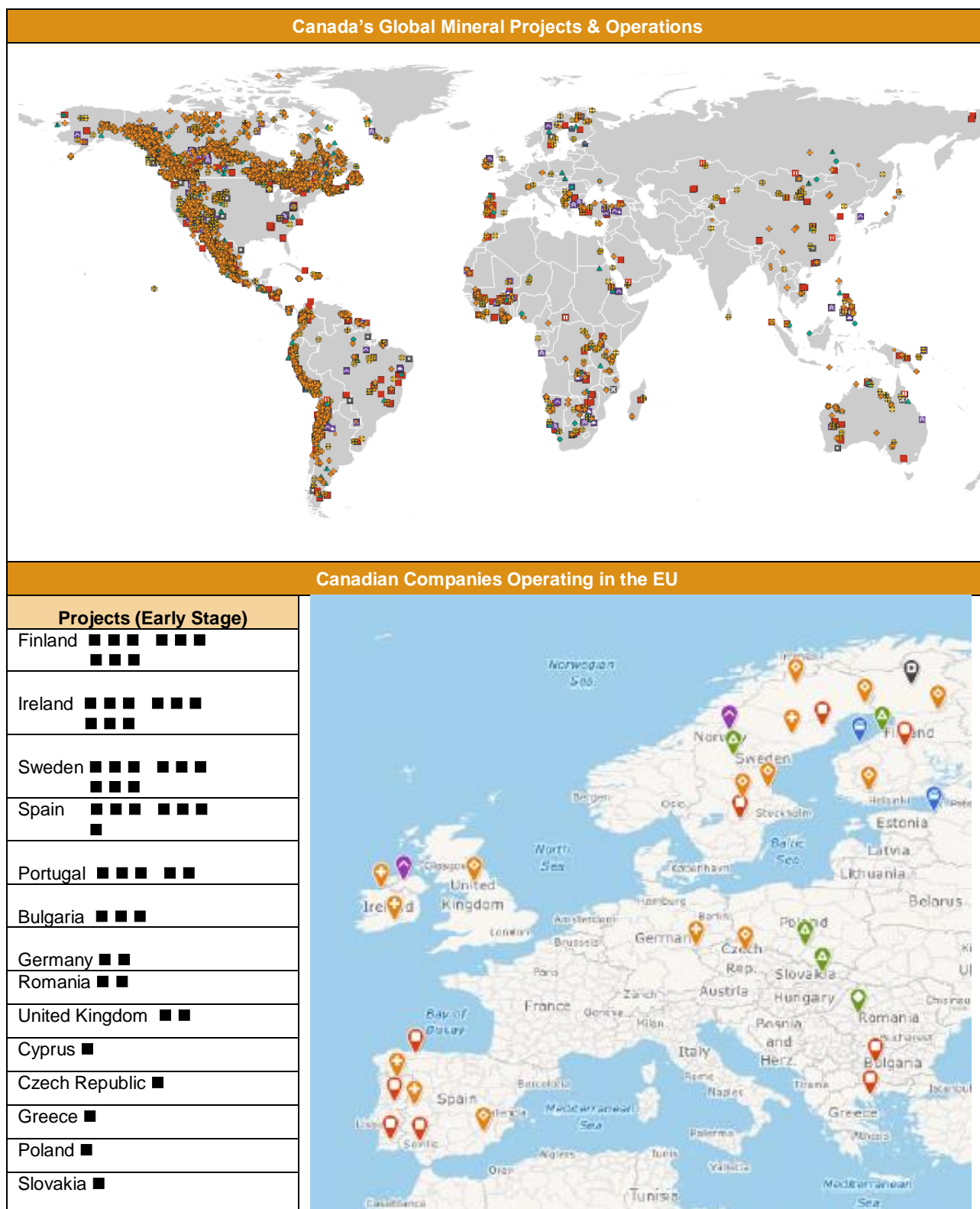
Canadian Mining Companies. Canadian mining companies are found to be heavily clustered in North and South America, with some notable African and Asian presence (Figure 4). Excluding phosphate and tar sand producers, Barrick Gold, Suncor Energy, Teck Resources, Kinross Gold and First Quantum are some of the largest Canadian mining companies. The total revenue for Canadian mining and exploration companies is estimated at US\$64 billion in 2017.

Between 2005 and 2016, Canadian foreign direct investment in mining in the EU has grown at an annual rate of 8%, reaching C\$14.6 billion in 2016²⁰. There are 53 exploration projects (early stage) being undertaken by Canadian companies in the EU, mostly in Finland, Ireland, Sweden and Spain. Of more advanced exploration projects and active mines, Canadian companies are mostly involved in gold and copper/gold projects, with Finland, Sweden and Spain being the most active countries. The presence of Canadian mining companies in the EU is quite material.

¹⁹ Any discrepancy between EU imports from Canada and Canadian exports to the EU is due to CFI/FOB differences in export and import data reporting.

²⁰ See '[A model EU-Canada Mineral Investment Facility](#)' for more detailed information on Canadian investments in the EU.

Figure 4 Canada's mining operations; global & EU (2017)





Mines & Advanced Stage Projects		
Country	Company	Commodity
Bulgaria	Dundee Precious Metals	Gold
Finland	Agnico Eagle	Gold
	FireFox Gold	Gold
	First Quantum Minerals	Copper
Finland	Nordic Gold	Gold
	Rupert Resources	Gold
Greece	Eldorado Gold	Copper/Gold/Zinc
Portugal	Almonty Industries	Tungsten
	Avrupa Minerals	Copper
	Lundin Mining	Zinc
United Kingdom	Galantas Gold	Gold
	Strongbow Exploration	Tin
Spain	Almonty Industries	Tungsten
	First Quantum Minerals	Copper
	Intercontinental Gold and Metals	Antimony
	Orvana Minerals	Gold
Sweden	Boreal Metals	Gold/Silver/Copper
	EMX Royalty	gold/Copper
	Leading Edge Materials	Graphite
	Lundin Mining	Zinc
	Mandalay Resources	Gold

Source: MineHutte Consulting, Project/Company information based on Mining Intelligence data

Responsible mining practices (domestic). In Canada, provincial regulations and legislation will govern mining activity, with only a few issues, such as Environmental Regulations and the rights of the First Nations, are governed by federal law. Apart from stringent government/provincial regulations on environmental and community engagement, industry standards are also strong in Canadian provinces. This includes the '[Towards Sustainable Mining](#)' initiative from the Mining Association of Canada. However, TSX's [Corporate Governance Guidelines](#) (2005) do not require social and environmental disclosure.

3.2 Bi-lateral Engagements

3.2.1 The Canadian-European Comprehensive Economic and Trade Agreement

The [Canada-European Comprehensive Economic and Trade Agreement \(CETA\)](#) includes increased market access for metallic minerals. CETA provisionally came into force in September 2017 and full application will commence when each EU Member State ratifies the deal. The first meeting on Raw Materials is scheduled for November 2018. CETA's main impacts are summarised as follows:²¹

1. **Commitment to reduce tariffs and increase market access.**

²¹ Summarised from Horizon 2020 funded EU-Canada Mining Investment Facility project [report](#)

There will be a reduction/removal of tariff trade barriers on trade of raw materials, equipment and machinery used in mining and more secure and predictable access in mining related services markets. This should effectively reduce costs and increase efficiency in securing appropriate services for both parties.

2. Commitment to remove non-tariff barriers to trade.

Focuses on reducing non-tariff barriers should assist in increased transparency and lower costs of compliance with regulations and certification requirements. Importantly it provides for enhanced intellectual property rights and protection of such rights.

3. Commitment to enhanced cooperation in raw materials.

Bilateral dialogue on raw material issues of mutual interest, largely related to market access for raw materials and related services, investments and non-tariff barriers to trade for raw materials. Areas of cooperation could include²²:

- market access for raw material goods and related services and investments and to avoid non-tariff barriers to trade for raw materials
- exchange of information on best practices and around regulatory policy in areas relevant to raw materials
- corporate social responsibility
- cooperation in relevant global fora.

CETA has not been fully applied at this time and its main function is to be a trade and investment agreement addressing a number of sectors, of which raw materials is just one. Under Chapter 25 (Bilateral Dialogues & Cooperation) CETA specifically addresses the raw materials sector ([Article 25.4](#)). The expected issues that focus on free trade are covered, including measures to avoid non-tariff barriers to market access for raw materials and related services. Exchange of best practices and regulations on raw materials is encouraged and the support for CSR, with the OECD Guidelines for Multinationals, Due Diligence for Responsible Supply Chains of Minerals, mentioned as international best practice.

Compared to the current proposal for the EU-Australian FTA, CETA delegates this discussion to bilateral dialogue on raw material and they do not form part of the main regulations governing the FTA. There are no specifics addressing common standards governing the extraction of minerals in each jurisdiction. Additionally, cooperation in approaches to third countries is limited to vague language on cooperation “facilitate, as appropriate, consultation on the Parties' positions in multilateral or plurilateral fora” rather than specifications of what the objectives of such cooperation will look like.

The expected benefits for Canada, from CETA, include the elimination of remaining customs regulations on certain raw materials, such as aluminium, zinc, uranium and iron ore²³. Canada also holds lithium and cobalt resources, which is an essential raw material for the EU electric car batteries sector²⁴. Customs regulations can include double testing of products and compliance with EU standards for imports from Canada. With simplified border procedures, particularly where automated border processes can be implemented, is expected to increase the trade in the coming years.

Note customs regulations are not the same as elimination of tariffs on these materials, which is a separate issue. Most processed minerals and metals are included under manufactured exports and face some level of tariffs when entering the EU. Before CETA, these could be as high as 10%. After CETA, all Canadian metals and minerals are expected to have duty-free and quote-free access to the EU (see Table 5).

²² [CETA and the NEEI: Benefits and Opportunities](#) (2018, pg11)

²³ [Unlocking CETA's Potential](#) (October, 2016) Roland Berger

²⁴ See STRADE [Policy Brief 06/2018](#) on Battery Materials

Table 5 EU tariff elimination under CETA

Product	Pre-CETA tariff	Under CETA
Aluminium and aluminium products	Up to 10%	0%
Nickel and nickel products	Up to 3.3%	0%
Copper and copper products	Up to 5.2%	0%
Lead and lead products	Up to 5.0%	0%
Zinc and zinc products	Up to 5.0%	0%
Other non-ferrous metals (including tungsten, tin, titanium, zirconium and cobalt)	Up to 9.0%	0%
Other mineral products (including sulphur, magnesia, lime)	Up to 3.0%	0%

Source: [Global Affairs Canada](#) (2016)

The ratification of CETA would allow European end-users of metals to invest in the Canadian mining sector, allowing them long term access and security of supply for these emerging minerals. In return, the Canadian mining sector will benefit from increased investments from the EU. Under CETA, the movement of labour is also expected to become easier, thus allowing mining expertise to flow in both directions.

For the EU and its Member States, **repercussions from CETA on the Member States in granting mining licences is more relevant.** Under the '*investment protections of fair and equitable treatment and expropriation*' Article of CETA and CETA's '*domestic regulatory discipline*' requirements from Member States, it allows Canadian companies²⁵ to challenge the denial of mining licences, if they can show unnecessary state discretion was used by regulators, when the licence was denied (CIEL, 2018)²⁶.

This does not mean that Member States are required to change their mining license regimes. However, it does allow a Canadian company to challenge (in the appropriate court) the denial of a mining licence based on the CETA²⁷.

Table 6 Potential investor risk & discretionary decision making

Jurisdiction	Level of Risk*
Greece	Moderate
Spain	
Sweden	
France	
Germany	
Romania	Very High
Serbia	
Ireland	
Poland	Extremely High
Portugal	

* provides a measure of a jurisdictions "corruption potential" based on (a) the importance of various government decisions in the administration of mineral projects, (b) the degree of discretion associated with those decisions and (c) the number of state actors involved in the decision making.

Source: [MineHutte Annual Report \(2018\)](#)

²⁵ There are provisions under CETA to ensure that 'letter box' companies in Canada or the EU, i.e. companies without material business links that have been set up to take advantage of CETA provisions, will not be able to use these provisions.

²⁶ https://www.ciel.org/wp-content/uploads/2018/03/CIEL_CETA-mining_March2018.pdf

²⁷ The Investment Court System ('ICS') proposed under CETA has been a major source of controversy in the CETA negotiation process and there were a number of protests against it in the EU Member States. In 2016, the local Parliament of Wallonia (Belgium) initially vetoed the agreement, because of the proposed court. The ICS was effectively meant to replace the [investor-state dispute settlement](#) (ISDS) in the 8 existing bilateral investment agreements between EU Member States and Canada. The EU insists that the new ICS will limit the grounds on which an investor can challenge a State and will also prevent public bodies from being forced to change legislation and pay damages (See [CETA explained](#) for more details). The ICS will only be put into practice when all Member States have finished national

According to MineHutte's regulatory risk analysis, a number of Member States may be at risk of such challenges, given the level of discretion in decision making allowed in their mining codes and regulations (See Table 6). This does not suggest that all Member State governments are likely to be taken to the ICS under CETA. Investors may choose to use domestic courts, while others may accept the denial of their applications.

CIEL (2018) highlights the case for the Canadian mining company Eldorado Gold Corp, which has acquired numerous mining projects in Greece (Greece has as yet not ratified CETA). Under Greek mining laws and regulations, environmental standards are 'approved' under the judgment of the competent authority. These include terminology such as 'fair', 'proportionate' and 'significant', which are not considered objective measures. Other terminology in the Greek mining legislation refers to 'proper economic utilization of the ore', which again is not an objective measure. These terms would be in conflict with CETA (Article 12.3.2), which requires a clear, transparent and objective regulations to be applied and not 'judgements' by an authority. Under CETA, Eldorado which is currently challenging the Greek government in court on a number of permitting decisions, will be able to challenge the denial based on the argument that the Greek authorities are using discretion rather than objective regulations. Therefore, the argument that requirements 'go beyond what is necessary and are therefore not as simple as possible' becomes grounds for legal action.

The Horizon 2020 **Feasibility Study for EU-Canada Mineral Cooperation**, commission by the EU, takes a more detailed look at

Box 2: Ten of forty identified EU-Canada NEEI strategic platforms for consideration

1. Co-ordinate stakeholder dialogue, including government and industry, on sharing policy and regulatory best practices between Canada, the EU, and its Member States.
2. Proactively participate and engage on land access initiatives in the EU, including long-term land use plans
3. Facilitate a coordinated joint knowledge base across geological surveys
4. Pursue policy to incentivise research to improve the knowledge of mineral endowment
5. Raise political support and the public's general awareness for mining
6. Advise companies on how to engage with local communities, Aborigines, and other stakeholders
7. Facilitate sharing of best practices in social licence across Canada, the EU, and Member States
8. Promote EU-Canada collaboration in developing green mining initiatives and technology
9. Provide a point of reference for any entity seeking to do business or invest in the NEEI in Canada and the EU; help companies navigate local markets
10. Facilitate partnerships between EU and Canadian Mining Services & Supply companies to drive forward the development and application of sustainable mining technologies and practices

Source: Feasibility Study for an EU-Canada Mineral Investment Facility, Workshop 2 [presentation](#)

ratification of CETA. Until a case is advanced to this court, STRADE is unable to comment further on how this work in practice.



increasing mining sector related investments between the two regions. The publications of the project can be found [here](#)²⁸ for further reference. In summary, the project's highlights that the framework conditions for mining sector investments need to be improved, referring to regulatory framework conditions in Canada and the EU, social licence and exploration industry conditions. In addition, connecting and supporting companies to enter and navigate new markets is also highlighted. Box 2 shares some of the areas identified for collaboration in the Non-Energy Extractive Industries (NEEI) shared by the project in the November 2017 workshop. Given that the project has conducted a more detailed assessment of the EU-Canada raw material engagement, STRADE does not go into greater detail on the same subject.

→ STRADE finds that the EU's share of mineral imports from Canada is mostly in the ores and concentrates category; Canada in return imports refined metal from the EU. The Investment Court System, which will come into practice after the national ratification of CETA by all Member States, may have unintended consequences to the mineral regimes of certain Member States. Under the rules, where discretionary government decision making has occurred, CETA enables Canadian companies to challenge such licensing decisions. It remains to be seen how these cases would work in practice. For other areas of collaboration, STRADE defers to the Horizon 2020 project which is focused on this topic.

²⁸ <http://eu-canada-mif.com/?q=publications>

4. EU Engagement with China

STRADE conducted a workshop on [Cooperation on Sustainable Raw Materials for China and Europe](#), with Chinese stakeholders in Beijing in 2017. Two Policy Briefs, China's approach towards responsible sourcing and China's mineral sector and the Belt & Road Initiative, were also [published](#) in light of this workshop and participation by the STRADE team in the [China Mining Conference and Exhibition](#) in Tianjin (2017). The STRADE team has extensively written on China's role in raw materials engagement, here we summarise the major findings from previous publications.

China is the EU's second largest trading partner and an important destination of Chinese company's investments, as the EU offers a stable and legally secure environment for Chinese investors. Given China's increasing economic, political and military presence in the world, it becomes a strategic partner for the EU. Under the '[Elements for a new EU strategy on China](#)' and '[Council Conclusions EU Strategy in China](#)' the fundamental premise of promoting democracy, the rule of law, human rights and the respect for the principles of the UN Charter and international law, remain the building blocks of the EU approach to China²⁹.

The Chinese perceptions of the EU, pre-2015, were very positive. China viewed the EU 'as an emerging global power and an example of regional political and economic integrations (Chan and Pieke, 2018)' ³⁰. However, in more recent surveys Chan and Pieke (2018) note there have been a shift in Chinese policy perspective on the strength of the EU which is now seen as a 'troubled actor' in the wake of the Eurozone crisis, the refugee crisis, Brexit and the appearance of far-right political movements in Europe.

Given the recent instability in the global economy, primarily associated with the USA administration's levying of trade tariffs, for which China has been a primary target, the threat to continued Chinese GDP growth has emerged. This was evidenced by the [fall in copper prices in July 2018](#), principally linked to the possible slowdown in growth in China as a result of the trade war.

With continued disruptions expected from the USA administration, for both the Chinese and the EU, the prospect of working together to create stability is an attractive one for both parties. Therefore, while the EU and China engagement on human rights, democracy and industrial Intellectual Property matters will continue to progress, the common interest of securing the global economy may play a more positive role for fostering cooperation.

In 2017, China accounted for 20.2% of EU imports and 10.5% of EU exports, with an EU trade deficit of €177 billion. The EU mainly imports manufactured goods from China (92% of imports in 2017). China's major imports from the EU are also in manufactures (74%) followed by Chemicals (11%) and Agricultural goods (8%).

4.1 Mineral Trade Profile

The total EU exports of minerals and metals to China were valued at US\$9.6 billion in 2017, accounting for 6.2% of all EU exports in this product category. Ores and concentrates (including waste) accounted for US\$5 billion, followed by refined metals (US\$3.9 billion). The EU's imports from China were largely in the refined metals category (US\$2.7 billion) however this accounts for just 2.5% of total EU imports of refined metals. 4.6% of EU imports of industrial minerals originated from China. Of the total EU minerals and metals imports, 6% originated from China in 2017³¹.

²⁹ For more details, please see [FAQ on EU-China](#)

³⁰ Chang, V.K.L. & Pieke, F.N. Asia Eur J (2018). <https://doi.org/10.1007/s10308-017-0499-9>

³¹ Please see Annex 1 for details of minerals & metals covered.

Top Mineral Products (EU Trade). The top five EU exports to China by product include non-ferrous base metal waste and scrap, followed by refined copper, copper ores/concentrates, stone, sand and gravel and silver/platinum (refined).

The top five EU imports from China were in aluminium, monument/building stones, refined copper and refined nickel. Other crude minerals refer to chalk, barium, steatite, borates, oil shale, tar sands, vermiculite, perlite, chlorites.

Table 7 China's share in EU mineral trade (2017)

Value & Share of category	EU Exports to China		EU Imports from China	
Category	US\$Mn.	Share in category	US\$Mn.	Share in category
Ores & concentrates	4,970	10.4%	203	0.3%
Metals (refined)	3,891	4.0%	2,746	2.5%
Industrial Minerals	705	7.4%	517	4.6%
Total Minerals & Metals	9,566	6.2%	3,466	1.8%
Top 5 EU exports to China		Top 5 EU Imports from China		
Product	Value (US\$Mn.)	Product	Value (US\$Mn.)	
Non-ferrous base metal waste	2,590	Aluminium	1,165	
Copper (refined)	2,413	Monument/building stone	633	
Copper ores/concentrates	1,154	Copper (refined)	494	
Stone/sand/gravel	607	Other crude minerals	377	
Silver/platinum etc (refined)	530	Nickel (refined)	91	

Source: MineHutte Consulting, trade data calculations based on WITS Trade Data, accessed August 2018

The EU accounts for 11.8% of China's exports in minerals and metals, with a value of US\$3.2 billion in 2017. 15% of Chinese industrial mineral exports are destined for the EU, 4% of its ores and concentrates and 12% of its refined metals exports go to the EU.

12% of China's global mineral and metals imports are sourced from the EU. In terms of categories, 10% of China's refined metals imports, 10% of its industrial minerals imports and 3% of its ore and concentrates imports originate from the EU.

Top Mineral Products (Chinese Trade). The top five exports from China to the EU are aluminium, monument building stones, refined copper, alloy metals (tungsten, molybdenum, tantalum, manganese) and other crude materials. The top five product imports from the EU are refined copper, non-ferrous base metals waste, copper ores and concentrates, refined zinc and stones/sand/gravel.

Table 8 EU's share in China's mineral trade (2017)

Category	China's exports to EU		China's imports from EU	
	US\$Mn.	Share in category	US\$Mn.	Share in category
Ores & concentrates	39	4.1%	4,366	3%
Metals (refined)	2,735	11.7%	4,356	10%
Industrial Minerals	440	14.6%	662	10%
Total Minerals & Metals	3,215	11.8%	3,215	12%
Top 5 China's exports to EU		Top 5 China's imports from EU		
Product	Value (US\$Mn.)		Product	Value (US\$Mn.)
Aluminium	1,347		Copper (refined)	2,771
Monument/building stone	772		Non-ferrous base metal waste	2,507
Copper (refined)	512		Copper ores/concentrates	1,169
Tungsten/molyb/tant/magn	460		Zinc (refined)	542
Other crude minerals	366		Stone/sand/gravel	428

Source: MineHutte Consulting, trade date calculations based on WITS Trade Data, accessed August 2018

Chinese Mining Companies. From the information available on Chinese mining companies, most tend to have operations based within China. Their external presence is the largest (by number of projects) in Africa, followed by Australia and Latin America and then Canada. In the latter three regions it should be noted these projects tend to be as joint ventures with other, non-Chinese firms, rather than as 100% ownership. In the case of the EU, two operating projects were identified, one in Finland and the other in Ireland. There were no examples of Chinese ownership in exploration projects, which is in line with global trends, where the presence of Chinese operators in global exploration is minimal.

Figure 5 China's mining operations; global & EU (2017)

Chinese Companies Operating in the EU		
Projects/Mine		
Country	Company	Commodity
Finland	China Molybdenum	Cobalt
Ireland	Shenzhen Zhongjin Lingnan Nonfemet	Lead, Zinc

Source: MineHutte Consulting, Project/Company information based on Mining Intelligence data

**Note, there are likely to be more companies operating in China than indicated here, given the limitations on accessing data on the domestic Chinese mineral sector*

4.1.1 China and the EU: Competitive and complementary roles

China's share of global consumption of minerals and metals is estimated at near 50% or more for most base and ferrous metals. However, as STRADE's Policy Brief 02/2018 on [China's mineral sector and the Belt & Road Initiative](#) indicated, China is entering a stable period of metal usage, and for most minerals its usage is now expected to be stable. Only for certain metals, such as lithium, uranium, cobalt and rare earths is this usage expected to continue increasing. This places China as a 'competitor' to EU's use of metals, as they are both competing to access supply from global markets. The state of China's economy will continue to be the major determinant of global minerals supply and price levels in the near to mid-term future. Therefore, it is seen by some as a competitor to the EU mineral supply needs.

However, China is also pursuing international investments in mining operations, therefore responsible for new supply being brought on line. This report cannot deliver a full analysis on the level of Chinese investment contribution to the current supply levels for individual minerals at this time. We can offer a summary analysis: as long as demand from the Chinese economy supports mineral prices, a healthy supply pipeline in the mining sector will exist. Were global metal prices to fall over a medium period, this would impact the investment decision to build or extend new mines.

Therefore, while China acts as a competitor to the EU in terms of global use of minerals, it is also responsible for ensuring that investment in mining continues.

4.1.2 EU conflict mineral legislation, responsible mining & China

China's international mining activities have had a bad reputation in the past. However, the sweeping judgement that Chinese mining companies do not care about local social and environmental issues, is no longer valid. There are an increasing number of Chinese foreign mines which are managed similarly or even better than mines by the Western companies. Cooperation with EU member states and international institutions in the field of responsible mining guidelines already takes place. Supply chain management and responsible sourcing implementation are also in their early stages. Within a short time, span, China created, in cooperation with the OECD, [Chinese Due Diligence Guidelines for Responsible Mineral Supply Chains](#), which have even a broader scope than the OECD due diligence guidance.

Along the supply chains of conflict minerals and cobalt, some Chinese companies have already established supply chain management schemes due to requirements from Western customers and their need to comply with the Dodd-Frank Act or the EU conflict minerals regulation. The current cooperation of China, e.g., with Germany and the UK, needs to be continued. Since the trade streams are globally interconnected, international and multilateral cooperation plays a key role.

The launch of [the Responsible Cobalt Initiative](#), initiated by China, and the recently launched Global Battery Alliance are examples for new cooperation schemes. Both initiatives have international members from the West and East, with members from both downstream and upstream industry. China has shown its



preparedness to act for responsible supply chain management and has become an important partner in some international dialogues. It is essential to continue this dialogue despite big challenges such as language barriers, different economic and political systems, different transparency approaches, lack of information and cultural differences. This also includes – from the EU's viewpoint - insufficient Chinese commitments for transparency, environmental and social sustainability and co-ownership within the Belt & Road Initiative. Nevertheless, Europe should not underestimate China's high potential for fast transformation. A strong political will provided, Chinese companies can undergo significant changes in a fairly short period of time and put social and environmental topics high on the agenda, as recently shown by [Huayou Cobalt's](#) efforts towards responsible cobalt sourcing.

4.1.3 Electronic batteries – lithium and cobalt

STRADE's [policy brief on cobalt and lithium](#) use in automotive batteries explores challenges for battery production and related raw-material sourcing in more detail. Here, we note that China can be considered a competitor to the EU in seeking cobalt and lithium to manufacture car batteries. The EU battery alliance initiative, launched in 2016, to counter the dominance of China, South Korea and Japan in battery cell (Lithium-ion) manufacturing, seeks to fund research and development to ensure EUs supply security. In this area, again, China is both a competitor and yet plays a complementary role. For example, in July 2018, China's Contemporary Amperex Technology Ltd announced it would be building its first production site in Europe, in Germany and will be supplying lithium-ion batteries to BMW. The discussion on electronic batteries is part of the larger investment, industry and trade dialogue between China and the EU. STRADE is unable to provide specific recommendations within this field, and therefore only highlights this is an important area which can either be used for cooperation or confrontation between the two economic powers.

4.1.4 Chinese domestic mining operations & international best practice

China has the least developed national standards for mining activity within the G5 and is only starting to gain traction on environmental regulations. There are no clear indications of it addressing the community engagement issues that emerge with extractive activity. Nonetheless, in early 2018, China was in the process of drafting national standards for mining as well as implementing the green mining initiative³² in 2017. While its standards lag behind the other four countries and the EU, it is (gradually) moving towards acknowledging the same principles for responsible mining as the others³³.

STRADE Policy Brief ([03/2018](#)) highlighted the change in China's approach towards its domestic environmental regulations and the start of its efforts towards better environmental management of its domestic mining and metals sector.

In addition, the Chinese government towards the end of 2017 and start of 2018, opened internal consultations on establishing national standards for its mining sector, and expects these to be finalised in 2018³⁴. STRADE is unable to comment further on specific areas within these proposed national standards as these have not been finalised at this time and the text remains unavailable to the research team.

Another recent initiative is Green Mining, which has been developed by internally by the Chinese. This area can, in the future, grow to be a subject of knowledge-sharing and international cooperation between the EU and China, if and when China allows for more international engagement with its domestic mining sector. Exploring international recognition of the Chinese Green Mining Standard would be an important topic for the

³² English translation of New Chinese Green Mine Standards is available at the STRADE site [here](#).

³³ Please see STRADE [Policy Brief 03/2018](#) on China's approach towards responsible sourcing.

³⁴ These standards are available in the Chinese language only at this time.

EU-China as well as multilateral dialogue. General cooperation in innovation, research and development (on academic as well as private sector level), especially on environmental issues in mining, including water and resource and energy efficiency, as well as life cycle approaches, could complement the EU's engagement with China.

4.1.5 Chinese mining operations in third countries

In the early 2000s, Chinese companies (mining and others) began to establish operations in third countries, including many African countries. Given the countries/companies limited experience with foreign direct investment in the past, the companies faced a number of challenges in operating abroad. From the level of governance to engagement with local cultures and communities, Chinese companies were forced to face a steep learning curve. STRADE's forthcoming Policy Brief on Chinese mining Investment in Latin America, provides a more detailed discussion on this, with regards to Latin America. The wide-spread international and domestic criticism of their operations was also an unwelcome surprise to many Chinese operators. After a decade of international operations, Chinese companies are now more aware of the skill set they require in operating abroad, particularly in the natural resource sector. One area where they are actively seeking assistance is in social and environmental engagements.

Currently, EU Member State agencies such as GIZ (Germany) and Dfid (UK) are working with Chinese companies in developing countries to better align operations to the development context. This is an area where future cooperation with other EU Member States and EU itself could prove beneficial. Increased compliance with international best practice standards by Chinese mining companies contributes to a 'clean' supply chain of raw materials for the EU and contributes to the development agenda of resource-rich developing countries.

Belt & Road Initiative (BRI)³⁵. The BRI was launched in 2013 and is understood to be China's roadmap for international engagement, with different sectors, from infrastructure to telecommunication projects, falling under the initiative. Metals and mining investments under the BRI are not always clear, due to the open-ended nature of the initiative. There have been Chinese investments in the EU, for steel and aluminium projects, in 2014, 2016 and 2017 in EU Member States, although they tend to be small investments compared to those made in SSA and South America. As part of reviving the 'Silk Road', trains have begun more regular routes between China and Europe, with regular train services rising from just one in 2011 to 65 in 2017. The route runs from Chongqing in China to Duisburg in Germany³⁶. The route is mainly used for trade purposes.

Under the Belt & Road, China's engagement with a number of resource rich developing and emerging countries is growing, including investments in the mining sector. Some of these countries are also raw material exporters to the EU as well as exporting ores and concentrates to China, which then make their way into the EU as semi-refined and refined goods. The trilateral nature of this trade in raw materials will become increasingly important, particularly from a responsible sourcing viewpoint for EU based industries.

Responsible Investments³⁷. In 2017, the China Banking Regulatory Commission (CBRC) outlined the need for Chinese banks to establish a sustainable financial protection system with controllable risk that serves the

³⁵ See STRADE Policy Brief 2/2018 [China's mineral sector and the Belt & Road Initiative](#) for a more detailed discussion.

³⁶ <https://uk.reuters.com/article/uk-china-europe-silkroad-insight/in-europes-east-a-border-town-strains-under-chinas-silk-road-train-boom-idUKKBN1JM36M>

³⁷ See STRADE Policy Brief 03/2018 [China's approach towards responsible sourcing](#) for a more detailed discussion.

BRI. This includes a comprehensive overseas operational environmental and social risk management. Over the last decade, the large Chinese finance institutions have been developing their own CSR standards, and many Chinese banks have adopted internal policies for lending to industries associated with high environmental and social risk.

Given China's BRI and progress on responsible investments and their implications in third countries, these areas will be becoming more important for multilateral dialogue and cooperation. The need for 'western' and 'eastern' standards to approach a more global standard is becoming more important. These issues are discussed in more detail in STRADE's forthcoming paper on new approaches to raw materials dialogue, which discusses multilateral issues in more detail. This report remains focused on the bilateral relationship between China and the EU.

4.2 Bi-lateral Engagements

In discussing raw materials-based engagement between the EU and the G4, China is an exception. It is the largest producing country producer of a number of major metals – although because of China's large domestic needs, these minerals rarely enter the global markets. They are mainly channelled to domestic refineries and are imported into the EU as semi-refined or finished metallic products. China also accounts for more than half of global consumption of metallic minerals and apart from domestic consumption, part of its raw material imports will make their way into EU supply chains as semi-finished and finished metallic products. Therefore, the EU-China relationship is both complementary and competitive: China is a competitor to the EU for global mineral imports. At the same time, China's imports of raw materials and transformation into semi-refined and finished metallic minerals support EU industry.

EU-China engagement in general focuses to a large degree on regulations and standards. With the EU's more advanced technical requirements, the engagement is a process of bringing Chinese standards up to those of the EU, to facilitate trade and industrial relations. In the matter of technology, protection of intellectual property rights of EU firms remains a major issue. This separates EU-China engagement from that with the other industrial countries, where convergence with EU standards appears easier to attain.

The convergence of industrial product standards as well as trade regulations are an on-going process and as such are out of the scope of the STRADE project. The report acknowledges that these negotiations and dialogues are on-going and will continue towards achieving convergence, over a medium to long term.

4.2.1 Current bi-lateral platforms

The EU-China raw material dialogue is covered under a number of initiatives. The level of direct EU imports of ores & concentrates from China is limited and therefore engagement generally focuses on semi-refined metallic minerals or finished products. The focus of these dialogues tends to be on quality standards and trade regulations.

The dialogue on administration for quality supervision, inspection and quarantine of China addresses issues encountered by the EU industry when exporting to or operating in China. An important element of this dialogue is the convergence of regulations and standardisation of rules impacting highly-traded and regulated goods. Of the 10 sectors that are covered by the [Europe-China Standardisation Information Platform](#), metallic minerals-based products are addressed under standards for electrical equipment and machinery. In addition, the platform provides information on the environmental standards that must be met for Chinese products to be imported into the EU. The accessibility of the platform is increased by offering these regulations in both Chinese and the English language.

The second relevant dialogue is with the Chinese Ministry of Industry and Information Technology and covers industrial policy in general, which includes raw materials. With a number of working groups, this platform allows for industry representatives to outline key issues for EU-China industrial cooperation.

Given the width and depth of EU-China trade and industrial relations, these platforms focus on the 'economic' relationship between the two global economic powers. As such these are based on negotiations with each party protecting its industrial and economic base. As a rising industrial country, China is a competitor to the EU and there are many issues around the movement of technology from the EU to China, particularly where copy rights and protection of industrial patents is concerned. Therefore, under any dialogue with China, the EU is clearly focused on protecting its manufacturers, technology and innovations.

The EU – China discussion on steel imports, prices and anti-dumping duties is an important issue. Given STRADE's focus on minerals and raw materials, this topic has not been addressed under the project.

China has been clear about not opening its domestic mineral sector to foreign investment and therefore any EU investment, cooperation or assistance in domestic mining practices remains unlikely to be agreed by the Chinese. In the future, environmental regulations as concerning raw material extraction and exchange of best practice in environmental technology and resource efficiency, may become common grounds for first steps in cooperation concerning the domestic mining sector in China. The European mining and environment standards can be considered advanced in this field, and the Chinese government is seeking to improve its own practices in this area.

The EU also conducts dialogue with China on the implementation of the EU conflict mineral regulation. Since a high share of EU imports of conflict minerals come from China, this dialogue is of high relevance for EU and Chinese companies affected by the CMR (see also chapter 4.1.2).

→ STRADE recommends bi-lateral engagement with China on the following issues:

- Development and implementation of supply chain due diligence with a focus on conflict minerals and cobalt
- Offer support to Chinese domestic mining operations to meet international best practice if China is open for such a cooperation
- Assist Chinese international mining operations to meet international best practice
- Explore West-East and North-South-cooperation for a global standard which overcomes the current coexistence of separate standards for responsible mining in the West and in the East

5. EU Engagement with Japan

The EU and Japan share a common viewpoint on democratic values and international peace and stability and effective multilateralism (Kirchener, 2017). With the EU seeking to deepen relationships with 'like-minded' countries in Asia, Japan is an obvious choice for deeper engagement. In more recent times, it also builds on the EU and Japan shared concerns about the USA administration's economic nationalism and China's geo-economic activism in Asia³⁸. As the EU looks towards closer ties with Association of Southeast Asian Nations (ASEAN), although Japan is not a member country but wields great economic influence in the region, having Japan onboard is of increasing importance³⁹.

In 2017, Japan accounted for 3.7% of EU imports and 3.2% of EU exports, with an EU trade deficit of €8.3 billion. The majority of EU exports to Japan are in the manufactures category (69% in 2017, followed by Chemicals (19%) and Agricultural goods (10%). EU imports from Japan are dominated by manufactures (88%), followed by Chemicals (9%).

5.1 Mineral Profile

Of the total EU minerals and metals exports, Japan accounts for US\$1.2 billion or 0.8% of this category. Refined metals exports to Japan account for just 1% of the EU's total exports in this product category, with industrial minerals and ores and concentrates have an insignificant share. As for EU imports from Japan, again the value of total imports of minerals and metals is insignificant at less than 0.5% of total EU imports in this category⁴⁰.

Table 9 Japan's share in EU mineral trade (2017)

Value & Share of category	EU Exports to Japan		EU Imports from Japan	
Category	US\$Mn.	Share in category	US\$Mn.	Share in category
Ores & concentrates	444	0.9%	141	0.2%
Metals (refined)	681	0.7%	605	0.5%
Industrial Minerals	51	0.5%	49	0.4%
Total Minerals & Metals	1,176	0.8%	794	0.4%
Top 5 EU exports to Japan		Top 5 EU Imports from Japan		
Product	Value (US\$Mn.)	Product	Value (US\$Mn.)	
Silver/platinum etc	340	Silver/platinum etc	287	
Non-ferrous base metal waste	172	Precious metal ore/conc.	93	
Aluminium	117	Nickel (refined)	87	
Nickel (refined)	88	Copper (refined)	51	
Precious metal ore/conc.	85	Aluminium	48	

Source: MineHuthe Consulting, trade data calculations based on WITS Trade Data, accessed August 2018

Top Mineral Products (EU TRADE). The top EU products exported to Japan include non-ferrous base metal waste, aluminium, refined nickel and precious metal ores and concentrates. Of the Top Mineral

³⁸ https://www.clingendael.org/sites/default/files/2018-02/PB_Reimagining_Europes_Partnerships_India_Japan.pdf

³⁹ <http://www.iai.it/en/publicazioni/rethinking-eu-asean-economic-engagement>

⁴⁰ Please see Annex 1 for details of minerals & metals covered.

Products imported from Japan, silver/platinum are valued at US\$287 million followed by the ores and concentrates of precious metals, refined nickel, refined copper and aluminium. Overall the EU exports to and imports from Japan in minerals and metals is quite limited – Japan does not play a significant role in EU's raw materials supply. Japan is a significant supplier of minerals-rich technology projects, like batteries and permanent magnets, that are not reflected in this table.

As for the role of the EU in Japan's mineral trade, this appears to be a little more significant for Japan. The EU accounts for 3.6% of Japanese global exports of minerals and metals, with 5% of its industrial mineral exports, 4% of its refined metals exports and 2.5% of its ores and concentrate exports destined for the EU. The EU provides a limited source of Japanese imports of minerals and metals, accounting for 4% of its global imports in this category. Japan imports 5% of its refined metals from the EU.

Top Mineral Products (Japanese Trade). Japan's top product exports to the EU include silver/platinum and precious metals ores and concentrates. This is followed by refined nickel, refined copper and a collection of alloy metals (cobalt, cadmium, titanium and zircon). Japanese imports from the EU are also similar, with precious metal ores and concentrates value as US\$346 million 2017, followed by alloy metals, silver/platinum, aluminium and refined nickel.

For both the EU top mineral products trade as well as the Japanese products, it should be remembered that both parties are major producer of automobiles as well as steel-nickel, alloy metals and platinum are common inputs to both industries.

Table 10 EU's share in Japan's mineral trade (2017)

Japan's exports to EU			Japan's imports from EU	
Category	US\$Mn.	Share in category	US\$Mn.	Share in category
Ores & concentrates	110	2.5%	524	2%
Metals (refined)	468	3.9%	762	5%
Industrial Minerals	27	5.4%	54	3%
Total Minerals & Metals	604	3.6%	604	4%
Top 5 Japan exports to EU		Top 5 Japan imports from EU		
Product	Value (US\$Mn.)		Product	Value (US\$Mn.)
Silver/platinum etc	149		Precious metal ore/conc.	346
Precious metal ore/conc.	88		Cobalt/cadm/titan/zircon	262
Nickel (refined)	85		Silver/platinum etc	191
Copper (refined)	79		Aluminium	117
Cobalt/cadm/titan/zircon	74		Nickel (refined)	86

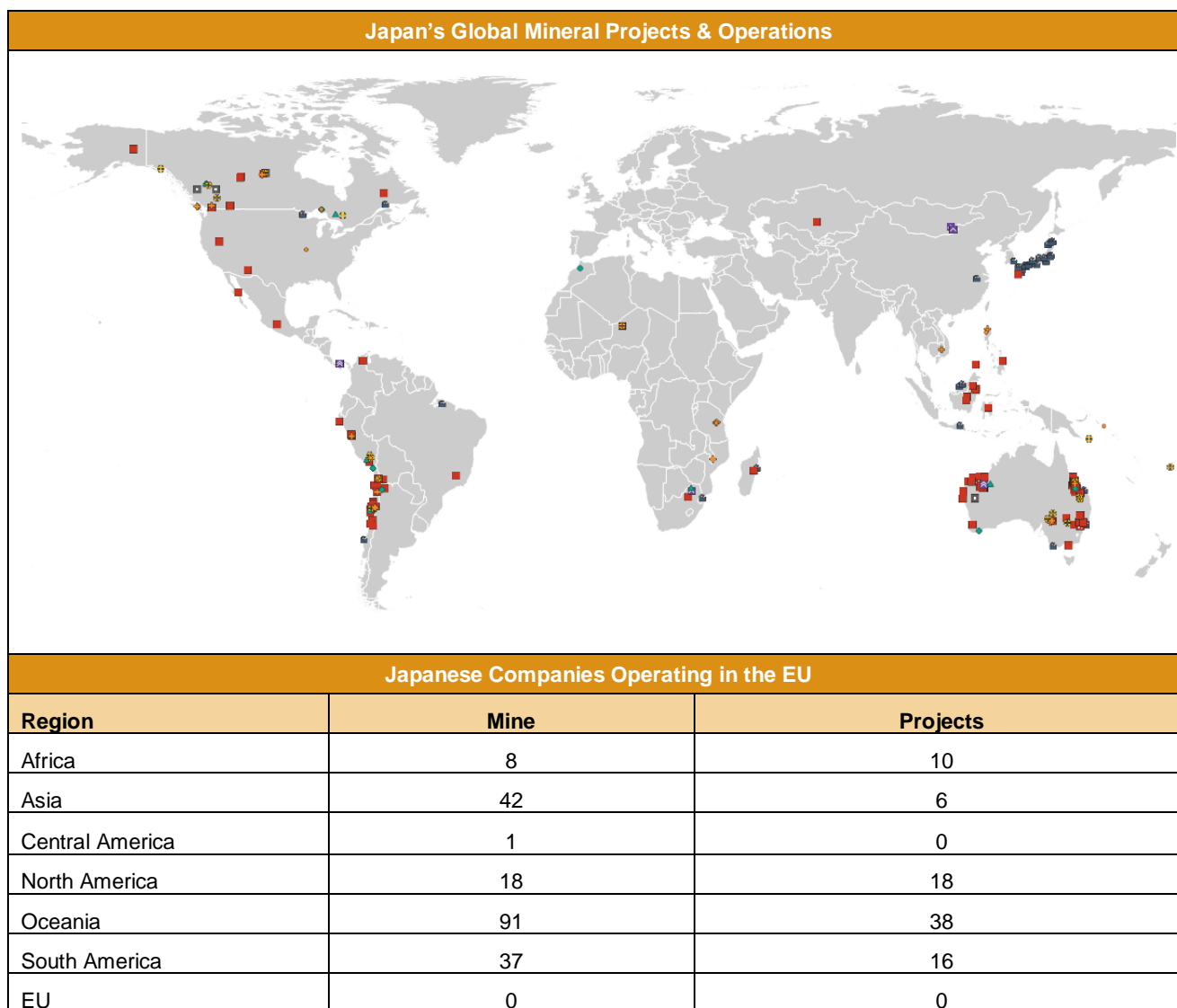
Source: MineHutte Consulting, *trade* date calculations based on WITS Trade Data, accessed August 2018

Japanese Companies. Japanese mining interests are most commonly located in Australia (major iron ore producer) and Latin America (major copper producer). There are also some assets indicated for North America and Africa. Japanese mining interests are rarely indicated for stand-alone mining projects, they are often vertically integrated into a Japanese smelting/refining or manufacturing firm. STRADE research was unable to identify any Japanese linked mining operations in Europe.

Responsible mining practices. Japan has little to no domestic metallic mineral production. It is however the second largest steel and refined copper producer in the world. Japanese mining companies operate through

equity ownership in companies mining abroad. Japan's domestic production of semi-refined materials is addressed by its [Basic Environment Law](#), which follows standard high-level protocols.

Figure 6 Japan's mining operations; global & EU (2017)



Source: MineHutte Consulting, Project/Company information based on Mining Intelligence data

5.2 Bi-lateral Engagements

The [EU-Japan Economic Partnership Agreement](#) was finalised in December 2017. An EPA, as opposed to an FTA, looks at lowering tariff barriers and not at complete elimination which takes place under the latter.

Under the EPA, once the agreement is fully implemented, Japan will have removed 97% of all customs duties on imports from the EU. The agricultural sector and the automobiles sector were the main focus of the EPA. Minerals and metals are not identified as a major area of negotiation or cooperation.

The Trade Sustainability impact Assessment [report](#) (2016) mentions that while the risk associated with environmental sustainability may increase in the EU, from increased domestic manufacturing activities due to greater trade of goods (including from the impact on waste and need of resources, including raw and critical

materials), these can be mitigated through an increase in trade in environmental goods and services with Japan and development of more efficient and green technology and innovations. Even outside the trade agreement, EU engagement with Japan is aligned on the development of green technology and waste treatment.

Automobiles. Under the EPA, both the EU and Japan will fully align to the same international standards for safety and environment for motor vehicles. While this mainly addresses emission standards (environment), it will allow for EU exports to Japan to be simplified and hence increase. This has the potential to impact electric vehicle trade in the future, increasing the demand for battery materials within the EU to support its exports.

Corporate Governance. The EU-Japan EPA is the first EU trade agreement that specifically addresses corporate governance for both parties. Based on OECD's [Principles of Corporate Governance](#), the Chapter commits the parties to key principles, some of which will be relevant to the mining sector: transparency and disclosure of information on publicly listed companies and accountability of the management towards shareholders⁴¹.

Sustainable Development. The EPA commits the participants to implement the core labour standards of the ILO and international environmental agreements (such as the Paris Accord). There is a mention, but no specifics, of promoting CSR and other practices to support sustainable development.

Apart from the EPA, there are other EU-Japan platforms for engagement. The EU-Japan dialogue focuses on industrial matters with the aim of regulatory convergence. [EU-Japan Cooperation](#) has focused on making it easier for businesses to operate across borders, policy analysis with three key areas of focus (climate change, environment and energy, trade and investment and industrial policy). In addition, commitments to facilitate the participation of Japanese partners in Horizon 2020 research projects have also been undertaken.

Innovation and R&D cooperation has focused on high-tech clusters – indirectly impacting raw materials through devising more resource efficient technology, substitution and recycling efforts. Most EU-Japan engagement focuses on general industry, finance and economies; the EU-USA-Japan trilateral dialogue on critical minerals was identified as specific to the raw materials sector.

5.2.1 EU-USA-Japan Trilateral Conference on Raw Materials

Launched in 2011, the trilateral conference focuses on efficient management of critical materials, with the [sixth conference](#) held in Brussels in 2017. The conference functions as a platform for technical and policy experts to exchange research findings, approaches and innovative thinking on managing critical minerals supply as well as more efficient use. Each conference includes a range of issues, from improved methodology for assessing critical raw material supply, to advances in substitution of critical materials, reuse and recycling measures and capacity building to address the critical raw materials sector.

The trilateral conference works well in focusing the attention of researchers and policy makers on one particular segment of the global mineral sector – critical minerals. As consumers, the EU, Japan and the USA share a common objective of reducing the risk in supply chains as well as efficient consumption.

In terms of achievements, the platform fulfils its function of providing a place for discussion and collaboration. However, can more be achieved under this platform? Inclusion of China within this platform may be worth consideration – as one of the main producers of rare earths as well as a manufacturer of green technologies

⁴¹ http://europa.eu/rapid/press-release_MEMO-18-3326_en.htm



(which make use of critical minerals) it is an important stakeholder in this segment. In this connection, it may be relevant to again draw attention to the changes in US policy. Since national security and, indeed, security of raw material supply is explicitly presented as the justification for US trade measures (although most observers agree that this is more of an irresponsible excuse than a serious concern) any forum or exchange of views with the US that touches on security of supply for mineral raw materials needs to be approached in a very serious and rigorous manner by the EU.

→ STRADE finds the EU-Japan engagement to be based on wider industrial and economic platforms, with very limited attention given to raw materials themselves. The trade profile also indicates limited raw material engagement between the two regions. STRADE sees no need to develop the raw materials engagement with Japan. The cooperation on innovation and green technology should continue, for example through the EU-USA-Japan Trilateral Conference on Raw Materials.

6 EU Engagement with the USA

The EU-USA relationship has been the most challenging for the EU, amongst the countries included in this report, over the past year. With the imposition of trade tariffs on steel by the USA, and the retaliatory tariffs imposed by the EU, the USA is the only country in this report that has moved backwards from open trade with the EU. The tariffs, if anything else have resolved in EU Member State governments working more closely in dealing with external trade challenges.

It has also driven the EU to shore up economic and trade ties with other economic partners. The conclusion of the [G7 summit in Canada](#) this year has, if nothing else, reinforced the idea of the EU, Canada and Japan holding strong against the USA's economic nationalism (Box 3).

In 2017, USA accounted for 13.8% of EU imports and 20% of EU exports, with an EU trade surplus of €119 billion. The majority of EU exports to the USA were in the manufactures category (72%), followed by Chemicals (19%) and Agricultural goods (5%). EU imports from the USA were also in manufactures category (70%), followed by Chemicals (19%) and Agricultural goods (5%). Ores and metals trade accounted for less than 2% of EU imports or exports from the USA.

Box 3: World Leaders at the G7 Summit (2018)



Source: Reuters

6.2 Mineral Trade Profile

The total EU exports to the USA, in minerals and metals, was valued at US\$6.5 billion in 2017, accounting for 4.2% of the EU's global exports in this category. The USA was the destination of 2.4% of the EU's global industrial minerals exports, 5% of its refined metals exports and 3% of its ores and concentrates exports⁴².

The USA also accounts for 3.8% of the EU's imports of minerals and metals. 4% of its industrial mineral imports, and 5% of its ores and concentrate imports are sourced from the USA.

Top Mineral Products (European Trade). The top EU product exports to the USA in the minerals and metals category include silver/platinum refined metal, refined, copper, aluminium, ores and metals concentrates of precious metals, and monument and building stones. The top EU imports from the USA are for the ores and concentrates of previous metals (valued at US\$1.1 billion in 2017), followed by silver/platinum metals, aluminium, refined nickel and non-ferrous base metals waste. Therefore, apart from precious metals, the EU trade with the USA is dominated by refined metals products.

⁴² Please see Annex 1 for details of minerals & metals covered.

Table 11 USA's share in EU mineral trade (2017)

Value & Share of category	EU Exports to USA		EU Imports from USA	
Category	US\$Mn.	Share in category	US\$Mn.	Share in category
Ores & concentrates	1,548	3.2%	3,247	4.9%
Metals (refined)	4,696	4.8%	3,323	3.0%
Industrial Minerals	226	2.4%	490	4.3%
Total Minerals & Metals	6,471	4.2%	7,060	3.8%
Top 5 EU exports to USA			Top 5 EU Imports from USA	
Product	Value (US\$Mn.)		Product	Value (US\$Mn.)
Silver/platinum etc	1416		Precious metal ore/conc.	1,117
Copper (refined)	940		Silver/platinum etc	1,083
Aluminium	918		Aluminium	633
Precious metal ore/conc.	843		Nickel (refined)	628
Monument/building stone	609		Non-ferrous base metal waste	519

Source: MineHutte Consulting, trade date calculations based on WITS Trade Data, accessed August 2018

The USA exports 17.6% of its total minerals and metals to the EU. 18% of its refined metals exports, 18% of its ore and concentrate exports and 16% of its industrial minerals were destined for the EU in 2017. USA sources 18% of its total minerals and metals from the EU, with 12% of its refined metals, 17% of its ores and concentrates and 12% of its industrial mineral imports originating from the EU. As a share of total trade, the EU is a more important source/destination of minerals and metals for the USA than vice versa.

Top Mineral Products (USA Trade). The top products under minerals and metals, exported by the USA to the EU are ores and concentrates of precious metals, silver/platinum refined metal, refined nickel, aluminium and the ores and concentrates of zinc. The USA's top product imports from the EU include silver/platinum refined metals, aluminium, refined copper, the ores and concentrates of precious metals and monument and building stones.

Table 12 EU's share in USA's mineral trade (2017)

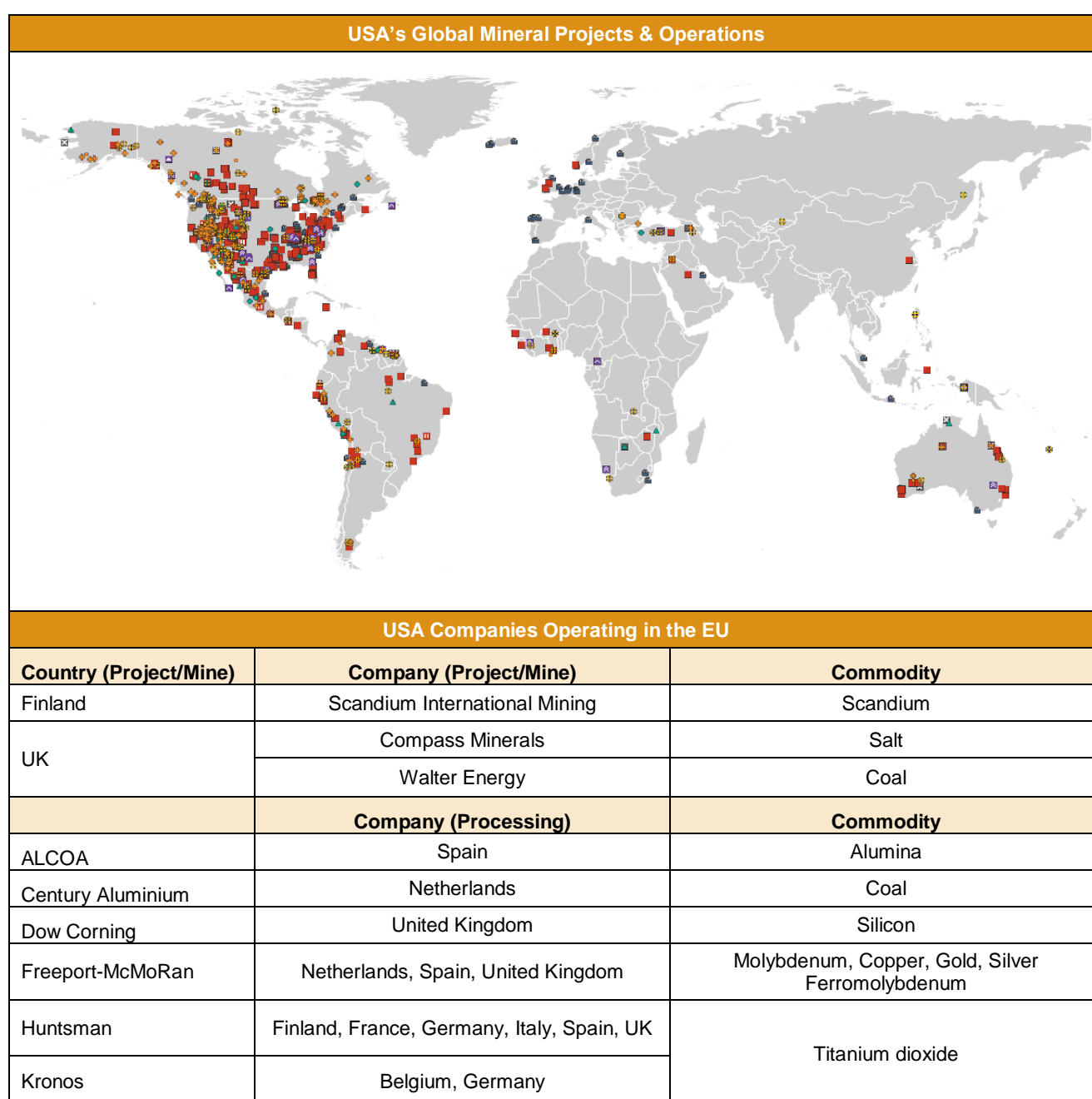
	USA's exports to EU		USA's imports from EU	
Category	US\$Mn.	Share in category	US\$Mn.	Share in category
Ores & concentrates	3,330	17.7%	1,416	17%
Metals (refined)	2,564	17.9%	5,041	12%
Industrial Minerals	434	15.8%	366	12%
Total Minerals & Metals	6,328	17.6%	6,328	18%
Top 5 USA exports to EU			Top 5 USA imports from EU	
Product	Value (US\$Mn.)		Product	Value (US\$Mn.)
Precious metal ore/conc.	1,733		Silver/platinum etc	1,451
Silver/platinum etc	734		Aluminium	1,287
Nickel (refined)	701		Copper (refined)	1,023
Aluminium	497		Precious metal ore/conc.	747
Zinc ores/concentrates	440		Monument/building stone	659

Source: MineHutte Consulting, trade date calculations based on WITS Trade Data, accessed August 2018

USA Mining Companies. USA headquartered mining companies are predominantly found inside the USA, followed by Canada and Latin America. They have a limited presence in Africa and Australia, with a few notable presences in Europe and Central Asia.

Within the EU, STRADE was able to identify two mine projects in the UK (salt and coal) and one in Finland (Scandium). However, the USA presence in the processing sector in the EU is much stronger, with projects in Spain, Netherlands, UK, Finland, France, Germany and others. The same companies (Freeport-McMoRan & Huntsmen) account for most of these projects. The strong presence of processing facilities also explains the trade in refined metals within the two regions, as they are likely to include a fair amount of cross-shipment between company affiliates in the USA and the EU.

Figure 7 USA mining operations; global & EU (2017)



Source: MineHutte Consulting, Project/Company information based on Mining Intelligence data.

Responsible mining practices. The USA has a federal mining act that governs mining activity and is then further supplemented by state level regulation⁴³. Both the federal and state environmental laws require compliance. The environmental regulations are considered fairly stringent with the federal Environmental Protection Agency playing a key role in approval of mining projects.

6.3 Bi-lateral Engagements

The EU-USA bilateral dialogues have focused mainly on financial services regulations, insurance and capital movements. The aim is to monitor regulatory developments, identify potential spill-over effects of legislation and where possible converge towards international standards in financial service regulations. Other cooperation measures have included science and technology, with the [EU-USA Joint Consultative Group Meeting on Science and Technology Cooperation](#) in its October 2017 meeting committing to furthering cooperation between researchers under the Horizon 2020 programme.

Apart from the trilateral conference on critical minerals (see 4.2.2), STRADE was unable to identify a raw material specific engagement vehicle/platform between the two parties. However, recent US initiatives in the area of international trade, particularly the introduction of tariffs on steel, raise the issue of dangers to the supply chains of European industries. It is difficult to exaggerate the dangers of the measures taken by the US administration, particularly as they risk both to broaden supply chain disruptions to a larger range of countries and to undermine the respect for and credibility of international trade agreements. While the risks go well beyond the minerals and metals industry, that industry has been the first to come under attack and it may be a test case.

The challenges to raw materials engagement between the USA and the EU have been witnessed when [tariffs were applied to EU steel and aluminium products](#) in May 2018. There are also indirect impacts of USA tariffs and sanctions on the EU's ability to access international supply of raw materials. Consider the case of USA Treasury imposing sanctions on Oleg Deripaska, a Russian Oligarch, in April 2018⁴⁴. At the time, Mr. Deripaska's had controlling shares in the world's second largest aluminium producer Rusal. The impact of the sanctions was to prohibit any transactions by USA customers with Rusal. Non-USA companies found to be conducting business with Rusal could also face 'secondary sanctions'. Given that Rusal is a major source of aluminium products for EU companies, this effectively damages their ability to access international raw material supplies. The USA treasury had extended the deadline for full imposition of sanctions to November 2018, at the time of writing of this report and it remains unclear if they will be withdrawn if Mr. Deripaska divests from the company. The potential damage the current USA administration can create for EU companies in accessing international raw material supply in the future, is increasingly emerging.

→ STRADE finds it challenging to offer policy recommendations for the EU-USA engagement, given the wider USA led global trade disruptions that the EU needs to address as a global economic leader. The direct raw materials-based engagement is comparatively low, however the indirect impacts of USA policy towards third parties, particularly sanctions non-US companies along the mineral supply chains, can potentially limit the EU's access to international sources of raw materials. Thus, the EU strategy focusing on the wider economic and geo-political issues related with the USA will also need to address direct and indirect impacts on access to raw materials for European companies.

⁴³ [Permitting, Economic Value and Mining in the United States](#) (NMA, 2015)

⁴⁴ <https://www.ft.com/content/71ca3200-be1b-11e8-8274-55b72926558f>

7 EU relations with Russia

The raw material engagement between Russia and the EU was not included in the initial remit of the STRADE project. However, this engagement has been highlighted as important during the stakeholder engagement in the course of this project. 3% of ores and concentrates and 7% of refined metals (excluding steel) imports of the EU, come from Russia. We briefly address this engagement here. In 2017, Russia accounted for 7.8% of EU imports and 4.6% of EU exports, with an EU trade deficit of €58.7 billion.

The geo-political challenges of the EU-Russia engagement, combined with the EU reliance on Russian gas, make this an 'interesting' relationship. On the one hand, there are more issues over which the two regions differ and are in conflict, than common grounds identified. NATO, the conflict in Syria, the nerve-gas attacks on UK soil, the annexation of Crimea, and (resultant) sanctions on particular sectors of the Russian economy⁴⁵, amongst other incidents, can best define EU-Russian ties as 'strained'. This is in sharp contrast to 2008, where the EU and Russia were beginning negotiations on a new agreement which would have looked at a new free trade area and visa-free travel between the two parties.

On the other hand, one-third of the EU's oil and gas imports are from Russia; providing Russia with nearly 70% of its export earnings. Despite the other EU-Russia challenges, this energy supply line has not been majorly impacted, apart from a few isolated incidents. The over-dependence of the EU on Russia remains of concern. STRADE cannot speak further on this topic, as oil/gas and Russia were not part of its research remit.

In March 2016, the EU agreed on five guiding principles for its Russian strategy, which focus more on the 'implications' of Russia, rather than engaging with Russia. The principles are listed below and the EU acknowledges that their implantation faces major difficulties⁴⁶.

- full implementation of the Minsk agreements
- closer ties with Russia's former Soviet neighbours
- strengthening EU resilience to Russian threats
- selective engagement with Russia on certain issues such as counter-terrorism
- support for people-to-people contacts.

7.1 Mineral Trade Profile

Russia's share in EU's total exports of minerals and metals is minimal (0.4%), however Russia does account for 5.4% of the EU's imports in this category. Refined metals (excl. steel) are the largest category, with Russian imports accounting for 7.1% of total EU imports. Russia accounts for a smaller share of EU imports of ores and concentrates (2.8%) and industrial minerals (3%)⁴⁷.

Top Mineral Products (European Trade). As noted, EU exports to Russia are fairly limited (US\$637 million in 2017), with refined copper, aluminium (refined and ores/concentrates), monument/building stones and other crude minerals accounting for nearly 75% of exports of minerals and metals. Aluminium remains the largest EU import from Russia, followed by refined copper, silver/platinum metals, iron ore and concentrates and nickel ores and concentrates.

⁴⁵ <http://www.consilium.europa.eu/en/press/press-releases/2018/07/05/russia-eu-prolongs-economic-sanctions-by-six-months/>

⁴⁶ For a more detailed discussion please see the European Parliament Briefing Document (February 2018) on [The EU's Russia Policy](#)

⁴⁷ Please see Annex 1 for details of minerals & metals covered.

The quality of trade data is often a reflection of a government's capacity to track and release data to the UN COMTRADE systems in a timely fashion; and in some country cases, the complete data for a year may take time to be filed. In the case of Russia, the trade data presented above does not appear to reflect the sale of refined nickel to the EU. Norinickel is the world's largest producer of nickel, and the EU is Norinickel's biggest market. Norinickel will be supplying into the EU from its Finnish operation (supplied from Russia with ores and concentrates which are listed in Table 13) and there would be some direct sales of refined nickel from Russia. Then again, all Norinickel's metal sales are routed through its trading hub in Zug, Switzerland and may not show up as Russian exports.

Table 13 Russia's share in EU mineral trade (2017)

Value & Share of category	EU Exports to Russia		EU Imports from Russia	
Category	US\$Mn.	Share in category	US\$Mn.	Share in category
Ores & concentrates	158	0.3%	1,851	2.8%
Metals (refined)	385	0.4%	7,890	7.1%
Industrial Minerals	94	1.0%	335	3.0%
Total Minerals & Metals	637	0.4%	10,077	5.4%
Top 5 EU exports to Russia			Top 5 EU Imports from Russia	
Product	Value (US\$Mn.)		Product	Value (US\$Mn.)
Copper (refined)	174		Aluminium	3,404
Aluminium	136		Copper (refined)	1,946
Aluminium ores/concs/etc	96		Silver/platinum etc	1,609
Monument/building stone	68		Iron ore/concentrates	735
Other crude minerals	60		Nickel ores/concs/etc	561

Source: MineHutte Consulting, trade data calculations based on WITS Trade Data, accessed August 2018

From the Russian perspective, the EU accounts for 37% of its exports of minerals and metals. This includes nearly 40% of its refined metals exports, 35% of its industrial minerals exports and 33% of its ores and concentrates exports. Russia imports 37% of its minerals and metals from the EU, largely refined metals, where the EU accounts for 27% of its total imports in the category.

Top Mineral Products (Russian Trade). The top Russian exports to the EU, by product, include refined copper, aluminium, silver/platinum metals, iron ore & concentrates and nickel ores and concentrates. The top Russian imports from the EU are aluminium, refined copper, ores and concentrates for aluminium, other crude minerals and monument and building stones.

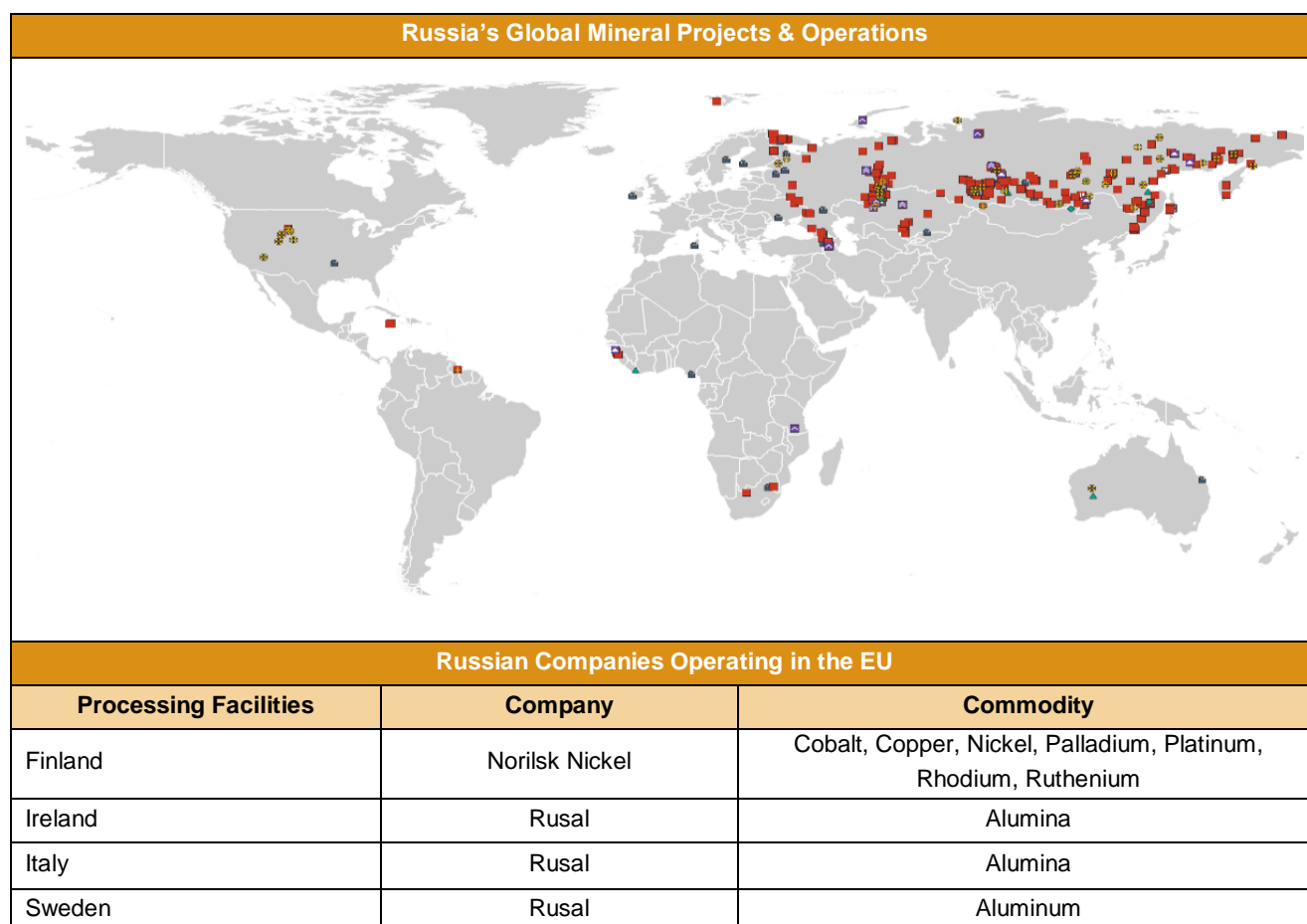
Russian Mining Companies. Russian mining companies are dominantly found to be operating in Russia or the former Soviet States. There are a few projects active in the USA, Africa and Australia. In the EU, Russian companies are found in the processing rather than the mining sector. Norilsk Nickel and Rusal are both global operators and have (predominantly aluminium) processing facilities in Finland, Ireland, Italy and Sweden. [As noted above and below, those in Finland are related to nickel]

Table 14 EU's share in Russia's mineral trade (2017)

Russian exports to EU			Russian imports from EU	
Category	US\$Mn.	Share in category	US\$Mn.	Share in category
Ores & concentrates	1,671	33.3%	143	4%
Metals (refined)	6,600	38.9%	375	27%
Industrial Minerals	397	35.4%	87	13%
Total Minerals & Metals	8,669	37.5%	8,669	37%
Top 5 Russian exports to EU			Top 5 Russian imports from EU	
Product	Value (US\$Mn.)		Product	Value (US\$Mn.)
Copper (refined)	2,900		Aluminium	164
Aluminium	1,483		Copper (refined)	161
Silver/platinum etc	1,375		Aluminium ores/concs/etc	91
Iron ore/concentrates	717		Other crude minerals	56
Nickel ores/concs/etc	614		Monument/building stone	33

Source: MineHutte Consulting, trade data calculations based on WITS Trade Data, accessed August 2018

Figure 8 Russian mining operations; global & EU (2017)



Source: MineHutte Consulting, Project/Company information based on Mining Intelligence data

7.2 The EU-Russia Raw Materials Context

The collapse of the Soviet Union in the early 1990s led to a massive outflow of metals such as aluminium, copper scrap and steel scrap, which destabilised markets and resulted in demands from the EU and elsewhere for retaliatory measures. In more recent years, however, trade in metal and mineral products between Russia and the rest of the world has generally regularised. Thus, for example, export taxes of 3.75% on nickel and of 10% on copper were reduced to zero in 2014, two years ahead of the schedule agreed when Russia became a member of the WTO in 2012.

This does not, however, mean that trade relations between Russia and the EU are wholly without their issues. In October 2017, hot rolled flat steel products produced by three Russian steel producers, NLMK, MMK and Severstal, became subject to **EU anti-dumping duties** ranging from 5% to 33%.

Russia remains a major exporter of mineral raw materials to Europe. This trade is dominated by oil and gas, but the trade in metals and minerals is also important. **Norilsk Nickel**, Russia's largest mining company, **generated 57% of its sales revenues in Europe in 2016**. These came from nickel, but also from copper, cobalt and platinum group metals. Norilsk Nickel's Harjyvalta Oy produces around 1000 tonnes per annum cobalt phosphate from imports from Russian Norilsk plants and from other sources. Russia is one of the world's biggest producers of nickel, with a refined cobalt production of around 5,500 tonnes in 2016⁴⁸. For Russian Aluminium (Rusal), Europe accounted for 45% of total sales. Therefore, what happens in the EU is of considerable importance to Russia. This concentration of sales in Europe has required Russian companies to take a close interest in the standards applying to products sold in the EU.

The **EU's REACH regulation** (Registration, Evaluation, Authorisation and Restriction of Chemicals) which came into force in 2006 addresses the production and use of chemical substances and their potential impacts on human health and the environment. It requires that all chemicals sold in the EU are appropriately evaluated and registered. Those not registered can be banned from sale.

Although the focus of the regulation is chemical products, certain metallic products are captured by the legislation. Amongst these are various nickel products sold by the Russian producer Norilsk Nickel both from its Russian operations and from its nickel refinery at Harjavalta in Finland. For which reason, Norilsk has worked collaboratively, both directly and through the Nickel Institute, with EU companies in the evaluation and characterisation of its products intended for sale within the EU.

The potential impacts of EU policies and legislation on mineral-based business outside the EU has led EU consultative bodies working in this field to open up their membership to Russian companies. Thus, for example, Norilsk Nickel is a member of the Brussels-based metals federation Eurometaux while Russian magnesite producer Magnezit is a member of the European mining federation, Euromines.

The EU has in the past played an important role in **supplying capital** for the development of Russian mining. Much of this came via commercial banks in the form of syndicated loans made by European banks or in debt instruments arranged by them, although a limited amount of capital was also provided to **Russian mining projects through the EBRD** (European Bank of Reconstruction and Development).

Since 2014 much of this financing has dried up as a result of sanctions imposed on lenders subsequent to Russia's annexation of the Crimea and its support for separatists in eastern Ukraine, and a freeze on new lending to Russia imposed by the EBRD. **In 2018, the EBRD will close five of its seven offices in Russia.**

⁴⁸ See STRADE Policy Brief 06/2018 on '[Social, economic and environmental challenges in primary lithium and cobalt sourcing](#)' for a more detailed discussion.

The market for **equity capital has been less affected by sanctions**, and London continues to be a major source of equity finance for Russian mining and metals companies. A number of these have listings on the London Stock Exchange (LSE), including two of Russia's largest steel producers, Evraz and Severstal, and three of its largest gold producers, Polymetal, Polyus, and Petropavlovsk. The Russian aluminium and power company, En+, had announced that it would do a fund-raising on the LSE in November 2017. Its shares, however, were suspended in May 2018 because of Oleg Deripaska's involvement in En+ Group and he is on the US sanctions list.

The LSE's junior market, AIM (Alternative Investment Market), has been active in providing equity finance to junior mining companies operating in Russia such as Eurasia Mining, Amur Minerals, Trans-Siberian Gold and Highland Gold.

There has been **very little direct investment by EU companies in Russia's mining sector**. Investment by foreign companies in Russia's mining sector is challenging. Despite attempts to update it, mining in Russia is still governed by the hastily-enacted law 'On Subsoil Resources' of 1992. This gives the Government the right to deny final exploration rights and production rights to companies making a discovery and to terminate a licence if a deposit of 'federal significance' is discovered.

The list of what is potentially of federal significance is long. It contains a number of commodities which are deemed strategic and thus off-limits to control by foreign investors. These include diamonds, platinum group metals, uranium, rare earths, cobalt, lithium, tantalum and niobium. It also includes gold deposits having reserves in excess of 50 tonnes and copper deposits with reserves of more than 500,000 tonnes of contained copper. Several attempts to amend this legislation have foundered; the one change has been to raise the limit of foreign investor participation in mining operations deemed strategic from 10% to 25% in 2011.

Russian operations in third countries at this time remain limited. While not very extensive they can become relevant to the EU in the future. Take the case of the current situation of Rusal which has had to go abroad for its supplies of bauxite and alumina. The Russian steel companies, Evraz and Severstal had fairly unsuccessful ventures abroad, as did Norilsk, the only surviving and successful part of which is the Harjavalta nickel refinery in Finland. The Russian government briefly flirted with support for globe-trotting Russian corporate 'champions' but now takes the view they should prioritise investment at home.

The recent US sanctions have rendered Rusal's aluminium metal and alumina, toxic - Rio has an alumina joint venture with Rusal in Queensland (Australia) on which Rio had declared force majeure. Even more problematic would be similar sanctions on Norilsk Nickel (Nornickel). The company is the biggest supplier of nickel to the EU. It is also the largest producer of refined nickel in the world. The ferro-nickel pouring out of Asia is no substitute for this. In addition to nickel, Norilsk is also an important global supplier of a range of other 'strategic' metals, including copper, platinum, palladium, rhodium, cobalt, gold, silver, tellurium and selenium.

The impact of such actions on Russian producers, on access to EU supply of raw materials needs to be more thoroughly revised, particularly in light of actions by third countries (such as the USA) that may impact Russian production and trade capabilities.

→ STRADE, based on a preliminary analysis, finds that the EU-Russian raw materials engagement is significant in terms of raw material flows, particularly when compared to some of the other industrial countries. While we recognise the wider (strained) economic and political ties between the two regions, Russia is and can be an important source of raw materials for the EU. The implications of this, and whether better raw materials diplomacy with Russia should be considered by the EU in the future, needs to be more fully researched, balancing the wider geo-political relationships between the EU and Russia.

8 Summary

The trade in raw materials between the EU, G4 and China is part of the wider engagement between these economic super powers and, on its own, is not significant. The trade flow between the regions indicates that the EU is a much more significant source of minerals and particularly refined metals for these countries, than they are to the EU.

As Table 15 summarises, EU exports for minerals and metals combined is the highest with China, followed by the USA. With the remaining industrial countries, it accounts for less than 1% each for the EU's total exports in this category. In terms of imports, the significant, albeit low, share of EU imports is accounted for by the USA, followed by Canada and then China. Russia, however, accounts for just over 5% of EU's imports of minerals and metals; much higher than any of the other partners analysed in this report.

Table 15 EU trade with industrial countries in minerals & metals (2017)

Partner	EU exports		EU imports	
	US\$Mn.	% Share	US\$Mn.	% Share
Australia	292	0.2%	1,968	1.0%
Canada	759	0.5%	4,159	2.2%
China	9,566	6.2%	3,466	1.8%
Japan	1,176	0.8%	794	0.4%
USA	6,471	4.2%	7,060	3.8%
Russia	637	0.4%	10,077	5.4%

Source: MineHuthe Consulting, trade data calculations based on WITS Trade Data, accessed August 2018

The raw materials engagement between the EU and the industrial countries is a two-way street. For a number of the industrial countries analysed, the EU is a significant destination of exports as well as a source of imports. As Table 16 indicates, the USA exports 17.6% of its minerals and metals to the EU. Canada exports 13.6% and China 11.8% of their minerals and metals to the EU. For Russia, the EU is a much more significant export destination, accounting for nearly 40% of its exports in this category.

As a source of minerals and metals, nearly 18% of USA imports come from the EU Member States. For Canada, 14% of its imports and for China 12% of its minerals and metals imports come from the EU.

Table 16 Industrial country trade with EU in minerals & metals (2017)

Partner	Exports to the EU		Imports from the EU	
	US\$Mn.	% Share	US\$Mn.	% Share
Australia	1,305	1.8%	1,305	2%
Canada	3,847	13.6%	3,847	14%
China	3,215	11.8%	3,215	12%
Japan	604	3.6%	604	4%
USA	6,328	17.6%	6,328	18%
Russia	8,669	37.5%	8,669	37%

Source: MineHuthe Consulting, trade data calculations based on WITS Trade Data, accessed August 2018

The contrast between Table 15 and Table 16 in terms of importance of the EU as a trading partner for the industrial countries is clear – the EU is of much more significance in accounting for the share of the industrial partners trade, than the industrial partners account for the EU's share of trade. We do need to quantify this statement, as the numbers reflect both raw materials (ores & concentrates and industrial minerals) as well as refined metals. While STRADE has not included refined metals in its larger terms of reference, they are included in this report for the significance they hold in economic engagement between these countries.



The EU is one of the largest global producers of refined metals and has significant refinery and smelting capacity. In addition, a number of the partner countries host mining and smelting companies which have operations based in both regions. The regions are also significant manufacturers, and thus consumers of these metals. Therefore, intra-company trade also accounts for a large share of intra-regional trade.

While dedicated minerals and metals engagement platforms between the EU and the industrial countries remain limited (apart for the EU-Japan-USA trilateral conference on raw materials), the trade agreements tend to encompass this engagement.

CETA for example, lowers tariffs and labour mobility between **Canada** and the EU and will increase the investment potential for the EU mining sector. It can allow Canadian companies to challenge discretionary decision making by Member State mining agencies and governments when it comes to granting of mining licences. The CETA document (see pg 5 on [investment protection](#)) provides clear guidance where such actions will be permissible under the CETA. This can be potential source of conflict but also serve to improve mining legislation in some member countries.

The other significant trade agreement, while still in its infancy, is the proposed EU-**Australia** FTA, which devotes a chapter to raw materials and focuses on both environmental standards as well as formalising cooperation in third countries on the issue of raw materials.

EU-**China** cooperation on raw materials is ill-defined at the moment, with a number of on-going dialogues, which encompass raw materials but are generally addressing wider industrial and economic policy. As noted, China is both a competitor and a partner on a number of raw material related issues and therefore the EU approach differs depending on the stream under discussion. China's steps towards improving its own conflict minerals and cobalt sourcing, can assist the EU in more responsible sourcing as well, therefore continued dialogue and cooperation will be mutually beneficial.

The EU Minerals and metals trade and engagement with **Japan** is not significant and we do not see a political or economic need to expand this engagement further. The two regions are focused on larger economic issues and the role of mineral raw materials is not significant to this engagement. Cooperation on resource efficiency and innovation continues and no further recommendations are required here.

The **USA**, under the current administration, offers larger challenges to the EU and again the political and economic dimensions of these challenges far outweigh the significance to the ores and metals trade between the regions. While the steel tariffs and other associated trade restrictions are not welcome, the danger lies in such tariffs being expanded to other raw materials in the future. The EU engagement with the USA, however, will not be driven by raw materials, but by other economic and political factors. Therefore, there are no specific raw material engagement strategy or recommendations made by STRADE here.

The addition of **Russia** to the industrial countries case studies was an important one, though the country was not included in the original terms of reference for this project. As with the USA, the political drivers of EU-Russia engagement dominate. However, unlike the USA, there is more significant EU-Russia trade in minerals and metals. While the relationship has been more acrimonious, energy imports from Russia have not diminished. The same can be said for mineral and metals flow – however, it must be remembered that the EU can replace the Russian imports for the latter more quickly than the former. While we recognise the wider (strained) economic and political ties between the two regions, Russia is and can be an important source of raw materials for the EU. The implications of this, and whether better raw materials diplomacy with Russia should be considered by the EU in the future, needs to be more fully researched, balancing the wider geo-political relationships between the EU and Russia.

Annex 1

Standard International Trade Classification, Revision 4

INDUSTRIAL MINERALS (SITC 27)

FERTILIZERS, CRUDE, OTHER THAN THOSE OF DIVISION 56

- Animal or vegetable fertilizers, whether or not mixed together or chemically treated; fertilizers produced by the mixing or chemical treatment of animal or vegetable products
- Sodium nitrate
- Natural calcium phosphates, natural aluminium calcium, phosphates and phosphatic chalk.

STONE, SAND AND GRAVEL

- Building or monumental (dimension) stone, not further worked than roughly trimmed or merely cut, by sawing or otherwise, into blocks or slabs of a rectangular (including square) shape
- Gypsum, plasters, limestone flux, limestone and other calcareous stone of a kind used for the manufacture of lime or cement
- Natural sands of all kinds, whether or not coloured (other than metal-bearing sands of division 28).
- Pebbles, gravel, broken or crushed stone, of a kind commonly used for concrete aggregates, for road metalling or for railway or other ballast, shingle and flint, whether or not heat-treated; macadam of slag, dross or similar industrial waste, whether or not incorporating materials cited in the first part of the heading; tarred macadam; granules, chippings and powder, of stones, whether or not heat-treated

SULPHUR AND UNROASTED IRON PYRITES

- Sulphur of all kinds, other than sublimed sulphur, precipitated sulphur and colloidal sulphur
- Iron pyrites, unroasted

NATURAL ABRASIVES, N.E.S. (INCLUDING INDUSTRIAL DIAMONDS)

- Industrial diamonds, sorted, whether or not worked
- Natural abrasives, n.e.s. (includes semi precious and pumice stone)

OTHER CRUDE MINERALS

- Clays and other refractory minerals, n.e.s. (includes graphite, dolomite, magnesite, Kaoline, Bentonite)
- Sodium chloride, pure, and common salt (including table salt and denatured salt), whether or not in aqueous solution or containing added anti-caking or free-flowing agents; seawater
- Asbestos
- Quartz, mica, feldspar, fluorspar, cryolite and chiolite
- Slag, dross, scalings and similar waste, n.e.s.
- Minerals, crude, n.e.s. (includes charcoal, barytes, steatite, borates, siliceous earths, bitumen, asphalt, Vermiculite)

ORES & CONCENTRATES (SITC 28)

IRON ORE AND CONCENTRATES

- Roasted iron pyrites (pyrites cinders), whether or not agglomerated
- Iron ore and concentrates, not agglomerated
- Iron ore agglomerated (sinters, pellets, briquettes, etc.)

FERROUS WASTE AND SCRAP; RE-MELTING SCRAP INGOTS OF IRON OR STEEL

- Waste and scrap of cast iron
- Waste and scrap of alloy steel
- Other ferrous waste and scrap

COPPER ORES AND CONCENTRATES; COPPER MATTES; CEMENT COPPER

- Copper ores and concentrates
- Copper mattes; cement copper (precipitated copper)

NICKEL ORES AND CONCENTRATES; NICKEL MATTES, NICKEL OXIDE SINTERS AND OTHER INTERMEDIATE PRODUCTS OF NICKEL METALLURGY

- Nickel ores and concentrates
- Nickel mattes, nickel oxide sinters and other intermediate products of nickel metallurgy.

ALUMINIUM ORES AND CONCENTRATES (INCLUDING ALUMINA)

- Aluminium ores and concentrates
- Alumina (aluminium oxide), other than artificial corundum

URANIUM OR THORIUM ORES AND CONCENTRATES

- Uranium ores and concentrates
- Thorium ores and concentrates

ORES AND CONCENTRATES OF BASE METALS, N.E.S.

- Lead ores and concentrates
- Zinc ores and concentrates
- Tin ores and concentrates
- Manganese ores and concentrates (including manganiferous iron ores and concentrates with a manganese content of 20% or more calculated on the dry weight)
- Ores and concentrates of molybdenum, niobium, tantalum, titanium, vanadium and zirconium
- Ores and concentrates of other non-ferrous base metals (includes Chromium, Tungsten, Cobalt ore & conc, Base metals NES)

NON-FERROUS BASE METAL WASTE AND SCRAP, NES

- Slag, ash and residues (other than from the manufacture of iron or steel) containing metals, arsenic, or their compounds
- Other non-ferrous base metal waste and scrap, n.e.s. (including Copper waste and scrap Nickel waste and scrap Aluminium waste and scrap Lead waste and scrap Zinc waste and scrap (other than dust) Tin waste and scrap)

ORES AND CONCENTRATES OF PRECIOUS METALS; WASTE, SCRAP AND SWEEPINGS OF PRECIOUS METALS (OTHER THAN OF GOLD)

- Precious metal ores and concentrates
- Silver ores and concentrates
- Ores and concentrates of other precious metals
- Waste and scrap of precious metal (other than gold) or of metals clad with precious metal (other than gold)
- Waste and scrap of platinum, including metal clad with platinum but excluding sweepings containing other precious metals
- Waste and scrap of precious metal, n.e.s., or of metal clad with such precious metal

REFINED METALS (Excl STEEL) (SITC 68)

SILVER, PLATINUM AND OTHER METALS OF THE PLATINUM GROUP

- Silver (including base metals clad with silver), unwrought, unworked or semi-manufactured
- Platinum and other metals of the platinum group (including metals clad with platinum or other metals of the platinum group), unwrought, unworked or semi-manufactured

COPPER

- Copper, refined and unrefined; copper anodes for electrolytic refining; copper alloys, unwrought
- Copper bars, rods and profiles
- Copper wire
- Copper plates, sheets and strip, of a thickness exceeding 0.15 mm
- Copper foil (whether or not printed or backed with paper, paperboard, plastics or similar backing materials), of a thickness (excluding any backing) not exceeding 0.15 mm; copper powders and flakes.
- Copper tubes, pipes and tube or pipe fittings (e.g., couplings, elbows, sleeves)

NICKEL

- Nickel and nickel alloys, unwrought (excluding electroplating anodes)
- Nickel and nickel alloys, worked (excluding electroplating anodes)

**ALUMINIUM**

- Aluminium and aluminium alloys, unwrought
- Aluminium and aluminium alloys worked

LEAD

- Lead and lead alloys, unwrought
- Lead plates, sheets, strip and foil; lead powders and flakes

ZINC

- Zinc and zinc alloys, unwrought
- Zinc and zinc alloys worked

TIN

- Tin and tin alloys, unwrought
- Tin bars, rods, profiles and wire

MISCELLANEOUS NON-FERROUS BASE METALS EMPLOYED IN METALLURGY, AND CERMET

- Tungsten (wolfram), molybdenum, tantalum and magnesium, unwrought (including waste and scrap)
- Intermediate products of cobalt metallurgy; cobalt, cadmium, titanium and zirconium, unwrought (including waste and scrap)
- Base metals, n.e.s., and cermets, and articles thereof, n.e.s. (including waste and scrap)