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Strategic Dialogue on Sustainable Raw Materials for Europe (STRADE)

European Union and Raw Material Engagements with Developing Countries – A Review

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List of abbreviations

Abbreviation	Description
€	Euro (currency)
ABE	Africa Business Education Initiative for the Youth
ACP	African, Caribbean, and Pacific Group of States
AMDC	African Minerals Development Centre
AMEP	Australia Mongolia Extractives Program
BITs	Bilateral Investment Treaties
CDB	Chinese Development Bank
CDC	United Kingdom's Development Finance Institution
CSR	Corporate Social Responsibility
DAC	Development Co-operation Directorate
DFAT	Department of Foreign Affairs and Trade
DG	Directorate General
DRC	Democratic Republic of Congo
EEC	European Economic Community
EDF	European Development Fund
EIB	European Investment Bank
EIP	European Innovation Partnerships
EITI	Extractive Industries Transparency Initiative
EU	European Union
EXIM	Export Import
FTA	Free trade agreement
GATT	General Agreement on Tariff and Trade
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit – German Development Agency
IMF	International Monetary Fund
IM4DC	International Mining for Development Centre
JICA	Japan International Cooperation Agency
JOGMEC	Japan Oil, Gas and Metals National Corporation
LHS	Left hand side
mn	million
NIP	National Indicate Programmes
NRCan	Natural Resources Canada
OECD	Organisation for Economic Co-operation and Development
oz	ounce
PAC	Public Affairs Canada

Abbreviation	Description
RHS	Right hand side
RMI	Raw Materials Initiative
SYSMIN	System of Stabilization of Export Earnings from Mining Products- EU funded project
t	metric tonne (1t = 1000kg)
TTIP	Transatlantic Trade and Investment Partnership
UK	United Kingdom
USD	US dollar (currency, $)
USA	United States of America
WTO	World Trade Organisation

Executive summary

European policy choices for engagement with raw material producing countries reflect the economic priorities of the day and the geopolitical context within which the policy choices are made.

These choices have progressed over the years from the provision of contingency support for raw material producing countries with which EU countries had some sort of historical association. In more recent years, policies have focused on capacity development and supporting access to markets through resources-based diplomacy.

The European Union's current mineral consumption is at a 'mature' level, i.e. is expected to remain stable and possibly marginally decline in the future. Over the past decade, the EU's mineral production from internal sources has not increased.

Within the international space, the EU has seen increasing competition for global minerals from the expanding demand from emerging economies such as China. The period of high commodity prices in 2003-2008 left mineral consumers facing higher input costs for the same volume of material. For the EU consumers of raw material in the manufacturing and infrastructure sectors, these costs potentially impacted their competitive capabilities in provision of goods and services, relative to other emerging economies.

This brought some urgency for the European Commission to address the stability of supply and access to raw material for its Member States. The Raw Materials Initiative (2008) focused on improving internal and external access to virgin raw material, as well as looking at increased recycling and substitution to meet its consumption demands.

This was not the first time that the EU (and previously as the EEC) Member States were faced with disruptions in global mineral markets. In the last quarter of the previous century, global supply has been at risk from a number of factors; from civil war in raw material producing countries, to mineral producer associations attempting to manage prices cartels. Nationalization of previously privately held mining companies was also occurring in newly independent African and Latin American countries. The EU's response to supply challenges was to focus on directed project level finance and funding, and at the country level to counteract balance of payment deficits brought about by falling commodity prices. The EU's focus was not to supply concerns per say, but also to political challenges from the Global South and maintaining good general relations with African, Pacific and Caribbean (APC) countries in general.

In the post-2008 era, the EU's response was largely through trade agreements that facilitated the flow of raw material to the EU. Dialogue based platforms were used to inculcate exchange of best practices with other international consumers and producers. At a time when other non-EU countries, such as Japan and Canada, focused their raw material engagements along very specific objectives, the EU's lack of focused engagement was clearly evident. The EU appears to be attempting a 'soft' approach towards developing countries, in contrast to the more focused engagement by other countries.

For the EU to be able to access and support stable global mineral markets, where supply or demand disruptions are less likely to emerge, and sustainable mining practices are employed, three key strategic areas need to be addressed in resource-rich developing countries. The country governments must have the capacity to regulate, monitor and govern their natural resources sector in a manner that meets, at least, minimum international standards. Second, these countries must have the technical skills to explore and establish the value of their mineral resources. They must have the technical capacity to administer a high skill and technology sector. Finally, developing country markets, through trade or investment, should be accessible for

international actors. In return developing countries should have access to EU markets for their mineral exports. This implies an engagement that is considered fair by both the recipient and the partner country.

This report consolidates the EU's raw material engagements with developing countries and contrasts this with the actions required for assisting such countries to be viable partners, to achieve the aims of the RMI. In this regard, the EU's unfocused strategy has largely failed. Its raw material engagement approach (as outlined in Chapter 2) does not address the objectives and tools used successfully by non-EU partners (as outlined in Chapter 3) in supporting resource-rich developing countries.

Capacity development, technical assistance and market access can be addressed through various tools: financial engagements governance, research and development etc. It is apparent that the use of these tools is far more pervasive by non-EU donors than the EU. While individual members, such as Germany and the UK have been in the leading DAC donors assessed, their contributions are far more limited when contrasted with Australia, Canada and Norway.

As a consumer of minerals, the EU has a shared responsibility in the sustainable production and consumption of these materials. This principle is generally accepted by the EU as well as its Member States and their citizens. The need for the EU to be an active participant in the sustainable (economic, social and environmental) production of minerals is required. And to do so, the EU's current raw material strategy needs to be modified.

The report suggests that resource diplomacy is an effective route for the EU to continue pursuing, but the depth of this engagement needs to increase. The EU should address the role of institutional capacity building in developing countries in order to have tangible impacts in partner countries. The EU should move away from traditional donor-beneficiary relationships pursued in the past. As the raw material space becomes more competitive, with the increased demand from emerging economics, the EU has to develop more equitable relationships with third countries. To do this, the EU needs to understand the motivations and wishes of partner countries, moving away from unilateral agenda setting behaviours.

The report has suggested possible avenues of policy response that could be taken by the EU to have more effective and meaningful engagement with third countries going forward. The STRADE team will consider these options as it engages with EU partners in its research in 2017 and 2018.

1. Introduction

The Member States of the European Union (EU) have varying demand for minerals and metals and are not the largest global consumer at this time. Asia remains the dominant global consumer of most metals, accounting for 63% of global copper consumption in 2015, followed by Europe (18%) and the Americas (13%)[1]. Apparent steel use is also dominated by Asia, with China and 'Other Asia' accounting for 43.3% and 20.9% respectively of global consumption, compared to the 10% accounted for by EU28[2]. Between 2000 and 2015, the domestic material consumption (for metal ores) has marginally declined for the EU as whole. Sweden, Germany and Poland accounted for 50% of the total in 2015 (Table 1).

The EU's ability, as a less important global consumer, to directly affect international mineral markets is limited. European consumers become 'price-takers', with metal prices reflecting changes in major consumer countries, such as China. This, however, does not mean that the EU cannot impact global commodity markets; its influence is more nuanced and often indirect. Through trade agreements, regulations on financial flows, engagements with other industrialised consumer countries and targeted development assistance programs for resource rich developing countries, the EU wields a considerable impact on the global mineral markets.

Table 1: Domestic material consumption* (metal ores - 1,000 tonnes)

	2000	2005	2010	2015
EU (28 countries)	**292 567**	**279 724**	**256 783**	**284 740**
Sweden	30 749	29 115	39 749	60 998
Germany	41 534	33 404	37 858	42 624
Poland	38 868	35 398	31 413	42 033
Bulgaria	25 125	27 768	27 802	29 189
France	23 307	18 682	15 023	19 428
Spain	32 100	27 341	22 123	18 239
Italy	28 177	28 338	20 425	16 317
United Kingdom	16 965	17 271	9 438	15 110
Finland	6 765	7 333	20 559	14 581

**Measures the total amount of materials directly used by an economy and is defined as the annual quantity of raw material extracted from the domestic territory, plus all physical imports minus all physical exports.*

Source: Eurostat, http://ec.europa.eu/, accessed 20 January, 2017

This report is the first in a series to be produced under the Strategic Dialogue on Sustainable Raw Materials for Europe (STRADE) project. STRADE takes a dialogue-based approach, to addresses the long-term security and sustainability of the raw-material supply from European and non-European countries. Over a three year period (2016-2018) the project will develop recommendations for the European Commission to access stable and sustainable supply.

The STRADE project focuses on a number of avenues the EU can constructively use to address its raw material needs, both from within its Member States and through engagement with external partners. This report reviews EU's resource focused engagements with developing countries. It contextualises these approaches within the larger geo-economic context of the world. To provide a roadmap for the future, the research team believes it is important to learn from the past. The first step is to document the space the EU occupies within global markets and the vectors it can influence. While the scope of the STRADE project does not cover trade

[1] Source: International Copper Study Group (2016)

[2] Source: World Steel Association (2016)

agreements and financial markets in detail, we acknowledge these are important pillars in international raw material engagement.

When global mineral markets are functioning close to a supply-demand balance, prices are not erratic. Where imports and exports of raw material are not hindered by unfair trade practices or collusive behaviour, the need for interventions by the EU is limited. In addition, where international best practices are in place, promoting the sustainable production of minerals, where environmental and social impacts are kept to a minimum, the Commission need not intervene beyond establishing benchmarks for suitable practices. Within Member States and where it can influence EU based companies, the Commission can go further with monitoring practices and adherence to its guidelines.

When markets experience supply disruption risks, demand competition from external sources and the production of minerals may incur environmental and social damages that are not acceptable. The Commission's role becomes essential in engagement with raw material producing and consuming countries. The EU can work towards agreed international standards, with its partners in both the resource consuming and producing countries. The factors that drive such imbalances, and hence need addressing, are covered under the STRADE project.

This report lays the ground work for future discussions within the project, and therefore focuses on a descriptive analysis of past engagements. The research sets up our future discussions and proposed agenda for the EU to be developed under STRADE in 2017 and 2018.

The introductory chapter provides the context for the report, discussing the EU's current mineral resources. The second chapter provides the geo-economic context for previous EU engagements with resource rich developing countries. Chapter three then turns towards development assistance engagements, comparing the EU with other donor countries. Chapter four concludes the analysis. The focus of the report is on EU's outward looking strategies and the tools of its engagements.

1.1. EU mineral resources

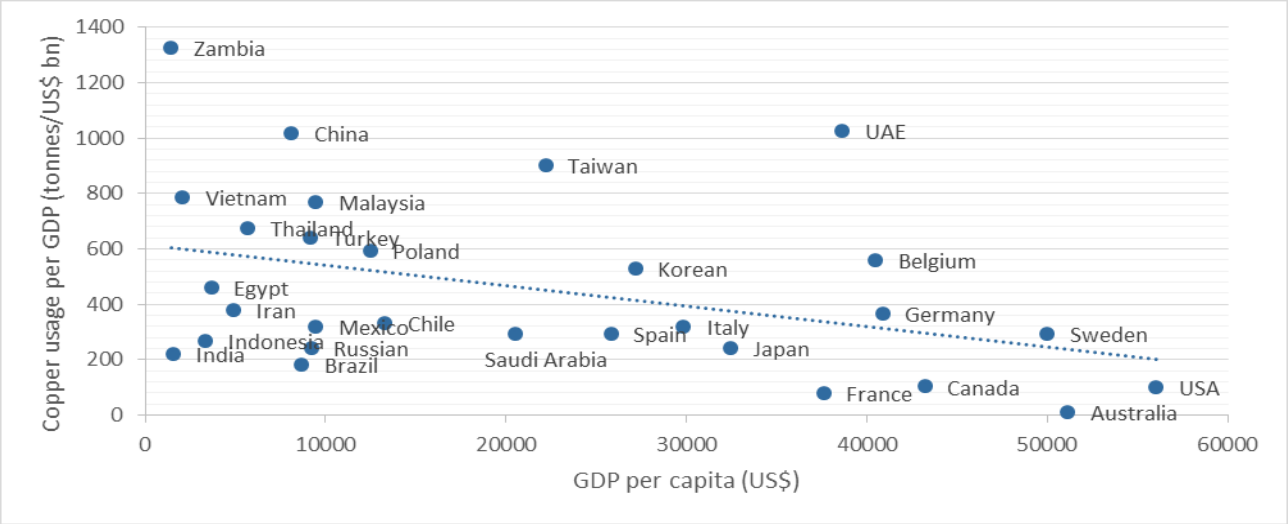
To understand the EU's raw material engagement, it is important to first contextualise the EU's demand for minerals. EU's consumption is largely driven by its manufacturing sector, followed by infrastructure and construction. Demand for minerals such as potash and phosphates is linked with the agricultural sector.

The International Monetary Fund (IMF) estimates that the consumption of metals typically grows until real GDP per capita reaches about USD 15 000– USD 20 000 per capita (2005 USD), driven largely by industrialization and infrastructure construction. As Figure 1 shows, copper consumption begins to drop off as a country's GDP per capita increases.

Given that most Member States are at advanced stages of economic development, per capita consumption of metals is not expected to see increases to the same extent as emerging economies. In addition, as the EU and its Member States focus on reducing their carbon emissions, the increase in consumption of raw material will slow down further. It remains unclear if further reductions in use will be achieved.

As a raw materials producing region, EU Member States have maintained relatively stable production levels over the past decade. Figure 2, for copper (which accounts for 50% of the value generated by mining in the EU in 2015), indicates no significant changes in production within the EU. These have been maintained near the same level since 1993. In contrast, global production has increased by nearly double between 1993 and 2015. International prices have also increased from USD 1,779/Mt in 2003 to USD 5,582/Mt in 2015.

Figure 1 Intensity of refined copper usage (2015)

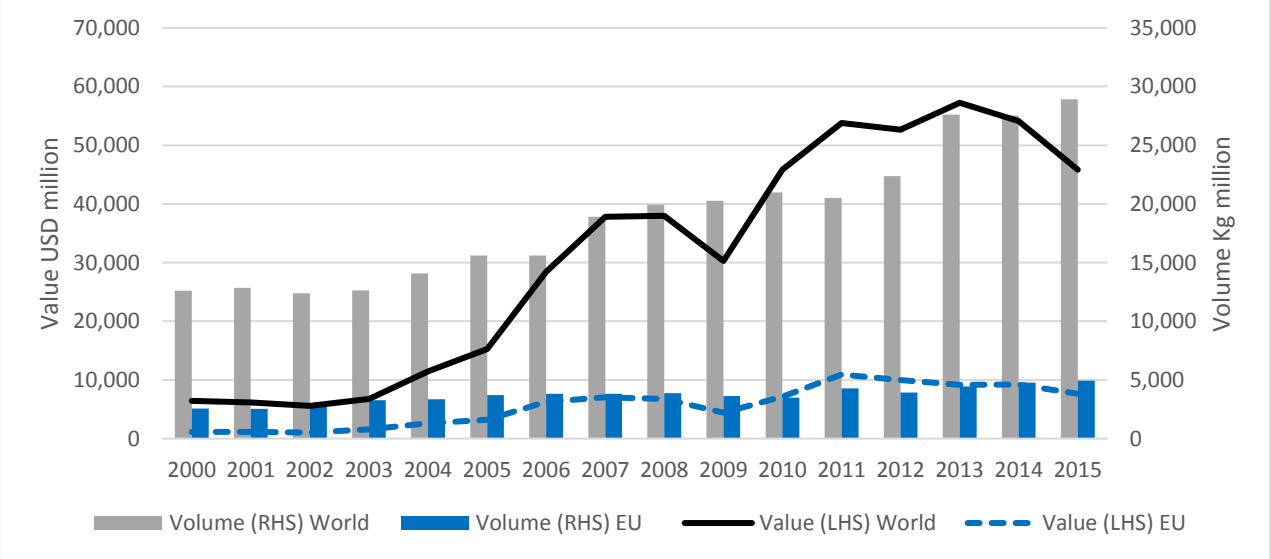


Source: The World Copper Fact Book 2016 (ICSG)

The production patterns are also reflected in the EU's imports of major metals. Figure 2 uses copper to illustrate the marginal increase in volume of copper imports for the EU, while global imports have more than doubled over the last decade. The copper (by value) data indicates that as copper prices increased over the 2003-2011 period, the EU was paying more for the same volume of imports. The increase in prices therefore was likely to be a concern for EU consumers; facing a larger financial outlay to procure the same volume of copper.

Figure 2 presents a 'stable' production and consumption picture for the EU in terms of volume, over the past decade. The issue for EU consumers was the price tag that accompanied their consumption. The price increase reflected changes in global mineral markets that could (and did) threaten their access to raw material at suitable prices. With raw material used in almost every sector of the economy, higher prices are likely to impact the input costs for all producers.

Figure 2 Copper imports by value and volume (2000 – 2015)



Source: Calculated from World Integrated Trade Statistics, <http://wits.worldbank.org> accessed November, 2016

1.2. Why seek raw material engagement?

Global commodity demand is influenced by a number of economic factors, most importantly the overall level of economic activity, as well as financial variables such as foreign exchange rates. On the supply side, disruptions at major individual mines (such as the halt to production at the Samarco mine in Brazil in 2015), changes in tariffs and fiscal measures (such as the ban and imposition of taxes on exports of nickel concentrates in Indonesia) impact commodity prices. Some supply disruptions are short-lived, while others, such as changes in trade agreements, change the fundamentals of global mineral markets. All mineral consumers, producers and financiers, are impacted by these events. In some cases, a perceived risk to commodity markets, even if not realised, can cause disruptions for the actors within the industry.

The core objective of the EU for its raw material based engagement is the need for undistorted prices and supporting a supply-demand balance, given the cyclic nature of the global mining sector. In addition, such stability must include a sustainable production and consumption agenda. The November 2008 communique from the Commission to the European Parliament and the Council[3] articulated this concern:

> Securing reliable and undistorted access to raw materials is increasingly becoming an important factor for the EU's competitiveness and, hence, crucial to the success of the Lisbon Partnership for growth and jobs…. From a global geological perspective, there is no indication of imminent physical shortage of the majority of raw materials in the world. However, geological availability does not necessarily mean access to these raw materials for EU companies. In fact, fundamental changes in global markets are threatening the competitiveness of European industry.

As a response, the Raw Materials Initiative (RMI) (2008) was set out and has provided the basis of the EU's strategy for raw material in the current decade, focusing on accessing sustainable supply from global markets and within the EU and supporting resource efficiency through recycling. The RMI is not the first raw material initiative the EU has employed; there have been many others in the past, each responding to a different set of market conditions and political circumstances.

It is important for the Commission to pursue a raw material engagement that includes as a major element the minimisation of the risk of disruptions to global commodity markets. The engagement equally has to strive towards the sustainable production and consumption of minerals.

1.3. Experience of other countries

The EU is not alone in seeking stable markets supporting its production and consumption of raw material, inclusive of promotion of sustainable practices in both categories.

Many non-EU countries have contended with the same engagement with raw material producing countries. As major consumers and importers of minerals, China, Japan and the USA are the countries closest to the EU in terms of their objective supply conditions.

The USA has for the most part adopted a non-interventionist approach to the issue of mineral supplies, relying on the free operation of markets to provide of raw material to domestic industries. However, it has often sought to use the dispute mechanism of the WTO to keep open the channels of free trade and to prevent perceived or actual risks to the competiveness of its minerals and metals industry. For example, its case against China for restricting exports of rare-earth minerals. Beyond this, the USA has tended to use resource diplomacy as

[3] http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52008DC0699&from=EN

a tool to support broader foreign policy goals. For example, the support for capacity-building in the natural resource sector of Afghanistan.

The approach of the USA stands in contrast to that of China, a country concerned with the continued availability of raw material to underpin its rapid industrialisation and urbanisation. China has sought to combine its efforts to secure raw material supplies with policies to promote economic development in supplying countries. Through its state-owned enterprises (some of these are mining companies but others are metallurgical companies, railroad companies and construction companies), supported by finance from the Export-Import (EXIM) Bank of China and the China Development Bank (CDB), China has invested in raw material producing countries in Asia , Australasia, Latin America and in Africa. Although China's investments into mining assets in these regions have grown fast from a low level, they are still below investment levels from Australia, Canadian and European based companies.

Japan's policies in this area are of much longer-standing than those of China and rather less direct. In the 1960s and 1970s, Japan encouraged its mining companies to engage directly in overseas mining projects. This engagement was not without its problems. The failure of the Tenke Fungurume project in the DRC in the late 1970s was a tough and expensive lesson for the Japanese. Mitsui, a Japanese keiretsu[4] was involved in the project until 1976. Increasing pressures from the DRC government and a deteriorating domestic political situation caused it to abandon the project (alongside partners Anglo-American) in 1976. Japanese companies subsequently found it more effective to take financial stakes in (or provide loans to) overseas mining projects operated by large established miners in return for a guaranteed production offtake.

Although not unique to Japan, another approach was the provision of support for geological surveys in raw material producing countries. JOGMEC (Japan, Oil, Gas and Metals National Corporation), a government agency has also been instrumental in hosting business summits with governments and stakeholders of mining countries in Africa.

Australia and Canada, producers and exporters of mineral raw material, focus on promoting their own mining companies in emerging mining markets. Australia has a two-pronged approach to resource diplomacy, aimed at improving knowledge and governance in other raw material producing countries and at supporting its mining and ancillary companies to expand abroad.

The primary vehicle for Australia's resource diplomacy is the Department of Foreign Affairs and Trade (DFAT) although state governments also play a part in promoting the Australian mining industry globally. DFAT's initiatives in recent years have included the provision of assistance to ministries of mines to improve governance (e.g. Ethiopia), technology support (e.g. Turkey) and the sponsorship of training (Lao PDR). DFAT's interventions commonly combine development initiatives with trade agreements.

Canada, like Australia, actively seeks to promote its many mining companies in their overseas ventures and to provide development assistance in countries where Canadian companies are active. A key role in Canada's resource diplomacy is Public Affairs Canada (PAC). In addition to direct interventions in resource-rich countries, PAC partners with Canadian companies in promoting Corporate Social Responsibility (CSR) projects, most notably in Africa. Assistance for improved governance in resource-based economies is also provided through a collaborative project of Canadian universities under the Canadian International Resources and Development Institute and Natural Resources Canada (NRCan).

[4] A Japanese group of companies

1.4. Conclusion

One of the basic principles for ensuring a stable raw material supply for the EU is the creation of an enabling environment for the global mining sector. A sector with a diverse range of participants, operating in a transparent and well governed sector, with responsible mining practices and a stable investment environment, aids the EU's objective in achieving supply stability and maintaining competitiveness.

Part of this enabling environment is the participation and cooperation of resource-rich developing countries, and a successful strategy needs to be inclusive of their needs. In the next chapters, this report reviews how EU engagements have been constructed, within the context of the larger global commodity markets and the contributions from other non-EU entities towards creating stable markets through assistance programmes.

2. From SYSMIN to the Raw Materials Initiative

European policy choices for engagement with raw material producing countries reflect the economic priorities of the day and the geopolitical context within which the policy choices are made. In the pre-2000 period these focused on the provision of contingency support for raw material producing countries, with which EU countries had some historical association. In more recent years the focus has shifted to policies around capacity development and supporting access to markets through resources- based diplomacy.

Commodity markets in the 1970s displayed extreme volatility. The decade is remembered for its two major oil shocks, with price volatility evident across the spectrum of mineral and agricultural raw materials. This gave rise to considerable economic management problems for commodity-producing countries.

This sparked interest in commodity price stabilisation schemes, the most prominent of which was UNCTAD's Integrated Programme for Commodities. These schemes were never realized. Global schemes for commodity price stabilisation were beyond what the EU could contemplate. Instead, it sought to address the policy challenges faced by raw material producers through stabilising their export revenues.

The EU SYSMIN programme, andlater FLEX, sought to address the challenges of volatile export earnings in ACP countries, these being mostly former colonies of EU Member States. These schemes were conventional donor-beneficiary engagements, typical of the time. The goal were not to specifically address increasing the security of supply of minerals to EU industries.

A prolonged period of commodity price weakness in the 1980s significantly dispelled concerns about mineral availability in mineral-consuming countries. It also led to many countries, having nationalised their mining industries earlier, to row back direct state ownership of mining assets and to liberalise their mining sectors. There was also a general loss of faith in the ability of governments, or of intergovernmental agencies, to manage commodity prices. For example, the collapse of the Sixth International Tin Agreement, which failed to stabilize tin prices, at very high costs to metals traders and the governments involved.

Under these conditions, there was a reduced appetite in the EU for interventionist policies on raw material and a greater preparedness to leave the matter of raw material supply to the market. Through the 1986-1992 period, the EU was heavily involved in multilateral negotiations for a new trade-liberalising round of the General Agreements on Tariff and Trade (GATT). The so-called Uruguay Round came into force in 1994.

The resurgence of commodity prices in the 2000s revived an interest amongst raw material producing countries in the potential of mineral resources to promote development. They also aimed to rectify what was perceived as unequitable sharing of financial rewards from mining. This led to demands developing countries for greater shares from mining revenues. It also led, inevitably, to a revival of EU concerns around the accessibility to certain key, or 'critical', raw materials.

Particular concern on the part of the EU was focused on a group of mineral commodities originating in China. These included such 'technology' commodities as rare earth minerals, indium, gallium and germanium. In a report prepared by the European Commission in 2010, of the fourteen minerals identified as critical to the EU, China was the main supply source for ten.

The policy response to this new challenge, the 2008 Raw Materials Initiative (RMI) was focused on schemes for the encouragement of mining in Europe, on the funding of R&D into critical minerals in the form of substitution and recycling, on maintaining open market access to minerals, and on promoting dialogue with supplying countries.

Parallel with these developments, the EU has, through the European Development Fund, provided capacity-building assistance to ACP countries using National Indicative Programmes (NIPs). Although NIPs are not specifically intended for mineral-producing countries, many ACP countries are mineral dependent. The interest of the mining sector can be addressed in NIPs through wider efforts to promote good governance, infrastructure and energy related projects.

Since the commodity boom peeked in 2008, commodity prices have retreated and the raw material producing industry has moved into a qualitatively different phase of life. Pressure has come off supply of minerals and some of the more acute concerns about availability have receded.

However, not everything has reversed. The commodities boom had two important and potentially longer-lasting consequences, which the EU needs to factor into its thinking about future supply policies. The first is the number of economies around the world dependent on the production and sale of mineral raw material has increased. The second is that there is a much greater awareness of the role that mineral projects can play in promoting the economic and social development of mineral-rich countries.

The combination of these factors has led to widespread efforts amongst mineral-producing countries to extract greater value from their mining sector and to assert greater direct control over it. Such efforts included increases in taxes and royalties, the imposition of tougher provisions over the conditions for foreign investors, demand for direct shares in new mineral production for indigenous investors, and restrictions on exports of unprocessed products. Collectively, such policies are often referred to, by those outside the countries, as expressions of resource nationalism. It is likely that these issues will remain a prominent feature of the industry in coming years and drive the perspectives and policies of mineral producing countries.

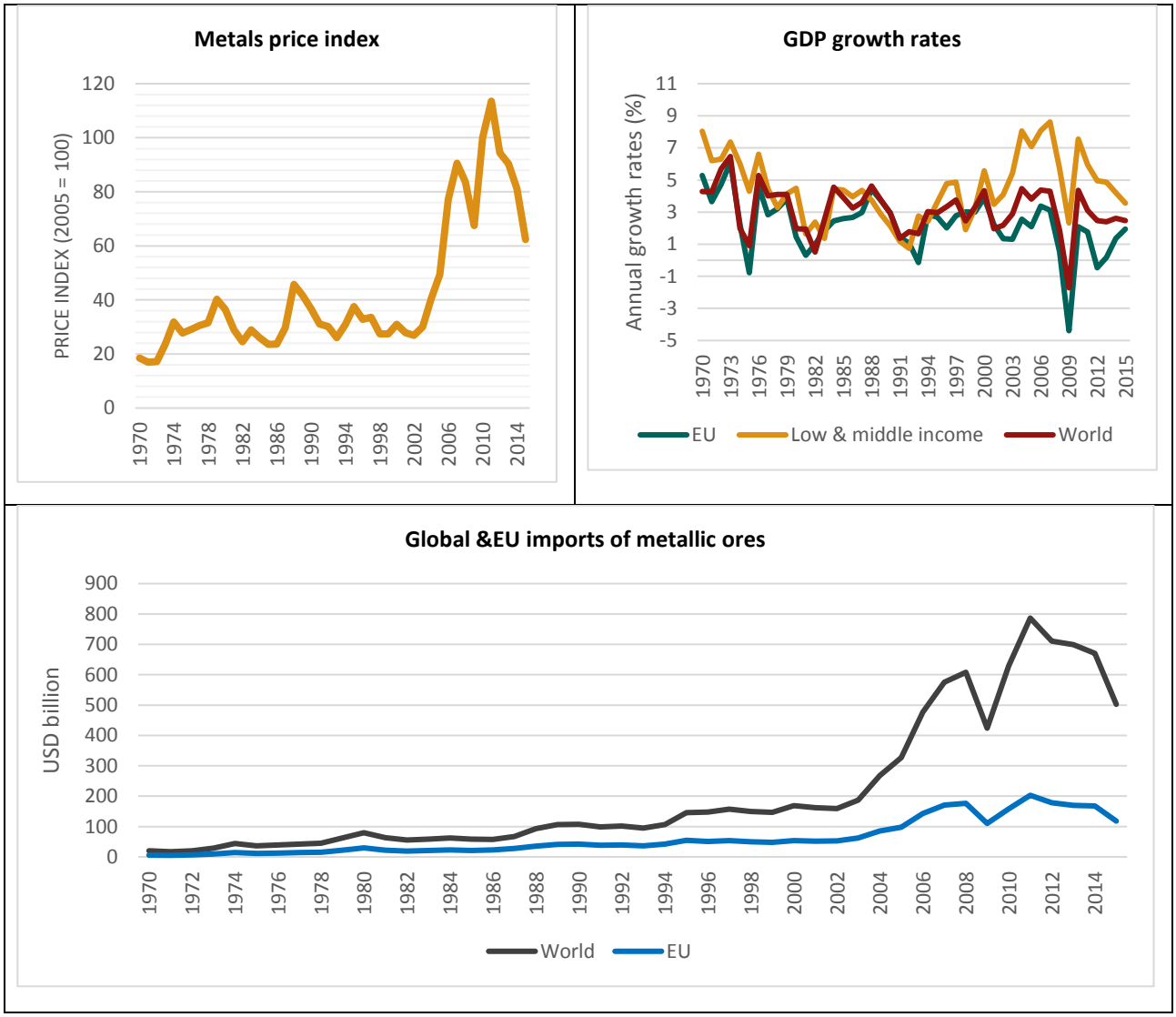
This chapter discusses two separate periods of the global commodity markets: 1970-1999 where markets were characterised by supply shocks linked to geo-political instability and 2000-2016, where demand disruptions followed by oversupply has been a leading driver of global commodity markets. The EUs raw material engagements are discussed within the context of these disruptions.

2.1. The 1970s to 1990s – Supply disruptions

The three decades were a turbulent period for commodity markets. The world was experiencing regional instability, which had global economic consequences. In 1973, as a response to American support for Israel during the Yom Kippur War, the Organization of Arab Petroleum Exporting Countries (OAPEC) announced an oil embargo on Canada, Japan, the Netherlands, the United Kingdom and the United States of America (USA). Within a two year period, oil prices increased from USD 3 to USD 12/barrel. The impact of the energy price increase left the global economy struggling and global growth rates were modest, increasing by 1.1% per annum over the 1975-1980 period. The slower growth in economic activity reduced the demand for minerals, with global trade for base metals increasing by 0.18% per annum, between 1975 and 1980.

Figure 3 illustrates the changes in the global economic markets over the three decades. Metals prices (as measured by the IMF Metals Price Index) experienced short price spikes in the 1970s and again in the early 1990s before the commodity super cycle started in 2003. GDP growth rates over the past four decades have fluctuated, with the global economic slump evident for the early 1970 period and again in 2009. However, for most the 1970 to 2000 period, Global and EU imports of metallic ores remained stable. Between 2003 and 2015, global metallic ore imports increased by 168%, while EU imports increased by 88%. In the case of global imports this was related to both an increase in volume as well as the price of imports, while for the EU the increase is mostly reflective of price changes.

Figure 3: IMF Metals price index, GDP growth & imports of metallic ores (1970-2015)



Source: Metals price index: IMF <http://www.imf.org/>
GDP growth rates: World Bank <http://data.worldbank.org/>
Global imports: Calculated from World Integrated Trade Statistics, <http://wits.worldbank.org>
Accessed November 2016

2.1.1. Threat of supply disruptions

Supply disruptions can be understood under two categories: 'market' security and 'point' security. Market security refers to concerns around the collective global markets, where supply disruptions are pervasive across the world-wide supply of minerals, such as emerging country demand outstripping available supply. Point security refers to specific geographical fears; supply is disrupted from a single mine or country. This could be a result of war or resource nationalisation. Either case can result in higher competition for available minerals and higher prices.

The Club of Rome: In 1972 the publication of 'The Limits of Growth' by the Club of Rome (Meadows *et al*: 1972) highlighted the possible threat of the world running out of resources. The 1972-1975 commodity price boom further reinforced these fears. This was a market security issue, since it applied to all minerals.

Raw material cartels: There were concerns about the possible replication of OPEC's success in raising oil prices, in the minerals sector. Mineral producing countries could collude to inflate the price of minerals. Therefore supply disruptions could be pervasive across the global market. Throughout the 1970's, cooperation among producing countries was sought to stabilize or raise international minerals and metals prices. Organizations established during this period included CIPEC (International Council of Copper Exporting Countries), APEF (The Association of Iron Ore Exporting Countries) and IBA (the International Bauxite Association). While some of the member countries supported pricing recommendations and interventions on the market, resistance from other producers, particularly Australia, which was a member of all three organizations, meant that no action was taken. The organizations were eventually dissolved in the 1980s and the 1990s. The one enduring price stabilisation success has been for diamonds through the De Beers CSO/DTC "sights" which was established as a sales monopoly to stabilise highly volatile prices in the 1920's and 1930's.

Price stabilization schemes: Price stabilization efforts were very much 'en vogue' during the 1970s and 1980s. The Integrated Programme for Commodities that was adopted at the fourth UNCTAD conference in 1976, proposed several commodities, including minerals such as Tin. Most of these schemes were never implemented, apart from one on Tin which lasted until the sixth UNCTAD conference. At this time, no new schemes were agreed to. Instead, the existing International Study Group on Lead and Zinc (started 1959), was supplemented by new study groups on copper[5] and nickel[6]. These groups continue to publish statistics and serve as fora for exchange of industry information.

Conflict and war: Point supply disruptions were expected from conflict in a number of mineral producing regions. Africa was witnessing civil wars in Congo, Angola, and Mozambique. During the Zaire (now DRC) civil war in 1978, disruptions in the cobalt market leading to dramatic price increases provided a microcosm of the scenario that could develop in other commodity markets. The risk of political instability and civil war spreading to other countries could lead to supply disruptions becoming wide-spread.

Resource nationalisation: An increase in resource nationalization in developing countries was emerging, which was perceived by many to increase the risk of point disruptions. Over the 1970 to 1990 period resource nationalization occurred across Africa, mainly in newly independent countries asserting control over industries. In Latin America, Chile nationalized its copper industry in 1972. However most of this was reversed in the 1990's and early 2000's through widespread privatisations of state mining companies.

2.1.2. The EU response to supply risk

During the three decades (1970–1990), the EEC/EU engagement can be largely described as reactive to changes in the global mineral markets, rather than proactive. The drivers for EU responses can be separated as those addressing project level interventions, country level interventions and those addressing wider development and diplomatic engagements.

Country level interventions

The SYSMIN program (1981-2006) was implemented for ACP countries exporting raw material to the EU. SYSMIN functioned to strengthen EU economic ties with countries with which it had historical relationships. The first disbursements under SYSMIN were made in 1986, with the fund acting as a compensatory mechanism through which governments could be reimbursed for the actual or projected loss of export earnings in the mineral sector. Between 1986 and 2010, €3.71 billion had been lent to 18 countries. In the first ten years,

[5] www.icsg.org
[6] www.insg.org

to 1996, SYSMIN funds were largely utilized to finance upgrades to existing mining related infrastructure, and for the purchase of new plant equipment. Over the last ten years of SYSMIN, the focus was re-directed towards training of local geological personnel, conducting geological surveys and supporting the associated geological systems and technology and building contract negotiation capacity within governments. Although new applications for SYSMIN were closed in 2000, assessment of submitted applications continued, with successful cases receiving funding until 2010.

Part of the aim of SYSMIN was to address point supply risk by supporting mining operations. In its operationalization it came to be seen more as an annual contribution to producer countries national annual budgets, than a compensatory finance mechanism. Countries that received financing often complained about the long process and the time taken to access the funding. The program was designed as a short-term intervention and therefore its contributions to long term growth and economic diversification for its developing country partners was limited.

Project level interventions

Project level interventions focused on providing finance to individual mining projects experiencing financial difficulties. Again, SYSMIN was the main vehicle of funding, providing funds directly to mining operations to remain operational when faced with a closure risk due to adverse external conditions. Both positive and negative experiences have been reported.

In 2002, Sierra Rutile Limited received SYSMIN funding to rebuild and replace out of service infrastructure in its processing plant in South Eastern Sierra Leone. During the civil war (1990-2002) the mine went into care and maintenance. In 2005, the government of Sierra Leone received €25 million from the SYSMIN fund, which was then on-lent to Sierra Rutile Ltd. The SYSMIN loan was a 'vote on confidence' for the Sierra Leonean mining industry post-civil war. John Sisay, CEO of Sierra Rutile, said of SYSMIN funding in 2014: "We spent hours trying to convince fund managers that there was not another war around the corner, and that the peace and stability were genuine"[7]. Within a couple of years almost USD 100 million was raised to accelerate and expand production at the mine. At the time it was the largest private equity capital-raising ever to take place for a Sierra Leonean company.

SYSMIN funding has been criticized for encouraging mines to stay on-line, when it was no longer economically profitable to do so. Crowson (2008) comments that countries that received SYSMIN funding "are also liable to be less affected by market forces, with much less incentive to raise productivity and reduce their costs". For example, starting in 1991 the state owned BCL mine in Botswana received nearly €84 million in funds, in three tranches, under SYSMIN. Apart from direct support to the mine operations, the funding was used to promote economic diversification away from mining in the towns around the mine[8]. In the last 15 years the mine has been in and out of care and maintenance. In October 2016, Botswana finally applied to the high court to place BCL's mine in to provisional liquidation and the mine was closed.

Diplomatic engagements

During the 1975-1999 period, EU's responses to the raw material supply risk were largely under SYSMIN (followed by FLEX) and there is little evidence of a diplomatic or dialogue based approach taking place at this time. From 1975 to 2000, EEC/EU engagement was under the domain of DG DEVCO (Directorate-General for International Cooperation and Development). The Directorate programs included: STABEX, SYSMIN, Flex

[7] http://awoko.org/2014/05/09/sierra-leone-news-the-rehabilitation-of-rutile-mines/
[8] http://www.sundaystandard.info/gov%E2%80%99t-blew-p638mln-grant-reckless-abandon-expense-phikwe-eu

and NIPs, before raw material was passed on to DG GROWTH in 2006. With the shift in DG's, the focus of raw material interventions moved from compensatory finance and development programmes towards the development of European industries. The focus shifted towards raw material to support the manufacturing industry within the EU and bolster competitiveness in this sector.

2.2. Beyond 2000 – Demand competition

The political instability and its associated threat to supply security dissipated to a large extent by the start of the 21st century. The civil wars in Africa that dominated the narrative in the 1980s and 1990s had largely drawn to a close. The majority of sovereign states accepted greater trade openness as an enabler of raising living standards and economic growth. A number of African and Latin American states have undergone democratization in the last 30 years. Trading blocs have emerged, with greater movement towards cross-border harmonisation of rules and regulations for trade and business activity. These trends meant access for mining exploration and production companies as well as companies that support their operations with ever increasing geographical coverage. As the threat of 'point' supply disruption has receded, concerns have now moved towards market disruptions coming from the demand side, and the rise of China as a mineral consumer was the leading driver.

2.2.1. The rise of China

China's increase in demand came from its rapid growth that relied heavily on rapid infrastructure and construction spending as well as industrialisation. China's share of new global demand accounted for over half the increase in demand for aluminium (60%), steel (58%) and nickel (78%) and almost all the increase in copper (98%) between 2000 and 2007. As China's expansion trickled down into global growth, other countries also witnessed positive growth. Between 2000 and 2006, China's economy grew at an annual average of 10%, and global growth rate averaged 3.44% per annum.

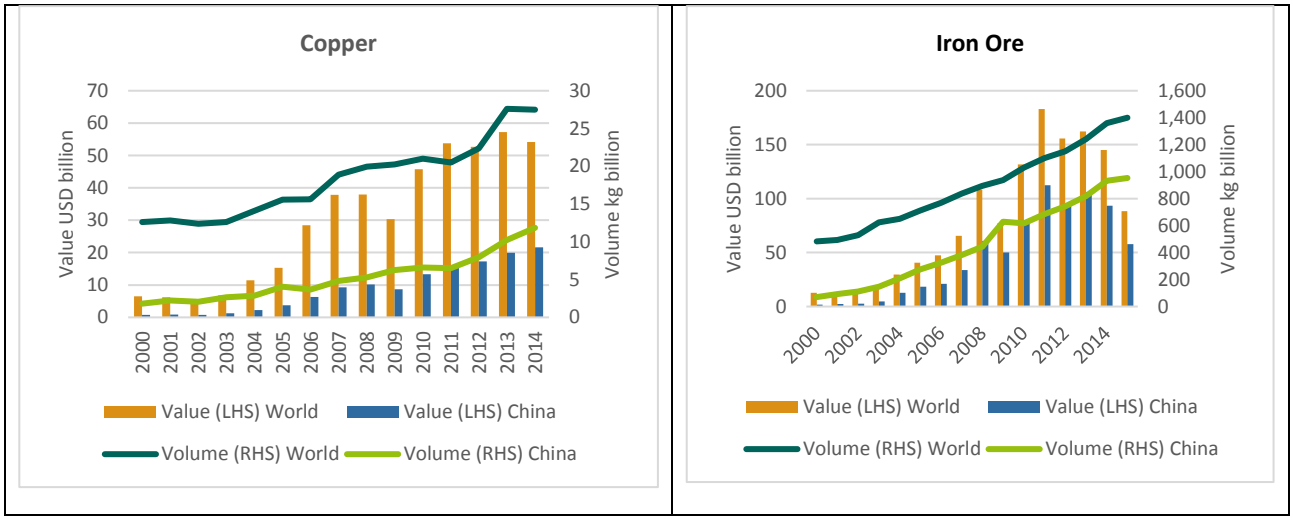
As a reaction to the unexpected extent of the increase in demand from China, mining companies struggled to bring supply onto international markets and commodity prices rose. The preceding two decades of depressed mineral prices (1980s and 1990s) were accompanied by low investment into the sector. Given the long lead times for the development of mining projects this meant that the increase in supply response became visible post 2005. The initial impetus to the 2003-2011 commodity price boom was a demand-pull price effect, where prices were responding to escalating demand.

China's trade demand for copper and iron ore (figure 4) increased in both volume of imports as well as the value of this trade. The increase in imports (by volume) by China more than doubled, accounting for almost all of the increase seen in global imports of copper and iron ore.

The price increase resulting from Chinese demand, put pressure on European manufacturers, who were already facing fierce competition from cheaper Chinese exports at home and abroad. Concerns for access to rare earth minerals and other high tech metals, largely exported by China, also began to emerge.

As a response to demand competition and pressure on its industry's competitiveness, the EU's strategic response to market disruptions was more encompassing than the ad-hoc compensatory mechanisms seen previously.

Figure 3 China and EU copper, iron ore imports by volume and value (2000 – 2015)



Source: Calculated from World Integrated Trade Statistics, <http://wits.worldbank.org> accessed November, 2016

2.2.2. The EU response to demand competition

The need for a targeted policy response by the EU became apparent around 2007, where discussions began on a Raw Materials Initiative, culminating in the November 2008 communique by the Council (EC: 2008). The push for a targeted policy response emerged after consultations with the European manufacturing industry, which was bearing the brunt of price disruptions. The EU's response to competition for raw material in the global markets and increased prices as a result of unprecedented demand from China resulted in four responses.

Driven by a Green policy movement, the EU increased its interest in **recycling**, substitution and secondary raw material. It began looking at reducing waste materials. The interest was also fuelled by the closure of un-profitable and dirty coal, iron ore and steel sectors in many non-EU countries.

The EU began to engage in **resource focused diplomacy** with third countries. This used two approaches: the first pursued beneficial relationships with resource rich developing countries. The second promoted exchange of best practice with other industrialized countries reliant on raw material imports.

The third policy response focused on creating market access through **trade**. There has been a marked move by the EU, since 2000, to push for removal of tariff barriers on imports of its raw material from resource rich developing countries. This was actively pursued through the EU EPAs which explicitly prohibit their partners from applying export restrictions on exports to the EU.

The fourth response was to **increase domestic supply** of raw material by encouraging and expanding raw material production within the Member States.

The circular economy

The EU demonstrated its commitment to promoting a Circular Economy by increasing recycling efforts and decreasing waste. It also provided funding and support for substitution, with the aim to promote a 'resource efficient' Europe. The EUs Action Plan for the Circular Economy looks at reducing waste and increase recycling of waste materials. The approach was operationalised through two major policy initiatives: the European Innovation Partnership (EIP) and as the third pillar in the Raw Materials Initiative (RMI).

The EIP's action plan implements policy responses to the RMI to increase security of supply through increase in recycling rates. Responses under this initiative have focused on Research and Development commitments by academic and industry bodies. Currently there are 12 research projects active in the field of waste and recycling, ranging from metal recovery rates from low grade ores and waste to projects researching re-using iron and manganese oxides wastes as metal alloys.

Under the third pillar of the RMI, actions include an increase in the trade of waste materials, the development of best practices in the collection and treatment of waste, improving statistics on waste and material flows and promoting economic incentives for reuse and recycling.

Creating access to markets

In 2008, at the recommendation of the European Council, the EU launched the Raw Materials Initiative. The multi-pronged strategy looked at means to increase access to raw material internally and externally. The internal dimension looks at increasing raw material production within the EU, while the external pillar focuses on creating access to third country raw material production through trade and investment. The EU's internal raw material competiveness and its ability to increase supply from mines operating in Member States will be discussed in detail in a later report[9]. Here, we focus on its external engagements.

The EU largely attempted to address the issue of security of external supply through its trade policy. It has pursued and agreed to free or preferential trade agreements (FTAs) with Southern African states (South Africa, Namibia, Botswana and Zambia), Ukraine, Chile, Peru, Colombia, Algeria, Egypt and Madagascar, Papua New Guinea and Cote D'Ivoire. The countries awaiting ratification of free or preferential trade agreements are mostly West and East African states, Brazil, Argentina, Uruguay, Paraguay and Canada. The EU has pursued dialogues around specialized trade in raw material with South Korea, Singapore, Tajikistan and China.

The FTAs are of benefit to the EU manufacturing industry. The work completed by DG TRADE serves to eliminate many of the taxes and barriers that can increase prices for EU manufacturers importing raw material.

Some argue that raw material producing developing countries are prevented from promoting value addition in in mineral products by FTAs with the EU. This largely to do with the inability to support local industry through high export taxes on unprocessed materials. Higher taxes on low value added minerals, relative to those that have been processed, aims to encourage beneficiation and industrialisation activity in host countries.

Criticisms levied by NGOs (Curtis: 2010) suggest that the EU drive to have unencumbered access to (in particular Africa) developing country raw material symbolizes a return to Europe's colonial past and is therefore poorly regarded in partner countries. NGOs argue that FTAs prevent developing countries from capitalising on their natural resource wealth and ensures that these countries do not progress further than being raw material producing countries. The viewpoint of trading partners in Africa is discussed in detail by Jourdan and Naiker (2016).

Resource diplomacy

The EU employed 'dialogues' to engage with resource rich countries to further cooperation in the field of raw material. To date the EU has used dialogue based platforms to engage with the USA, Japan, India, Brazil, trading blocs in Latin America, the Euro-med countries of Tunisia, Morocco and Egypt and with Greenland.

With industrialized consumer countries, for example the EU-US-Japan trilateral dialogue on raw material, the focus is on exchanging best practice on improving security of supply of raw material. More recently dialogues

[9] Forthcoming: EUs Mineral Cost Competitiveness and Attractiveness

are being used to evolve into alliances. For example, Japan and the EU joined the USA as third party complainants, as the latter raised a complaint against China's export restrictions on rare earth elements with the WTO in 2012.

Progress on each dialogue differs. The Greenland dialogue has not seen any formal movement or written agreements since June 2012, and participants have not met since June 2014. On the other hand the EU-US-Japan trilateral conference on raw material has been hosted each alternative year since 2013. The third conference took place in December 2016 and focused on the exchange of technological developments and best practices for the use of rare earth minerals.

Financial interventions and the European Investment Bank

Between 2000 and 2010, the European Investment Bank (EIB) loaned €651 million to mining companies developing mining projects on the African continent (see Table 2). The bank made these financing arrangements under the Cotounou Agreement, focused on development and political cooperation between the EU and ACP countries. The loans were made on the provision that extraction of mineral resources could bring socio-economic development in the form of job creation and taxation revenue. The EIB financed eleven projects in Africa, as well as two with high risk investment funds. Between 2010 and 2016, the EIB has not provided any financing for mining companies.

The EIB's funding has not been without criticism. In 2008, a consortium of NGOs criticised the banks' apparent delay at releasing a report investigating corporate governance at Mopani mine in Zambia, owned by Glencore Xstrata.[10] A previous leaked report alleged that Mopani had avoided paying millions of dollars' in local tax. The EIB published a report on its findings in 2015, detailing its termination of relationship with Mopani and Glencore Xstrata. Glencore-Xstrata re-paid the loan and no further action was taken by the EIB.

Table 2: Mining projects signed by the EIB under the Cotonou mandate (2003-2009)

	Year	Country	Commodity	Company	Project	EIB Finance € millions
1	2003	Zambia	Copper	Kansanshi Mining Plc	Brown field open pit copper mine development	34.00
2	2004	Kenya	Soda Ash	The Magadi Soda Company	Production increase and quality improvements	21.95
3	2004	Mozambique	Ilmenite	Kenmare Moma Mining Ltd	Development of an ilmenite mine and preparation plant	57.75
4	2004	All Africa	Not stated	African Lion 2 Mining Fund	Early development of smaller mining projects	6.75
5	2005	Mauritania	Iron Ore	Sphere Mineral Ltd	Feasibility study for an iron ore mine plus an pelletizing plant	5.00
6	2005	Zambia	Copper	Mopani Copper Mine Plc	Rebuild of a copper smelter	48.00
7	2006	Republic of Congo	Potash and Magnesium	Mag Industries Corp	Feasibility study for a potash mine and magnesium plant	13.00
8	2006	Zambia	Copper	Lumwana Mining Company Ltd	Development of a copper mine	85.00
9	2007	Zambia	Nickel	Albidon Zambia Ltd	Development of a nickel mine	29.50
10	2007	Madagascar	Nickel	Ambatovy Minerals SA	Development of a nickel mine and processing plants	260.00

[10] https://www.theguardian.com/global-development/2014/apr/03/european-investment-bank-inquiry-zambian-miner

	Year	Country	Commodity	Company	Project	EIB Finance € millions
11	2007	Botswana	Diamond	DimonEx Botswana Ltd	Development of a diamond mine	5.00
12	2008	All Africa	Not stated	African Mining 3 Mining Fund	Early development of smaller mining projects	11.00
13	2009	Mauritania	Iron Ore	Société Nationale Industrielle et Minère	Production increase of an iron ore mine plus processing plant	75.00
					Total signed to date (€ millions) :	**651.95**

Source: EIB correspondence 10th May 2016

2.3. Conclusion

In contrast to the EU engagements pre-2003, the post commodity price boom engagements have been more broad-based. Engagements such as SYSMIN were largely targeted at the project level, while more recent engagements (apart from EIB financing) have been at the country or regional level. At the country and regional level, the more concrete engagements have been undertaken under wider trade agreements. For focused raw material engagements, 'shared platforms' have been common, where mostly industrialised countries have been invited to share best practice experiences. With developing countries, which saw a large share of SYSMIN and other funding in the pre-2003 period, dedicated resource sector engagements have been rarer in the 2000s. Development assistance targeting is detailed in the next chapter, but as outlined in chapter one, while other industrialised countries (Australia, Canada, China and Japan) were developing and executed focused engagement programmes, the EU's participation has been much more limited.

Post 2016, a price commodity boom is not expected to emerge in the next five to ten years, although commodity prices are likely to trend upwards. Relative to the previous boom, prices for different minerals will behave differently. Given the relatively steady price behaviour expected in the near future, the EU does not face an immediate risk of exposure to unstable global commodity markets. However, given the cyclic nature of the mining sector, it does not mean that such a risk will not arise in the future.

The EU's raw material engagements over the past decade have moved from ad-hoc compensatory mechanisms to wider ranging, relationship building exercises. Post 2000, largely as a result of the global commodity price boom and the increased mineral investments in a number of resource rich developing countries, the raw material engagements from a range of actors also increased. This chapter mapped the EU's engagements to changes in the wider changes in the global mineral markets. The next chapter focuses on the objectives and the tools used for raw material engagements by governments and international development agencies. To be able to design a roadmap for the EU, it is prudent to look at the objectives and tools employed by other countries in engaging with developing countries.

3. Mapping raw material engagements

Attempting to analyse a variety of raw material engagement is a task more suited for qualitative than quantitative analysis. A number of studies document individual development assistance programmes, their objectives and narratives on success and failures. This chapter attempts to aggregate this information to allow a comparative analysis to be drawn of such engagements. The purpose is not to provide an all-encompassing analysis of mineral based development assistance to developing countries. Instead this chapter provides a framework which outlines objectives and tools for considering future raw material engagements for the EU.

It is useful to adapt a systematic approach to cover a wide range of engagements. These are classified under three objectives: Capacity Development, Technical Assistance and Market Access. The three objectives largely address supply security at a country level; none of the projects discussed here address commodity demand and recycling.

Using a data driven approach, the analysis is based on a framework that distinguishes between the objectives of mineral engagements and the tools used to achieve them. These are mapped for major bilateral and multilateral actors. The interventions analysed are taken from the OECD's Creditor Reporting System (CRS), and focus on engagements made in 2014, the most recent year with full coverage of raw material engagements available.

3.1. Framework for analysing raw material engagements

This section establishes a framework to categorize raw material engagements by their nature and objective. Relevant mineral resource activities were identified in the OECD's Creditor Reporting System (CRS) database for the year of 2014.

3.1.1. Approach

The data collection process focused on Overseas Development Assistance (ODA) commitments declared under sector code 322 'Mineral resources and mining' in the CRS database. A number of engagements were excluded from the analysis, most notably those focused on the oil and gas sector, as they are outside the scope of this report. The relevance and correct categorization of each identified engagement was supported by a desk study of the relevant organization websites. 15 donors were identified, 12 are country-level actors, and three multilateral organizations: The World Bank through the International Development Association, the Global Green Growth Initiative and the EU. Of the twelve country level actors, seven are EU Member States (Czech Republic, Finland, France, Germany, Slovenia, Spain and UK) and five are non-EU Member States (Canada, Norway, Australia, Japan and South Korea).

This approach does have limitations: it only categorizes specific mineral resource activities and excludes two other forms of activity that may be relevant: diplomatic engagements that do not have a concrete ODA outcome and general governance assistance (i.e. non-mineral resource specific governance) that may also benefit the management of a country's natural resources. Further, as this is a cross sectional view for engagements committed to in 2014, it may also exclude activities fully funded in a previous year but still operating in 2014. As a result, this mapping process is not intended to represent an exhaustive list of engagements, but rather offer a snapshot of the relevant donors and recipients in the raw material sector.

The central objective of this mapping exercise is to develop a systematic overview of the raw material engagement strategy adopted by relevant countries. The framework is based on the objectives of the donor country engagements, and the specific instruments they use to achieve these objectives.

3.1.2. Raw material engagement objectives

The specific objectives and tools are defined as follows:

Capacity development: To assist in the development of a country's capacity to manage their own natural resources sector. This category would include assistance in developing natural resource management skills i.e. capacity building for relevant ministry staff in managing regulatory and licensing frameworks. This includes large, often multi-partner, engagements.

Technical assistance: To assist a country to improve a particular technical aspect of their natural resource sector. Examples include geological survey and mining cadastre development.

Market access: To open up markets to enable greater access to mineral resources for trade and investment. This also includes assistance in developing market conditions that encourage private sector investment.

3.1.3. Raw material engagement tools

Finance: Provision of direct financial assistance. This would include grants, donations, public private partnerships and loans.

Equipment and services: Tools that provide mining support services specific to mining equipment and services. Examples include supplier development programs and local value addition and linkages for supply of mining inputs.

Industry relations: Private sector focused initiatives that build cooperation between the industries of the donor and recipient countries. Examples include business-to-business initiatives and trade delegations, industry forums.

Governance: Tools that focus on improving the recipient's natural resource governance framework. Examples include assistance in developing regulatory, legal, fiscal, environmental and mineral policy frameworks.

Research & Development (R&D): Tools which utilise joint research in a particular area of the mining sector. Examples include cooperation between academic institutions in the donor and recipient countries, and knowledge sharing between geological surveys.

International best practice: Tools that offer assistance in improving operating practices in the mining industry. This includes practices in health and safety, personal protection equipment (PPE), environmental impact mitigation strategies and mine closure. This tool also includes engagements that are intended to help stakeholders meet a natural resource management international standard. For example, assistance in candidacy or compliance with the Extractives Industry Transparency Initiative (EITI).

Where a project could be categorized as utilizing more than one engagement tool, a judgement was made by the research team of which tool best represents the nature of the project. For example, large capacity development projects, such as Canada's Sustainable and Inclusive Communities in Latin America (CISAL), utilizes multiple engagement tools, were categorized as governance projects. This is because their primary focus is on working with the recipient government to improve the management of the country's natural resource sector.

During the mapping exercise, engagements were identified involving collaboration between multiple donors, most notably the Australia Mongolia Extractives Program (AMEP), a large capacity development project conducted by Australia's DFAT in partnership with GIZ of Germany. However, no project which involved

cooperation of multiple EU Member States was identified. In total, 134 relevant engagements were included in the analysis. These engagements were conducted by 15 donors in 53 resource-rich countries, with a total value of USD 63 million. A detailed list of objectives by recipient countries is provided in Annex 1.

3.2. Findings

Seven out of the twelve country-level donors identified in this mapping exercise are EU Member States: UK, France, Germany, Finland, Czech Republic, Slovenia and Spain. While the majority of country-level donors are EU Member States, none of these are in the top three donors for either number of engagements (Japan, Norway and Canada) or total value of engagements (Canada, Norway and Australia). Table 3 presents a breakdown of the donors identified in the mapping exercise by number, value and objectives of engagements.

Table 3: Objectives of donor engagements (2014)

	Number of Engagements					Value (USD 000)		
Donor	Total	Share (%)	Capacity	Technical Assistance	Market Access	Total value	Share (%)	Mean value
Japan	47	35.1	0	0	47	1 750	2.8	37
Australia	23	17.2	19	4	0	7 020	11.0	305
Canada	13	9.7	12	1	0	14 010	22.1	1 078
UK	10	7.5	1	5	4	2 860	4.5	286
South Korea	8	6.0	8	0	0	190	0.3	24
World Bank	7	5.2	6	0	1	24 810	39.1	3 544
Germany	6	4.5	1	5	0	1 340	2.1	223
Spain	5	3.7	0	5	0	20	0.0	4
Norway	4	3.0	3	1	0	8 370	13.2	2 093
Czech Republic	3	2.2	1	2	0	520	0.8	173
France	3	2.2	2	1	0	1 500	2.4	501
Finland	2	1.5	1	1	0	800	1.3	399
EU	1	0.7	0	1	0	3	0.0	3
Global Green Growth Institute	1	0.7	0	1	0	230	0.4	233
Slovenia	1	0.7	0	1	0	100	0.2	96
Total	134	100	54	28	52	63 520	100	600

Source: SNL analysis based on OECD Creditor Reporting System database. Accessed 30th September 2016

Examining the raw material engagement approach of EU Member States compared to non-Member States, it is clear that the leading non-Member states have a clearer and more consistent engagement strategy than their EU member counterparts. Table 4 presents an overview of the tools used within each target objective.

Japan's engagement strategy is focused on Market Access. Non-EU Member States, Canada, Australia and South Korea focus most of their expenditure on Capacity Development. Conversely, EU Member States, such as UK, France and Germany have split their engagement activity and expenditure across two or three objectives, suggesting these actors take a more holistic approach towards raw material engagements as compared to non-EU countries.

Table 4: Raw material engagement framework

Tool	Indicator	Capacity Development	Technical Assistance	Market Access
Finance	Total no of engagements	2	1	3
	Most active donors	World Bank (2)	EU (1)	UK (3)
	Largest recipients	Sierra Leone (2)	DRC (1)	Morocco (1) Sierra Leone (1) Tunisia (1)
	Total value (USD mn)	8.4	0.003	0.568
Equipment and services	Total no of engagements	0	1	0
	Most active donors	NA	Slovenia (1)	NA
	Largest recipients	NA	Bosnia & Herzegovina (1)	NA
	Total value (USD mn)	0	0.096	0
Industry Relations	Total no of engagements	2	1	0
	Most active donors	Canada (2)	Canada (1)	NA
	Largest recipients	Mongolia (1) Honduras (1)	Tanzania (1)	NA
	Total value (USD mn)	0.006	7.142	0
Governance	Total no of engagements	27	5	2
	Most active donors	Canada (8)	United Kingdom (4)	IDA (2)
	Largest recipients	Mongolia (6)	Afghanistan (1) Guatemala (1) Kazakhstan (1) Philippines (1) Vietnam (1)	Côte d'Ivoire (1) Solomon Islands (1)
	Total value (USD mn)	32.927	0.509	1.005
R&D	Total no of engagements	23	10	47
	Most active donors	Australia (12)	Australia (4)	Japan (47)
	Largest recipients	Ethiopia (3)	Mongolia (2)	Mozambique (4)
	Total value (USD mn)	7.77	2.66	1.7
International Best Practice	Total no of engagements	0	10	0
	Most active donors	NA	Spain (4) Germany (4)	NA
	Largest recipients	NA	Chile (4)	NA
	Total value (USD mn)	0	0.55	0

Source: SNL calculations from OECD Creditor Reporting System database. Accessed: 30th September 2016

3.2.1. Leading engagements

Japan

The most active donor by number of raw material engagements is Japan, with 47 engagements included in this mapping exercise. Japan has more than double the number of engagements than the next most active donor, Australia (23). By level of expenditure however it is ranked the sixth most active donor. Thus while Japan offers a greater number of raw material based engagements, its level of expenditure is not the same as other countries (Table 5).

The vast majority of Japan's engagements fall under Market Access, using the provision of training to both government and private individuals within the recipient country, as its major tool. The country's main vehicle is the 'Training Program for Human Resources Development in the Mining Sector'. Under this program, the

Japan International Cooperation Agency (JICA), in collaboration with the National Centre of Research and Education on Resource Sciences at Akita University, provide both in-country on the job training to private and government officials, and host individuals from the recipient countries for training programs in Japan. Training engagements were identified with twenty countries across Latin America, Asia, Africa and Europe. Africa was the target for the most engagement (ten), followed by six in Asia, three in Latin America and one in Europe. Given the relatively inexpensive nature of this form of technical assistance engagement, the total value of these programs for 2014 was under USD 2 million.

Looking specifically at Japan's human resources development engagements in Africa, JICA operates the 'Africa Business Education Initiative for the Youth' (ABE Initiative)[11]. While this initiative covers a range of sectors, mining specific engagements were identified in Angola, Botswana, Egypt, Malawi, Mozambique, Namibia, Nigeria, Sudan, Uganda and Zimbabwe. The objective has been to train young individuals in developing countries who are able to contribute to the development of their country's mining sector.

JICA also acknowledges that an objective of this initiative is to develop the capacity of individuals who can help 'Japanese businesses to engage in economic activities in Africa' (Hosoi, 38:2015). This Japanese engagement strategy tends to cast a very wide yet shallow net, designed to facilitate capacity in developing partners while at the same time creating access for Japanese companies to as many resource rich countries mining sectors' as possible.

Australia

With 23 engagements, Australia is the next most active donor. Australia uses similar engagement tools as Japan, relying on the strength of its academic institutions as the foundation of its engagements. Its approach is driven by Capacity Development, rather than the market access objective that drives Japan's strategy.

Australia's principle vehicle for raw material engagement has been the International Mining for Development Centre (IM4DC). IM4DC was established in 2011 and came to an end in 2015. The program brought together Australia's mining academic expertise (the University of Western Australia and The University of Queensland), as well as civil society organizations, and industry and government actors. The IM4DC provided training to government officials in recipient resource rich countries in order to elevate their ability to manage the country's natural resources.

Australia's engagement distribution heavily focused on near neighbouring countries, with Asia accounting for eight of IM4DC's twelve recipient countries. This regional focus is consistent with Australian Department of Trade and Development's reduced geographical mandate, following the election of the Abbott government in 2013[12]. IM4DC's level of expenditure was nearly USD 3.3 million, in training officials in 12 recipient countries. The Australian government has also provided financial support for the African Mineral Development Centre (AMDC), working under the African Union.

United Kingdom

The United Kingdom (UK) is the most active EU member state, both by number of engagements (10) and by level of expenditure (USD 2.9 million). Unlike other leading donors, such as Japan, Canada, Australia and Norway, the UK does not have a clear and consistent raw material engagement strategy. The UK has conducted engagements with Capacity Development, Technical Assistance and Market Access objectives,

[11] https://www.jica.go.jp/cameroon/english/office/others/c8h0vm00009vxtjj-att/brochure_02.pdf

[12] http://www.lowyinstitute.org/issues/australian-foreign-aid

and has used Finance, Governance, International Best Practice and R&D instruments to carry out these engagements.

The UK is the only country to have conducted finance based engagements, most of which have been conducted through the CDC group (UK's Development Finance Institution). The CDC group, founded in 1948, is the country's development finance institution wholly owned by the UK Government[13]. The group focuses on Africa and South Asia and makes investments in underdeveloped areas which have weak private sectors struggling to gain access to finance. In 2014 it funded mineral extraction projects in Morocco, South Africa and Tunisia.

World Bank

The World Bank, through the International Development Association, is the largest donor by level of expenditure, with a total of USD 24.8 million in 2014, with a mean value of USD 3.5 million per engagement. The World Bank has a clear strategy of focusing on providing Capacity Development assistance, improving the recipient government's ability to manage their natural resources. The majority (4 out of 7) of the World Bank's engagements are in Africa. This is due in part to the organizations' focus on the number of countries in the region with high mineral potential and underdeveloped mining sectors.

This focus on Capacity Development in the mining sector is driven by the increasing consensus that successful and efficient utilization of a rich mineral endowment is a developing countries best vehicle available for achieving sustained economic growth. One example is the extensive capacity development project 'TA for Capacity Development in Hydropower and Mining Sector' project in Lao PDR. This eight year, USD 8 million, project is designed to increase 'human capacity and improve the performance of government oversight institutions for the hydropower and mining sectors'[14]. This has included assistance in improving the contract awarding procedure, fiscal regimes and developing legislative and mineral policy frameworks.

3.2.2. Key recipients

Mongolia was identified as the largest recipient of assistance projects by number, with 13 engagements from four donors: Australia, Canada, Czech Republic and Japan. Given Mongolia's high mineral potential and relatively underdeveloped mining sector, it is unsurprising that nine out of the thirteen engagements centre on of developing the government's capacity to manage its own natural resources.

Central among these capacity development programs is the four year (2014 – 2018) Australia Mongolia Extractives Program (AMEP)[15], in partnership with GIZ (Germany) and the World Bank. Engagements cover various aspects of Mongolia's mining industry, including mining policy development and training of governmental officials. Other engagements in Mongolia include Czech Republic's technical assistants for the countries Geological Survey and Japan's 'Training Program for Human Resources Development in the Mining Sector'.

Mali was the largest recipient country assistance by expenditure, receiving USD 8.84 million in 2014. This assistance was predominately from the World Bank, through the International Development Association, to

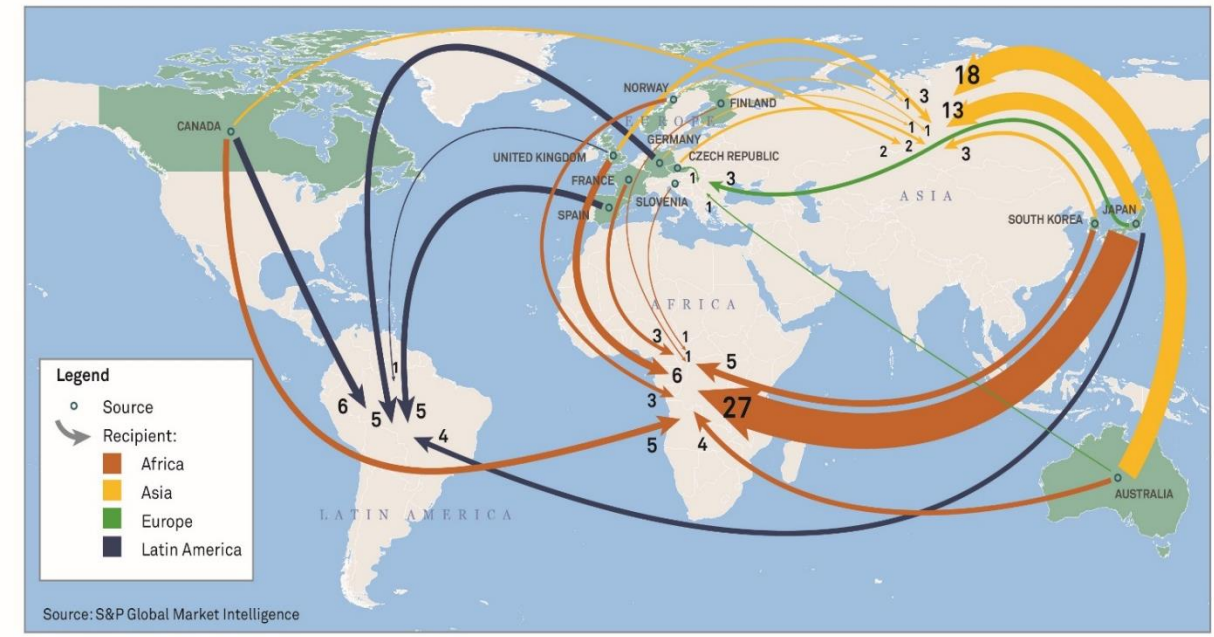
[13] http://www.cdcgroup.com/

[14] http://www.projects.worldbank.org/P109736/ta-capacity-development-hydropower-mining-sector?lang=en

[15] https://dfat.gov.au/.../australia-mongolia-extractives-program-design-document.docx

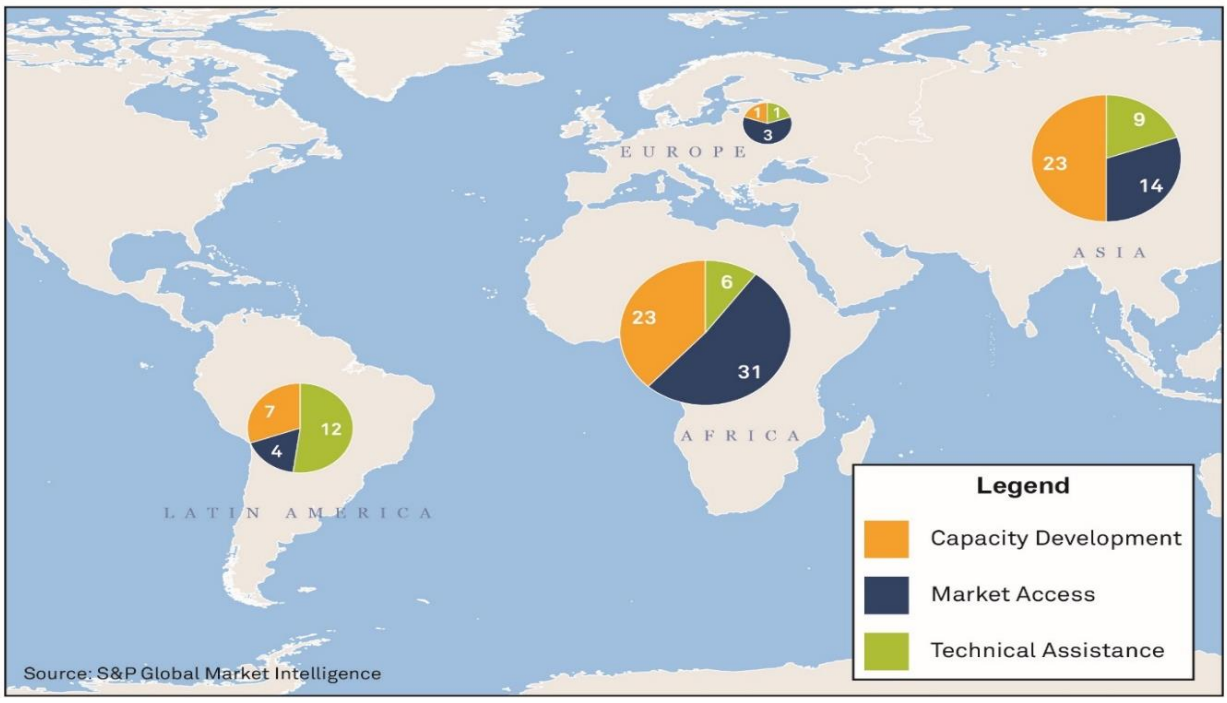
help improve transparency and accountability and improve public investment management within the country[16].

Figure 4: Number of raw material engagements – by donor and recipient



Source: SNL Financial analysis (2017)

Figure 5: Number of raw material engagements - by objective



Source: SNL Financial analysis (2017)

[16] http://www.projects.worldbank.org/P145275/?lang=en&tab=overview

3.2.3. Regional split

Africa received nearly 45% of the total number of raw material engagements, followed by Asia with 34%, Latin America with 17% and Europe with 4%. Within the regional split, by level of assistance expenditure, Africa accounts for a the greatest share with 69%, compared to Asia which received 25%, Latin America with 6% and Europe with 0.3%. The discrepancy between the number of projects and level expenditure is due to the objective and tools favoured by donors in each region and appears to be dictated at least in part by the nature of the recipient.

Latin America

Latin America, as a region with a long mining history, is the recipient of projects that focus more on technical assistance, and specifically projects that aim to improve the operating practices of the existing mine. Nine out of the twenty three projects identified in Latin America fall into the 'International Best Practice' category, compared to one in Africa and none in Asia. For example, the 'SecMinStratEI' project operated by the German government in Chile looks at the environmental impacts of mining old deposits, including tailings facilities. Other projects, including projects run by Spain in Peru and Argentina look at Health & Safety procedures in mining and local community engagement. These types of engagements tend to be inexpensive as they are often narrowly focused and rely largely on the expertise of the donor country and address a receptive and technically adept recipient.

Africa

While Africa is the largest recipient of raw material engagements by number, its dominance as a recipient increases when one includes expenditure levels. The principle reason for this is that the mining industry of African countries are less developed then those in Latin America and thus the latter require more capacity development of relevant stakeholders. Capacity development projects, especially those that focus on governance, are more expensive than technical assistance projects as they entail more holistic and long term development, and often include cooperation and training of multiple stakeholders. An example of this type of expenditure intensive capacity development project that centres on governance improvement is the Canadian project 'Effective Governance of Mining and Gas Impacts'[17] project in Mozambique. This project, with a total expenditure of USD 0.8 million, addresses socio-economic, environmental and governance and transparency issues in the Mozambican mining industry. The project requires cooperating with and supporting multiple governmental actors, including the Ministry of Mineral Resources, the Ministry for the Coordination of Environmental Affairs and the Ministry for Women and Social Affairs.

Asia

Many of the raw material engagements in Asia have been driven by mineral resource endowment as a potential tool for development. For three of the largest recipient countries in Asia: Afghanistan, Mongolia and Myanmar, developing the countries' natural resource sector management can bring about economic development and political stability. As a result, these countries have been the recipients of comprehensive capacity development programs. For example, the 'Myanmar-Australia Partnership for Reform'[18]. This USD 38 million three year project aims to develop Myanmar's institutional and governance strength in order to facilitate the peace-building process through greater political stability. Australia is assisting Myanmar to comprehensively reform its natural resource management, including training key governmental staff and developing the country's

[17] http://www.acdi-cida.gc.ca/cidaweb%5Ccpo.nsf/projEn/D000115001

[18] https://mohinga.info/en/profiles/activity/MM-FERD-ID3669/

Ministry of Mines. Such projects aim to use natural resources as a vehicle for development, with the long term in-direct advantage of improving global supplies.

Europe

While three quarters of the donor countries identified in the mapping process are from within Europe, only two recipient countries from the region were identified. Kosovo has been the recipient of assistance from both Czech Republic and Japan, as part of larger projects designed to facilitate political stability and economic growth. The second European recipient country is Bosnia and Herzegovina, receiving technical assistance in modernizing the technology used in the exploitation of the country's mineral resources (MFA Slovenia: 2011). Bosnia and Herzegovina's position as the principle recipient of Slovenian raw material development assistance is driven by Slovenia's overall foreign policy objective of ensuring the security, stability and development of the Western Balkans region[19].

3.2.4. Conclusion

Having reviewed the raw material engagements of both bilateral and multilateral actors, it is evident that Japan, Australia and the World Bank demonstrate a clear raw material engagement strategy. With well-defined objectives, these actors have executed targeted programs.

While certain EU Member States have been active in this field, most notably UK, an identifiable coherent strategy is not evident. There appears to be considerable untapped potential to develop greater collaboration between these donors to develop a coherent raw material engagement strategy that leverages the considerable expertise available within the EU.

[19] http://www.vlada.si/en/projects/slovenia_and_the_western_balkans/

4. Objectives for EU engagement

This report started with a snap-shot of the current EU mineral production and consumption levels, suggesting that EU's mineral consumption is at a 'mature' level, i.e. is expected to remain stable and possibly marginally decline in the future. The EU has not seen increasing mineral production from internal sources over the past decade and has looked to international imports to meet its raw material needs.

The EU has seen increasing competition from the expanding demand for minerals from emerging economies such as China. The period of high commodity prices in 2003-2008, left EU mineral consumers facing higher input costs for the same volume of material.

This brought some urgency for the European Commission to address the stability and access to raw material for its Member States, particularly in the case of rare earth minerals. The Raw Materials Initiative (2008), the flagship programme was set up, focusing on improving internal and external access to virgin raw material, as well as looking at increased recycling and substitution to meet its consumption demands.

This was not the first time the EU (and previously as the EEC) Member States were faced with disruptions in global mineral markets. In the last quarter of the 20th century, global supply disruption risks have been driven by a number of factors: from civil war in raw material producing countries, to metal price cartels and resource nationalization in newly independent African and Latin American countries. The EU was also aiming to maintain good relations with ACP countries, some of which were major commodity producers. Therefore the EU's response was to focus directed project level finance and funding at the country level to counteract balance of payment deficits brought about by falling commodity prices.

In the post 2008 era, the EU's response was less concentrated, largely through trade agreements. These agreements looked at eliminating market distortions, thereby contributing to an orderly world market for minerals, which in turn improved supply conditions for the EU. Dialogue based platforms were used to inculcate exchange of best practices with other international consumers and producers. At a time where other non-EU countries, such as Japan and Canada, focused their raw material engagements along very specific objectives, the EU lack of focused engagement was even more contrasting.

For the EU to be able to access and support stable global mineral markets, where supply or demand disruptions are less likely to emerge and sustainable mining practices are employed, three key strategic areas need to be addressed in resource rich developing countries. The country governments must have the capacity to regulate, monitor and govern their natural resource sector in a manner that meets minimum international standards within the sector. Second, these countries must have the technical skills to explore and establish the value of their mineral resources and have the technical capacity to administer, what can be at times, a high skill and technology sector. Finally, developing country markets, through trade or investment, should be accessible to EU members and developing countries must have access to EU markets for their exports.

Capacity Development, Technical Assistance and Market Access can be addressed through various tools: financial, governance related, research and development etc. The report acknowledges that the quantitative analysis undertaken in chapter three is restricted to one year and offers a snap-shot rather than a trend. However it is apparent that the use of these tools is far more pervasive by non-EU donors than EU Member States. While individual members, such as Germany and the UK have been in the leading DAC donors assessed, their contributions are far more limited when contrasted with Australia, Canada and Norway.

The EU does, indirectly, benefit from the activities of other donors. For example, better governance of mineral resources in developing countries supported by the World Bank creates a 'public good' where everyone can partake from responsibly produced minerals, but, on the other hand, it can be argued that the EU is often the

beneficiary of “bad” mining contracts through the enhanced legal and illicit financial flows from mining to the EU. So, is there a need for the EU to assist developing countries through raw material engagements, or are its efforts not required?

Policy briefs under STRADE (Schüler *et al*: 2016) in 2016 outline the socio-economic and sustainability challenges that are currently faced by the global mining sector. The policy brief on voluntary initiatives particularly shows the concerns of international actors in supporting responsible mining practices. Despite the number of such initiatives and progress towards achieving them, these issues continue to have a significant impact on developing countries and, in turn, the consumption of minerals across the world.

As a consumer of minerals, it is in the EU’s interest that “international mineral order” is seen to be fair and equitable so future disruption can be avoided. The EU also has a shared long-term responsibility in the sustainable production and consumption of these materials. This principle is generally accepted by the EU as well as the Member States and many of their citizens. Therefore, the need for EU to be an active participant in the sustainable (economic, social and environmental) production of minerals is required. And to do so, the EU's current raw material strategy needs to be augmented.

The augmentation is required on two fronts when it comes to raw material based engagements with developing countries. First, the policy objectives and the tools available to the EU to achieve said objectives need to be clearly articulated. Second, the agenda for the dialogue appears to be unilaterally set and needs to be more inclusive of partner country concerns. As STRADE’s policy brief on African evaluation of the EU’s approach to Raw Material Engagements (Jourdan & Naiker: 2016) indicated, the issues that are of concern to partner countries may not be the same as those discussed by the EU in its engagements.

Therefore, the first step in making recommendations for the EU’s raw material engagements is to address first what objectives the Commission can consider in further refining the RMI and second, what issues need to be added to the dialogue it conducts. These steps are not mutually exclusive, as the agenda items will be deeply linked with the objectives and the tools the EU develops in the future.

4.1. Ways forward

The EU requires a clear view of its engagement objectives if it is to be able to identify suitable options for taking the policy forward. This has not always proven easy in the past. As indicated in chapter two, policy objectives in the EU have moved from contingent financial support to former colonies (ACP countries) to creating ‘platforms’ for discussions. Chapter three outlined the objectives of Member States focusing on technical assistance and capacity building for mineral producing countries, addressing issues to developing country mining sectors. Thus while at the EU level resource engagements have been at very broad level, at the Member State level these have been very specific.

4.1.1. Considerations

In defining its objectives, the EU needs to **take account of the geopolitical environment** and to recent changes in this environment. Some of these changes, notably the heightened awareness of the modern economy’s dependence on imported raw material, the declining EU share of global mineral demand and the resurgence of resource nationalism, were in part a direct result of a fast-growing global economy and of the resulting boom in commodity markets.

Although the outlook over the next few years is for a slower-growing global economy and less buoyant commodity markets, it seems probable that the changes in the geopolitics of resources wrought in the boom years will persist. Indeed, it is possible that **some aspects of resource nationalism will be aggravated** by

weaker prices and falling state revenues from the resource sector. Furthermore, with the centre of gravity of resource use having shifted towards Asia, it must be assumed that **competition for resources** from this region will remain intense into the future.

It will be important in this world for the EU to continue to **uphold the principle of an open global market for mineral raw material,** and an environment which encourages the free flow of investment to the world's best mineral deposits, remains the best guarantor of plentiful supplies of minerals for European industries. And, from time to time, it may be necessary to assert this principle by mounting challenges to restrictions on mineral trade in the forum of the WTO. However, constraining export tariffs is out of the WTO ambit and would not impact on EU competitiveness.

There are strong forces working against further multilateral trade liberalisation. The WTO's Doha Round of trade negotiations, launched in 2001, has effectively been abandoned. Other multilateral initiatives for trade liberalisation, such as TTIP (Transatlantic Trade and Investment Partnership) face an uphill struggle. The capacity, and arguably the will, of the USA to champion and to police the multilateral trading system is declining.

In addition, a number of raw material-producing countries have been **imposing restrictions** - in the form of export tariffs or outright bans - on their exports of unprocessed mineral raw material with a view to encouraging the domestic processing of these minerals. While these schemes may be out of compliance with WTO rules, it may be impractical, as well as politically counterproductive, to challenge all such export restrictions through the WTO. In many cases, the restrictions are also in conflict with bilateral investment treaties (BITs), which have led to some cancellations. For the countries concerned, **such restrictions are deemed to be in the interest of their economic developmen**t and, essentially, sovereign acts. It would be prudent to assume that such restrictions will be part of the landscape for the future, and if applied to all export destinations, do not impact on the competitiveness of EU firms.

There is also a need to **broaden the focus of policy** concern in relation to raw material **away from China and from so-called critical materials**. Although these were a legitimate focus of policy concern during the boom years, the issue of resource nationalism and the challenge this gives rise to is a systemic one, potentially giving rise to problems across all raw material supplying countries and to the whole range of minerals supplied into the EU.

Finally, there is need to acknowledge that the **EU faces growing competition with other regions in respect of its resource diplomacy**. The activism of China is the most obvious source of competition but, as the previous chapter illustrated, a number of other countries are devoting significant efforts to building better relationships with supplying countries, to enhancing their capacity to attract and manage effective mineral development, and to promoting their companies in resource rich areas.

4.1.2. An inclusive agenda

Given the nature and severity of the commodity boom which ran from 2003 to 2008, it was perhaps not surprising that the most recent iteration of EU policy on raw material, in the form of the Raw Materials Initiative (RMI), had, as its primary focus, the supply needs of European industries. It essentially set out to evaluate what these needs were, where the greatest vulnerabilities to supply-disruption lay, and then to elaborate measures to deal with the identified threats. The **approach was essentially unilateral**. It was the product of internal deliberation, not a consultation exercise with supplying countries and did not therefore pay much regard to the perspectives or needs to supplying countries.

Earlier initiatives of the EU with respect to raw material producing countries, such as SYSMIN, may have had different objectives but nonetheless adopted a similar approach. The EU defined the policy challenge and then developed instruments to address it. This inevitably resulted in the creation of donor-beneficiary relationships between the EU and mineral-producing countries, with recipient countries essentially at the table in the role of supplicants rather than partners of the EU.

To move beyond this, towards the adoption of a policy and of policy instruments which are relevant to the EU's longer-term needs and appropriate to the geopolitics of the time, the EU will need to understand better, and to **respond more constructively towards, the agendas of the countries which supply it with raw material**. It will need to think in terms of partnerships rather than in terms of donor-beneficiary relationships. It will need explicitly to consider the potential role of mineral projects in national, and more particularly, regional, development. It will, in effect, need to integrate the interests and perspectives of supplying countries into EU policy.

The foundations for such an approach lie in the mutual self-interest of the parties, the supply needs of the EU on the one hand (plus the needs of its companies operating outside the EU) and the development needs of raw material producing countries on the other. This mutual interest finds its clearest expression in **the shared benefit that flows to both parties** from the encouragement and facilitation of productive investment in the mining sector.

The precise identification of interests of the EU and of raw material supplying countries, and the development of a **respectful understanding of each parties' perspectives** needs to be drawn out through a sustained process of dialogue, such a dialogue to be based on an honest and open declaration of interests and of each party's expectations of the other party in the dialogue.

It cannot work if there is any presumption that one party's interests take precedence over the other. This implies an effective re-set in the policy agenda from the thinking which has driven earlier initiatives in this field. It will also require that both parties bring to the table practical ideas and projects which can give substance to the partnership. In the case of the EU it will mean putting real development projects on the table.

Although it is evident that the establishment and maintenance of a dialogue logically precedes a full elaboration of policy measures, it is nonetheless possible to sketch out some of the policy options that such an approach might lead to and mechanisms for taking them forward. This is the subject of the next section.

4.2. Strategic objectives

Meeting the supply needs of the EU while taking full account of the development needs of supplying countries points to the EU shaping its future policy on engagement with non-EU raw material producers around two major themes: **Maintaining open, undistorted and equitable markets** so that the EU's economic efficiency and competitiveness are preserved and Engaging with **developing country partners** in a manner that addresses their **natural resource agenda** as well, which may well require a rethink of EU support to its basic mineral processing industries originating from their colonial past. The issue of an inclusive agenda, where the concerns of partner countries are given a fair share of the discussion, will be developed in more detail in later STRADE reports.

The first of these themes is about **maintaining and improving channels for the equitable flow of trade and investment**, with a view to ensuring good availability of mineral supplies for consumers whilst creating broad development opportunities for producers and would-be producers. This would also include the promotion and facilitation of specific opportunities which offer business benefits to EU companies and development benefits for mineral host countries.

The framing of policy options in these areas needs to take account of what is the institutional level most appropriate for addressing these matters, whether this is the EC, the EDF, the EU member state, or elsewhere. It also needs to take account of the existing instruments available to progress this agenda and the experience derived from the use of earlier instruments. Finally, but importantly, it needs to take account of the experience of other countries, and to consider whether they offer lessons for what the EU might usefully do.

The EU can play an important role in institutional capacity-building in raw material producing countries. Such capacity-building covers such traditional institutional support as that for ministries of mines, for geological surveys, for the framing and implementation of mining law, and for the administration and trade. But it can also extend to cover a broader range of objectives including **support for environmental regulation and schemes for social sustainability.**

The EU already has programmes which address some aspects of capacity building on a wider country/sectoral level, in particular through the European Development Fund. One of the matters that dialogue with producing countries might reveal is **how successful these efforts are in meeting their objectives** and how they might be refined and developed in future. It might, for example, consider the greater use of scholarships to enable young and mid-career government officials to broaden their knowledge and deepen their skill sets. Or it might consider direct support for regional sector development organisations such as the Africa Union's African Minerals Development Centre (AMDC).

Dialogue might also point to other ways in which the **EU might deepen its engagement with supplying countries**. It might reveal information about the effectiveness and popularity (or otherwise) of China's 'activist' role to promoting resource development through infrastructure-for-resource deals, and whether there are any useful lessons from this policy for the EU. Similarly, it might reveal something of the perceived benefits of Japan's (JOGMEC's) support for geological surveys and R&D, a scheme which, on the face of it, may be closer to what the EU might practically consider undertaking than what China is doing.

For the EU to play this role effectively and credibly, and engage constructively with specialists in member state and in mineral host countries, it **would need to develop within it a cadre of expertise on the mineral sector** and on associated industries. Resource diplomacy as practised by Australia and Canada is commonly conducted by those with close familiarity with the resources sector (for example, those who have worked in mining or trade ministries or in related research organisations) and supported by those actively involved in it.

4.2.1. Conclusions

The research published under the third work package of STRADE have attempted to provide a baseline of engagements taken by the EU in the field of raw material. Subsequent publications have reviewed engagements taken by industrialised third countries and partner countries viewpoints concerning EU engagements. The work should provide its reader with an understanding of the EUs current strategy and how this may compare and contrast with countries with similar levels of import dependency. The work should also demonstrate how partner countries views of EU engagement should inform collaboration going forward.

This report has traced the EU engagements in the raw material sector over the last 40 years and has demonstrated how the EU has arrived at its current engagements strategy on resource diplomacy. The report also showed how the EU as a whole is behind other industrialised countries in terms of spend and number of engagements taken with third countries.

The report suggests that resource diplomacy is an effective route for the EU to continue perusing, but the depth of this engagement needs to increase. However, it may be an option for the EU to pay more attention to the role of institutional capacity building in third countries in order to have tangible impacts in the partner

country. The report has also suggested that the EU move away from traditional donor- beneficiary relationships pursued in the past. As the raw material space become more competitive with the rise of producers becoming consumers, the EU should develop more equitable relationships with the third countries that it chooses to engage with. To do this, the EU needs a good understanding of the motivations and wishes of possible partner countries, moving away from unilateral agenda setting.

The report has suggested possible avenues of policy response that could be taken by the EU to have more effective and meaningful engagement with third countries going forward. The STRADE team will consider these options as it engages with EU partners in its research in 2017.

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Annex 1: Breakdown of engagements by recipient

Recipient	Region	No. of engagements	Total value (in USD millions)	Mean value (in USD millions)
Afghanistan	Asia	4	1.380	0.345
Angola	Africa	4	0.042	0.010
Argentina	Latin America	3	0.045	0.015
Bolivia	Latin America	2	0.008	0.004
Bosnia and Herzegovina	Europe	1	0.096	0.096
Botswana	Africa	2	0.060	0.030
Burkina Faso	Africa	1	1.287	1.287
Burundi	Africa	1	0.186	0.186
Cambodia	Asia	3	0.038	0.013
Chile	Latin America	7	0.501	0.072
Colombia	Latin America	2	0.922	0.461
Côte d'Ivoire	Africa	1	0.005	0.005
Democratic Republic of the Congo	Africa	1	0.003	0.003
Egypt	Africa	1	0.032	0.032
Ethiopia	Africa	3	3.421	1.140
Gabon	Africa	1	0.014	0.014
Ghana	Africa	1	0.475	0.475
Guatemala	Latin America	1	0.006	0.006
Honduras	Latin America	1	0.003	0.003
Indonesia	Asia	1	0.309	0.309
Kazakhstan	Asia	1	0.027	0.027
Kenya	Africa	1	0.025	0.025
Kosovo	Europe	4	0.119	0.030
Lao PDR	Asia	6	6.679	1.113
Liberia	Africa	2	1.378	0.689
Malawi	Africa	4	0.159	0.040
Mali	Africa	3	8.849	2.950
Mexico	Latin America	1	0.018	0.018
Mongolia	Asia	13	5.118	0.394
Morocco	Africa	1	0.086	0.086
Mozambique	Africa	6	1.191	0.199
Myanmar	Asia	6	0.470	0.078
Namibia	Africa	3	0.684	0.228
Nicaragua	Latin America	1	0.004	0.004
Nigeria	Africa	5	0.070	0.014
Pakistan	Asia	1	0.024	0.024
Papua New Guinea	Asia	1	0.110	0.110
Peru	Latin America	4	1.482	0.371

Recipient	Region	No. of engagements	Total value (in USD millions)	Mean value (in USD millions)
Philippines	Asia	2	0.379	0.190
Sierra Leone	Africa	2	8.400	4.200
Solomon Islands	Asia	2	1.008	0.504
South Africa	Africa	2	0.303	0.152
Sudan	Africa	3	0.041	0.014
Tanzania	Africa	1	7.142	7.142
Thailand	Asia	1	0.041	0.041
Tunisia	Africa	1	0.412	0.412
Uganda	Africa	3	0.047	0.016
Uruguay	Latin America	1	0.769	0.769
Uzbekistan	Asia	2	0.041	0.021
Viet Nam	Asia	2	0.238	0.119
Yemen	Asia	1	0.024	0.024
Zambia	Africa	2	8.354	4.177
Zimbabwe	Africa	5	1.073	0.215