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DESIGNING LOCAL CONTENT POLICIES IN MINERAL-RICH COUNTRIES

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Designing Local Content Policies in Mineral-Rich Countries

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ACRONYMS

BSAs	benefit-sharing agreements
CDA	community development agreement
DMR	Department of Mineral Resources
EU	European Union
GATT	General Agreement on Tariff and Trade
GATS	General Agreement on Trade in Services
GDP	gross domestic product
IBA	impact and benefits agreement
ICMM	Intergovernmental Committee on Mining and Metals
IFC	International Financial Corporation
ILUA	Indigenous Land Use Agreement
IMTT	integrated mine technical training
LCA	Local Content Act
LCPs	local content policies
OPEC	Organization of Petroleum Exporting Countries
R&D	research and development
SMEs	small and medium enterprises
TRIMS	Trade-Related Investment Measures
WGC	World Gold Council
WTO	World Trade Organization



1.0 INTRODUCTION

Many resource-rich countries have not succeeded in sufficiently using their mining sector as a stepping stone for broader economic transformation. As a result, although the industry is a significant revenue contributor, its linkages with the rest of the economy remain rather weak. To address this, and under mounting pressure to deliver more inclusive outcomes, governments are increasingly taking regulatory measures with the objective to increase the use of domestic factors of production in the mining sectors, and provide more prospects for local economy to benefit from mining industry. Local content policies are one such strategy.

This document is meant to provide some clarity on the key characteristics and challenges of local content policies. It does not attempt to propose one definition of local content. It is meant to provide a better understanding of the various types of instruments used, as currently contained in existing legal and institutional frameworks and based on country specific experiences. The purpose is to highlight the pre-requisites necessary to inform a decision whether or not to design local content policies, and guide readers to what types of policies could best be adopted, given the specific policy environment in place in their respective countries.



2.0 LOCAL CONTENT: KEY CHARACTERISTICS

2.1 DEFINITION AND SCOPE OF LOCAL CONTENT

There is no established definition of what the terms “local” and “content” mean. In practice, however, the concept of “local content” is understood to relate to a set of policy instruments elaborated by national and/or regional governments to ensure that a certain proportion of factors of production (such as labour, supplies of goods and services, technology and technical know-how) required at various stages of the mineral value chain is sourced from the domestic economy.

2.1.1 DEFINITION AND SCOPE OF “LOCAL”

The term “local” can be interpreted in various ways:

1. It can be defined *narrowly*, to focus only on the geographic area and population living around a specific mine site. In this context, “local employment” refers only to jobs available for people originating in that particular area. Similarly, only suppliers originating from the impacted community would qualify as “local suppliers.”¹
2. The term “local” can also have a *broader definition*, where the latter is associated with (a) *nationality or citizenship*, in the case of employment; (b) *business registration and/or headquarters, ownership and/or control of capital*, in the case of firms. This gives rise to various scenarios where firms may be considered “local” if they are locally based but foreign-owned, locally based and locally owned or locally owned but foreign-based; and (c) *value addition*, when a percentage of locally sourced inputs are used in the manufacturing process or when the raw material is used as an input for further transformation by local industries. Value addition is sometimes used as a proxy for “locally based” and/or “locally owned.”

¹ From an administrative standpoint, this approach is difficult to monitor. For example, “migrants” coming from other regions are often recognized as local if they are registered at the local municipalities, therefore challenging the purpose of targets set regarding local employment or procurement. Similarly, firms registered in a particular location for tax purposes may qualify as local, even if the firm is foreign-owned and does not undertake substantial economic activity with local or regional stakeholders.



BOX 1. HOW “LOCAL” IS DEFINED IN PRACTICE

The **Brazilian** policy documents do not provide a legal definition of “local.” However, there are two notable exceptions, namely for firms engaged in activities in border zones or inside Indigenous protection areas. In both cases, there is an ownership requirement, and the law stipulates that firms “must be controlled by Brazilians,” with national capital of at least 51 per cent of capital stock of firms. Further, within Indigenous protection areas, Indigenous communities have the right to reject projects. In Onça Puma, the ferronickel mine was mandated to comply with compulsory social obligations in order to obtain environmental licences, which included reaching 70 per cent local employment within two years, and 100 per cent in seven years.

In **Ghana**, there is no legal definition of “local,” and different mining firms have their own interpretation. For example, while Newmont gives priority to “local local” firms, i.e., to local businesses located around its mining operations, AngloGold Ashanti understands “local” to be nationally sourced, and does not distinguish between local importers and locally produced goods.

In **Mozambique**, since there is no legal definition, mining firms have set their own benchmarks. Vale has a national and regional (i.e., in various regions where it operates in the country) definition, while Rio Tinto has four definitions of local procurement, namely community, local, regional and national; and Kenmara Resources defines local as Mozambican-registered companies (irrespective of whether goods are manufactured locally or not).

In **Chile**, local content is not defined by law, but mining firms have set their own criteria: Barrick Gold takes a national definition and excludes purchases from outside the country. Xstrata and Teck Cominco take a regional definition but do not take into account regional value addition or imports by regionally established companies;

In **Australia, Canada** and **South Africa**, specific legal provisions address concerns of particular Indigenous or disadvantaged communities, where “local” is meant to respond to the specific concerns of the affected local community.

Source: ICMM, 2015; Korinek & Ramdoo, 2017; Farole & Winkler, 2014.

2.1.2 DEFINITION AND SCOPE OF “CONTENT”

The definition and scope of the term “content” is more complex because it is meant to respond to different policy objectives, which are:

1. Increasing the **participation of domestic industries**, notably by stimulating access to mining procurement markets and encouraging local sourcing of inputs.
2. **Development of the local workforce**, at various levels of competencies and at different stages of the mineral value chain. This includes employment opportunities and enhancement of local capabilities through training of the local workforce, skills and expertise development and knowledge transfers.
3. **Transfer of technology or of intellectual property** to local firms or government agencies. Some countries even require that investors use the latest technology available and that mining firms work with local institutions and experts in their operation.
4. The conduct of **research and development (R&D)** and **innovation** activities locally, or financial contributions to fund local institutions for that purpose. The objective is to maintain the competitiveness of the domestic industry and/or the supplier network or to foster technology absorption.
5. Fostering downstream **value addition** and **beneficiation** of locally produced raw materials.

Table A1 provides an overview of different types of policy instruments used by a number of countries in an attempt to meet their “content” objectives.



2.2 RELEVANCE OF LOCAL CONTENT

Countries have various reasons to design and implement local content policies (LCPs). These can be political, strategic, economic and social motivations, although it is always difficult to strike a balance to avoid harming particular interests.

LCPs have a strong *political appeal*, as they respond to popular pressures to deliver on jobs and wealth-creating promises made during political campaigns. Furthermore, they are considered to be fiscally neutral and do not present any financial implications for government; they are therefore perceived as a “quick win” by governments entrenched in a short-term political cycle logic.

On the *economic side*, if the local industry is competitive and a number of conditions are in place (see Section 4), local content has the potential to create jobs and stimulate the development of local suppliers of goods and services. It is estimated that mining and petroleum firms spend between 40 and 80 per cent of their revenues on the procurement of goods and services (McKinsey, 2013), far exceeding their contribution to government revenues, assessed between 3 and 20 per cent of GDP (ICMM, 2014). Therefore, expenditure from mineral sector procurement represents a lucrative market into which the local private sector can tap, if they have the capacity to supply competitively and within the required standards.

In more advanced mining economies, there is often a *strategic interest* to develop expertise in emerging high-technology activities. Countries therefore impose technological transfer, R&D and innovation local content requirements to ensure local firms build their competencies to remain ahead of the innovation curve. Chile, for example, has prioritized supporting local small and medium firms to develop innovative solutions to specific technological challenges faced by copper mining firms. The purpose is to develop a niche, build competitive advantage and provide tailor-made solutions, which can, in turn be exported as high-value added services to companies around the world facing similar challenges.

Finally, on the *social front*, there is an outcry by societies denouncing constant policy failures and the inability of successive governments to deliver on inclusive and sustainable development objectives and welfare creation. LCPs are seen as an instrument for governments to navigate through the various interests to secure deals to maintain social peace and to maximize benefits at the national level. On the part of mining firms, LCPs are seen as a tool to secure the social licence to operate and transfer some benefits to the mining communities, through some forms of voluntarily defined LCPs.

2.3 POTENTIAL CHALLENGES OF LOCAL CONTENT POLICIES

Although politically attractive, LCPs have not always delivered on their promises. In fact, many countries have experienced blatant failures² in their effective implementation due to various political and economic factors, which distort the efficiency of industries, mining, manufacturing and service providers alike. The main pitfalls of LCPs can be summarized as follows:

- (i) LCPs in the mining context are often instruments to implement public policy aimed at developing and protecting local industrial capacity, using the mining sector as the anchor client (if upstream linkages are the target) or as the source of inputs (if downstream linkages are targeted). However, while the goal of increasing the proportion of good and services procured locally is generally well understood, there is often **a lack of clear objectives and**

² For a comprehensive overview of countries' experience, see for example, Ovadia (2016) on failure of Indigenization policies in Angola and Nigeria; Stone, Messent, and Flaig (2015) on challenges to international trade; Sachs and Warner (1995); Venables (2016) for an economic literature on the so-called “resource curse.” Although there might be some overlaps, it is important to note, however, that the resource curse literature does not point to unsuccessful local content policies as the sole factors that negatively affected the economic performance of resource-rich countries.



guidelines on the process. LCPs are designed as blanket provisions, which governments seem to be equally applicable to all sectors. Experience has shown that poorly designed policies are counterproductive and negatively impact on project execution, and in the long term, on the very objectives of industrial development and job creation.

- (ii) LCPs imposed in countries that have limited industrial capacity or inferior technological capabilities pose serious **threats to the competitiveness of the mining industry**, because they can lead to **cost inflation** (i.e., raise the retail prices of domestically produced inputs), due to inability of local operators to deliver quality goods and services on time.
- (iii) When faced with limited industrial or human resource capabilities, **LCPs can compromise firms' productivity** if regulations fail to adopt a phased approach to allow for domestic factors of production to adjust to the targets set. High targets with immediate applicability will necessarily lead to sourcing challenges with negative implications for mining projects.
- (iv) Incentives given to local firms may lead to **inefficient allocation of resources and market distortions if they are not time-bound** because domestic firms, encouraged by incentives and support measures, may be wrongly tempted to invest in sectors where they would only be profitable if they benefit from those forms of protection, but would not be sustainable in the long run should the government withdraw support. Wrongly targeted incentives may create rent-seeking behaviours that are difficult to remove, in particular in countries with strong vested interests, a high propensity for rent capture and with weak institutions.
- (v) Opponents to LCPs claim that they can have a **negative impact on trade and endanger foreign investment inflows** because by definition, they are meant to discourage imports and restrain competition between domestic and foreign inputs. However, in practice, in the mining sector, unless the requirements are very strict, LCPs have deterred foreign direct investment (FDI). They are certainly part of the contract negotiation process and are noticed by multinationals but are rarely the cause of investment flight. Investors and international trade partners have instruments such as bilateral treaties or multilateral mechanisms at their disposal in case of dispute.
- (vi) Local content policies in the mining sector have **ripple effects on other sectors of the economy** because of the interconnectedness across economic sectors. Just as well-designed and efficient LCPs can create value across an economy, **poorly designed and flawed LCPs can destroy value along the value chain**. Clogging a part of the value chain through cost inefficiencies or supply disruptions, will translate into cost escalations, including for the non-mining sector. Importantly, too, lowered profitability of industries will have an impact on fiscal revenues.
- (vii) Too strict LCPs, in particular when they target minerals considered "critical"³ for certain key industrial sectors, can **cause supply risks** and affect the sustainability of industries in resource-dependent countries. The EU, the United States and Japan have been particularly active in their economic diplomacy to advocate against any measure that might affect the supply of raw materials they deem "critical" for their industries, and for the sustainable functioning of their economies, more broadly.

³ Minerals are considered "critical" when they are deemed to be economically and strategically important for certain industrial use and therefore have a high risk associated with their supply. Since 2011, the European Union has been extremely active in ensuring it can secure access to critical raw materials essential for its high-tech industries. A list of "critical raw materials" is regularly updated (the last one dates from September 2017) and targets materials that are not only "critical" for key industry sectors and future applications, but also for the sustainable functioning of the European economy. It is important to note that these materials *are not classified as critical because they are considered scarce*, rather they are classified thusly because:

1. They have a significant economic importance for key sectors in the European economy, such as consumer electronics, environmental technologies, automotive, aerospace, defence, health and steel.
2. They have a high supply risk due to the very high import dependence and high level of concentration of set critical raw materials in particular countries.
3. There is a lack of (viable) substitutes, due to the unique and reliable properties of these materials for existing (as well as future) applications.



- (viii) **Advances in technology in mining production processes** are likely to pose new challenges the future demand in labour and procurement.⁴ Mining processes and practices may radically change as will the nature of tasks to be performed by workers (if any) (Cosbey et al., 2016). Technological changes may therefore render current LCPs totally ineffective, in particular if governments are unable to foresee those changes, adjust their skills-related and industrial policies and adapt their instruments to foster local value addition accordingly.

⁴ Cosbey et al. (2016) made a thorough analysis of the challenges likely to face mineral-producing countries given the changes in technology.



3.0 SETTING THE POLICY ENVIRONMENT: FRAMEWORKS WITHIN WHICH LOCAL CONTENT POLICIES OCCUR

LPCs are designed to realize certain policy objectives essentially aimed at securing maximum socioeconomic benefits from investments in the mineral sector. Box 2 shows how several countries have inscribed LCPs into policy instruments and legal frameworks. LCPs may also guide other forms of agreements entered between the industry and the community.

BOX 2. WHERE TO FIND LOCAL CONTENT POLICIES?

Policy statements: Some countries outline their LCP objectives and principles in broad statements of government policy, such as the [2012 Sierra Leone Local Content Policy](#) and the [Zambia Mineral Resource Development Policy, 2013](#).

Primary legislation, enacted in Acts of Parliaments and statutes. Examples include [Nigeria's Oil and Gas Industry Content Development Act 2010](#); [Kenya Local Content Bill of 2016](#); or [Mozambican Petroleum Law issued on 18 August 2014](#).

Secondary legislation, which are delegated and emanate from primary legislation. Examples include *regulations*, such as [Ghana's Minerals and Mining \(General\) Regulations, L.I 2173 of 2012](#); [Tanzania's Petroleum \(Local Content\) Regulations, 2017](#); *ministerial orders* like those approved in Angola aimed at imposing specific local content obligations on companies carrying out oil and gas activities in the country. In countries with decentralized government systems, secondary legislation can be found at the state, province or territory level, like in Australia or Canada. In [Australia](#), for instance, each state and territory has its own mining regime, with specific legal and administrative frameworks to support the sector. Mining activities are thus regulated by (i) mining acts which administer licences and leases; (ii) *State agreements*, which set out the rights and obligations of the state and the developer and can include details on local sourcing and employment; (iii) *Indigenous land and use agreements*, between mining companies and native title owners, where more specific local content provisions are developed to fit the needs of the Indigenous community.

Mining contracts, agreements and bidding rounds for concessions or production-sharing agreements, which contain legally binding requirements in respect of local content. This is mainly used in the hydrocarbon sector but rarely in the mining sector. For example, Brazil's local content (hydrocarbons) is defined in the context of bidding rounds for concessions and production-sharing contracts. In the



mining sector, one of the legal instruments used by the Philippines is the Minerals Production-Sharing Agreement, where, as the owner of the minerals, the government can request a share in the production of minerals, either in kind or in value. In most cases, the share to the government comes in the form of an excise tax equivalent to a percentage of the gross output.⁵

Community Development Agreements/ Impact and Benefit Agreements, which are formal agreements between investors in the mining sector and the communities that are likely to be impacted by the project. Of a voluntary or mandatory nature but often guided by primary legislations frameworks, these agreements are expected to engage mining firms in delivering social and economic benefits to the local community. Countries like Australia, Canada, Papua New Guinea, Ghana or Laos have such agreements in place.

Sources: Columbia Center on Sustainable International Investment (CCSI), 2014a–2014e; 2015a, 2015b; CCSI, 2016; Ramdoo, 2016; Quisumbing Torres, 2015.

3.1 MANDATORY REQUIREMENTS TO PROMOTE LOCAL CONTENT⁶

Mineral-rich countries increasingly make use of mandatory requirements to oblige mining firms to use local factors of production. These compulsory requirements can take the form of numerical targets, expressed in volume, in value terms or by product categories. The non-application of those quotas can lead to strict penalties, such as prohibitive fines or suspension of licences. Examples of mandatory LCPs include:

- (i) **Local sourcing requirements:** To ensure that mining firms source their inputs from domestic suppliers, legal frameworks require that mining firms and their subcontractors:
 - (a) Purchase specific product categories, a defined volume or determined value of goods and services from local suppliers or manufacturers.
 - (b) Provide procurement plans, calendars and subsequent implementation reports to local authorities.
 - (c) Give tender preferences to local suppliers, by reducing the price of bids for local suppliers by a certain percentage or by allocating tenders to lowest bidders, if they are nationals.
- (ii) **Domestic employment requirements:** mining firms and their sub-contractors are required to:
 - (a) Employ specific percentages of local work force, at various levels of competencies (e.g., engineers, managers, technicians etc.) and in various categories of jobs (such as at various management levels, or as board directors etc.).
 - (b) Limit the number of expatriates employed and provide compulsory succession plans and training programs for their replacement by local talent.
 - (c) Reserve some categories of jobs, such as unskilled labour and non-technical/administrative staff, exclusively for nationals.

⁵ The Minerals Production Sharing Agreement is one of the three types of Minerals Agreements under the Mining Act that the government can enter into with a contractor. The two others are (i) a co-production agreement, where the government provides inputs to the mining operations other than the mineral resource; and (ii) a joint venture agreement, under which a joint venture company is organized by the government and the contractor with both parties holding equity shares. In addition to earnings from the equity, the government is entitled to a share in the gross output. For more information on the Philippines, see Quisumbing Torres, 2015.

⁶ For a comprehensive overview of the debate about local content, trade and investment, see Ramdoo (2016).



- (iii) **Local presence or ownership requirements**, where mining firms are requested to:
 - (a) Enter into joint ventures or partnerships with local firms.
 - (b) Engage into partnerships with the state. This can take several forms, ranging from equity participation to service contracts.
 - (c) Cede a percentage of equity participation in licences to local partners. This is more frequent in the petroleum sector but recent regulatory reforms in the mining sector in some countries have triggered increasing local participation through ownership and stakes.
 - (d) List a minimum percentage of their shares on national stock exchanges, with the aim of providing the possibility to national to acquire stakes in the mining firm.
 - (e) Limit foreign ownership to a maximum participation in value or through limited licences allocated.
- (iv) **Technological and/or knowledge transfer requirements**, notably through:
 - (a) Compulsory spending on research and development (R&D), including by specifying the percentage share of spending to be allocated to R&D with local institutions.
 - (b) Requirements to have a plan on the transfer of technology, including on programs and initiatives to be taken by mining firms to achieve the objectives of the plan.
 - (c) Compulsory training of local staff to foster the transfer of know-how and technology. Companies may be required to allocate a specific share of their spending on training of local staff.
 - (d) Limitations on the validity of working permits for foreign workers. To ensure knowledge transfer, companies are required to train local staff to replace foreign staff.
- (v) **Beneficiation requirements**, applicable primarily to stimulate downstream value addition. Here, LCPs have two main objectives. They are aimed at developing:
 - (a) An *export-oriented industry*. Policies are geared toward developing local manufacturing capabilities to add value to unprocessed minerals, with a view to exporting higher-value-added products. Examples include setting up refineries and smelters to export transformed products.
 - (b) An *import-substitution strategy*. Policies are defined to respond to growing local demand for processed products. Examples include domestic processing of industrial minerals such as cement, glass, ceramics etc. to meet growing local construction demand arising from industrial and housing needs or infrastructure building.

Beneficiation requirements are implemented through the following instruments:

1. *Domestic sales requirements*, achieved through:
 - (i) *Domestic market obligations*, where mining firms are requested or forced to sell a percentage of their proceeds to local manufacturers.
 - (ii) *Captive mining*, where governments award mining rights only on the condition that the mineral will be used in domestic production for a pre-defined sector. The mining firm does not have the right to use the proceeds for other purposes.
2. *Export restrictions* to safeguard domestic supply of raw materials for local industries, namely through:
 - (i) Export taxes (also referred to as export surtax or fiscal tax on exports)
 - (ii) Export quotas



- (iii) Export prohibitions or bans
 - (iv) Export licensing
 - (v) Minimum/ or price reference for exports
 - (vi) Dual pricing schemes
 - (vii) A reduction or the elimination of VAT rebates on exports
 - (viii) Restrictions in customs clearing points to control exports of certain products
 - (ix) Limits on the right to export certain goods to specific firms
3. *(Non-automatic) licencing requirements* to control ownership structures, the number of firms involved in extraction activities, the type of minerals being extracted and in what forms minerals should be exported.
 4. *Trade-balancing measures*, whereby imports should represent a limited proportion of locally produced exports, in terms of either volume or value.
 5. *(Domestic and international) market reserve policies*: Some markets may be reserved for local production or may be managed internationally, through:
 - (i) *Government procurement* contracts and tendering processes, where preferences are given to locally manufactured goods or to local service suppliers. This can be particularly relevant for state-owned enterprises involved in mineral extraction or processing.
 - (ii) Production management through *state-owned enterprises*⁷ in the extractive sector.
 - (iii) *Production controls*: a typical case is the limit imposed on the production of rare earths in China in 2010, which was defended at the WTO by the Chinese Ministry of Commerce as “necessary to protect our environment and preserve the minerals for future generations.” In reality, it was a politically strategic move to meet the needs of its own high-tech industry.
 - (iv) *Offset agreements*: Generally linked to sectors such as defence or aerospace, government may enter into a contract with a firm and in return request investment in the economy, including setting up of industries, infrastructure facilities and the use of domestic factors of production, including minerals or value-added inputs produced from mineral proceeds. For purchasing countries, offsets offer opportunities to acquire technological know-how, support local industry and other economic benefits.
 6. *Import duties* on finished products to protect and promote local production.
 7. *Subsidies* to support local industries, notably by:
 - (i) Transferring funds directly to beneficiaries
 - (ii) By assuming part of industries’ risks
 - (iii) By selectively reducing or increasing the taxes they would otherwise have to pay, and/or
 - (iv) By imposing mandates and barriers to trade.

Table A1 provides a comprehensive (though non-exhaustive) summary of typical policy instruments used to attain local content objectives, with examples of countries currently applying them.

⁷ In 2012, the IMF reported that “some 80 per cent of world petroleum reserves are controlled by state companies and 15 of the 20 largest oil companies are state-owned.” State-owned enterprises are less common or dominant in the mining sector but may still play an important role in some countries.



3.2 CONTRACTUAL OBLIGATIONS TO FOSTER LOCAL CONTENT

In many countries, primary legislation does not expressly regulate local content, but rather provides the overall frameworks within which extractive firms should operate at the local level. This leaves some degree of flexibility to all stakeholders to negotiate deals that they deem appropriate, given their specific needs and requirements.

In many cases, governments and/or extractive firms may have a legal obligation to:

- (i) **Consult** local or Indigenous communities before starting a project. In **Latin American** countries such as Peru, Guatemala and Ecuador, community consultations on large-scale mining activities have been institutionalized, in an effort to avoid conflicts. Most of those consultations have to be made by governments before giving licences. Similarly, in [Canada](#) federal and provincial governments have a duty to consult⁸ Indigenous groups whose treaty rights may be affected by a government decision, including the grant of permits or licences relating to mining activity.⁹ In other countries, once licences are given, mining companies must negotiate with local communities. For instance, in [Australia](#), the Aboriginal Lands Rights (Northern Territory) Act of 1976 (amended in 1987) and the Native Title Act of 1993, impose statutory requirements on mining firms to negotiate with Aboriginal communities. The communities have the right of veto over exploration proposals in case negotiations do not lead to satisfactory socioeconomic outcomes. (Fitzgerald, 2001; Esteves, Coyne, & Moreno, 2010).
- (ii) Enter into **formal agreements** with local communities in order to define how the latter will benefit from spillovers resulting from the investment projects.¹⁰ These agreements contain various types of provisions relevant to local content include, among others:
 - (a) **Education and training** to provide the tools for local communities to acquire qualifications required for employment during various phases of the mining project.
 - (b) **Local employment quotas**, to enable local communities to secure jobs at various levels of competencies.
 - (c) Providing **good working condition at the workplace**, by ensuring health and safety conditions and by being respectful and supportive of First Nations/ Aboriginal culture. To encourage social harmony within the work force, the [Raglan Agreement](#) in Canada, signed between Société Minière Raglan du Québec Ltée (now the Raglan Mine) and two Inuit communities ensures that local employees have access to traditional food sources.
 - (d) Provisions to guarantee that **local industries and suppliers harness maximum benefits** from business opportunities, at all phases of the project;
 - (e) Provisions to allocate **financial benefits** and compensation for the impact of projects on traditional lands. These can take the form of royalties paid directly to the community: fixed payments or payment made to a fund. For example, the Newmont Ahafo Mine Community Development Agreement requires the mining firm to pay (a) USD 1 for every ounce of gold sold from the mine; (b) 1 per cent of the company's net pre-tax income; and (c) any 1 per cent of any gains made from selling assets worth USD 100,000 or more, to the Community Fund.
 - (f) The establishment of a **consultative process** to minimize the effects of the mining project on the exercise of Aboriginal/Indigenous treaty rights;

⁸ The 1982 Constitution Act recognized and affirmed the existence of Aboriginal and treaty rights of the Aboriginal peoples of Canada, which included the First Nations (Indian), Inuit and Metis people of Canada.

⁹ The duty to consult "arises when the Crown has knowledge, real or constructive, of the potential existence of the aboriginal right or title and contemplates conduct that might adversely affect it."

¹⁰ For a comprehensive overview regarding mechanisms engaging local communities in mining projects, see CCSI (2016).



These above-mentioned engagements have given rise to various forms of instruments such as community development agreements or impact benefit agreements. While the scope of these agreements varies widely, they are meant to create trust, reduce incidence of conflict and tensions and increase the economic participation of Indigenous communities in mining activities. In Australia, for example, while 60 per cent of mining operations take place in areas with neighbouring Aboriginal communities, in practice it is estimated (Benton, 2016) that, on average, Aboriginal employees account for only 6 per cent of the country's mining workforce, although in some regional centres, mining account for up to 50 per cent of employment (Australian Workforce and Productivity Agency, 2013).

The economic clauses in these agreements often contain local content requirements. Box 3 highlights some examples of such provisions.

BOX 3. EXAMPLES OF LOCAL CONTENT PROVISIONS FOUND IN COMMUNITIES' AGREEMENTS

The ULU Inuit Impact and Benefits Agreement (Canada, 1996) signed between Echo Bay Mines Ltd. and the Kitikmeot Inuit Association contains a provision for an Inuit "content formula" to help decide how contracts are to be awarded and to support Inuit businesses. Contracts are unbundled, "when practicable" to facilitate tenders from local companies. There is a target of 60 per cent Inuit employment in the project that applied to the mining companies and its contractors or subcontractors.

The 1995 [Raglan Agreement](#) (Canada) was signed between the Société Minière Raglan du Québec Ltée (today Raglan Mine) and five Inuit partners: the Makivik Corporation (an Inuit-owned firm which oversees the political, social, and economic development of Nunavik) and the two Inuit communities of Salluit and Kangiqsujuaq, supported by their respective landholding corporation (Qaqalik LHC and Nunaturlik LHC). The agreement is meant to facilitate the "equitable and meaningful participation" of the Inuit population thorough the life cycle of the mine. The agreement contains specific requirements regarding employment and support to local enterprises. For example, the firm agreed to provide training to the local population to ensure that a maximum number of jobs can be filled by Inuit workers. There are specific commitments regarding local sourcing of goods and services to the mining operations, such as the identification of specific categories of services and preference to enter into direct contract negotiations solely with Inuit firms, when these were available.

In Australia, Rio Tinto Argyle Diamond Mine has entered into an agreement with traditional owners in Western Australia. The agreement contains contractual obligations notably to provide business opportunities to the local community. A business development task force was set up, comprising Aboriginal owners and company representatives, and the mining firm has an obligation to notify them of its intent to open any contract exceeding AUD 250 000 in a year relating to the provision of goods or services. Additionally, the firm committed to giving preference to contractors that bring the greatest opportunities to Aboriginal owners. To that effect, the tenderer was required to show how it intended to involve Aboriginal owner businesses in the contract, how it would employ and/or train Aboriginal owners, and how it would provide benefits to traditional owners. The Agreement was once hailed as a best practice for community agreements in the country. However, the Argyle Diamond mine is [set for closure in 2021](#) and revenues from the mine have steadily declined since the financial crisis in 2009. It is unclear whether the local communities will be able to sustain economic activities post-mine closure.

Similarly, the Gulf Communities Agreement was signed between Century Mine, Queensland Government and the four native groups of Waanyi, Mingginda, Gkuthaarn and Kukatj in 1997. It required the company to tender and award contracts after it had identified viable and eligible Aboriginal firms. The mining firm was also expected to provide tenderers with information on business setup requirements and on-going business management (such as the preparation of payroll, training, health, safety and environment procedures and human resources policy) to help them manage their businesses. Mineral production [ceased in 2016](#) following the depletion of the ore body. During its years of operation, the mine provided numerous benefits for local communities,



such as stable job opportunities that led to improved livelihoods for employees and their families; supply chain opportunities for local companies; establishment of new businesses in the region and payments of royalties and other taxes to the region. Fiscal revenues led to the construction of regional infrastructure, improved telecommunications, new port facilities in Karumba and all-weather airstrips, among other as well as other non-mining economic projects such as support to pastoral farming. However, the closing of the mine has caused numerous uncertainties, as the prospects for sustainable employment in other economic sectors are not very promising. In 2017, the mine entered into a rehabilitation phase, with the transfer of the former Century mine to a new company that will engage into the economic rehabilitation of the mine. The new firm is expected to maintain the engagement with the local communities.

Source: Raglan Agreement, 1995; Keeping, 1998; O'Reilly & Eacott, 1998; Indigenous Support Services, 2001; Esteves et al., 2010.

3.3 GOVERNMENT-LED INCENTIVES

Instead of imposing requirements on mining firms, governments can also take a non-regulatory approach by providing incentives to encourage mining firms to use local factors of production. Those types of measures act as “carrots” and are meant to encourage firms to source various types of factors of production locally or to support them (if they are not competitive), or are meant to provide a conducive environment to create knowledge, necessary for high value-added participation in the industry.

These types of measures and strategies are more common in advanced countries and rarely regarded as LCPs, although they have the equivalent effect. Most common measures include:

- (i) Incentives to promote supply chain development, notably by putting in place supply chain development programs that include targeted measures focussing on sectors of the supply chains government wants to promote. Examples of such incentives include policies to attract investment in specific sectors; special fiscal packages for small and medium enterprises (SMEs) or manufacturing firms that fall within the scope of mining supply chains; duty exemptions on specific inputs used by local manufacturers and relevant to the mining supply chain; and subsidies granted to local manufacturing industries; etc. Measures also include policies to remove constraints to business development through better access to credit for SMEs and improved infrastructure.
- (ii) Support to workforce development, through tax deductions for companies that invest in training and capacity building; by providing grants and scholarships to students and employees willing to upgrade their capabilities in specific skills required by the industry; increases in education budget, notably in science, technology, engineering and mathematics, and technical and vocational training; grants to training institutions willing to partner with industries to develop specific workforce capabilities etc.
- (iii) Incentives to stimulate R&D, through dedicated budgetary support (grants or subsidies) to universities and training institutions; tax deductions for mining firms who invest in R&D or agree to transfer technology.
- (iv) Incentives to foster innovation through improved intellectual property rights to strengthen the innovation climate; the creation of centres of excellence, innovation incubators and hubs, all linked to mining industries’ current needs and future challenges.
- (v) Providing market access to local supply chain industries, including on international markets.



BOX 4. EXAMPLES OF GOVERNMENT-LED INCENTIVES TO STIMULATE USE OF LOCAL FACTORS OF PRODUCTION

In the state of Para in [Brazil](#), the government led the establishment of an ambitious suppliers' development program, REDES, in response to the potential economic opportunities associated with large investments arriving into the state and to increase the competitiveness of local companies (in particular SMEs) in supplying large investors from any sector. A local business association, FIEPA, facilitates collaboration between large companies and local manufacturing and service providers and provides a number of services (e.g., market intelligence, sharing information between suppliers and buyers, and training). The program engages directly in local supply chain initiatives, including by promoting market access for local firms to Vale contracts, e.g., by encouraging Vale to agree to framework contracts with various construction service providers.

[Chile](#) is often thought of as the best example when it comes to suppliers' development programs. In 1998, the Chilean government, through CORFO, its Economic Development Agency, created an institutionalized national suppliers' development program to encourage SMEs to formally associate with large firms. The program aimed at improving the competitiveness of SMEs and stabilizing commercial linkages with large buyers. Among other things, the program offered support to improve management, provide professional advice, training, technical assistance and technological transfer to SMEs. Participating large firms acted as "sponsors" to support SMEs in delivering quality goods and services.

[Australia](#) is a global hub for numerous mining-related activities. The country's priority is therefore to maintain its competitive edge and promote its technologically advanced suppliers abroad, in particular in the mining, equipment, technology and services (METS) sector. Supported by various incentives, Australia has created a dynamic "minerals innovation complex," which is based on close collaboration between mining-related research and innovation organizations and mining firms.

Emphasis on the METS sector was based on the need to address technical challenges faced by mining firms operating in specific and difficult areas and the existing capacity of Australian firms to develop solutions to address these challenges. Although the drive for METS came from the mining sector itself, the Australian government provided strong support, notably by establishing Industry Growth Centres. It also provided AUD 250 million over four years starting in 2016/17. These incentives are essentially aimed at (i) improving collaboration between research and industry; (ii) facilitating access to global supply chains; and (iii) improving management and workforce skills. In 2015, a program called METS Ignited was launched. It is an industry-led but government-funded initiative, aimed at promoting the METS industry as a key contributor to increased prosperity and jobs. The program is expected to build on existing successes of the METS industry and will capitalize on the high-quality research in the country.

Although [Canada](#) does not have LCPs, its government supports existing suppliers throughout the whole mineral value chain (i.e., from exploration to supply of goods and services). In that sense, one of the key priorities is to provide incentives to foster science, technology and innovation locally, which are provided at different levels of government. For instance, at the federal and provincial levels, although not specific to the mining sector, funds are available to investors provided they meet certain conditions (which includes R&D). Furthermore, Canada's Minerals and Metals Policy encourages private sector innovation through the federal Scientific Research and Experimental Development program, through specific provincial tax incentives and various support programs for innovation dedicated to SMEs. Individual provinces also provide incentives for firms to relocate their R&D efforts. For instance, in 2015, the Province of Quebec officially launched its Plan Nord (Northern Plan), a 20-year sustainable development investment initiative aimed at boosting the economic, mineral, energy and tourism potential of the province. To that effect, a company was set up (Société du Plan Nord) to attract investors, and incentives were given to meet the objectives of the Plan. Other examples include Ontario's Jobs and Prosperity Fund, which provides USD 2.5 billion over 10 years to boost productivity, strengthen innovation and increase exports from the province. Similarly, in Alberta, a 10 per cent refundable provincial tax credit worth up to USD 400,000 is available to investors on an annual



basis to encourage scientific R&D in province. Innovation Vouchers amounting to USD 15,000 to USD 50,000 are also available to help small early-stage technology and knowledge-driven businesses in Alberta get their ideas and products to market faster (US Department of State, 2015).

The mining sector plays a prominent role in [Finland](#), and the country has developed a strong comparative advantage in the knowledge- and technology-driven mining supply chain. The Finnish Minerals Strategy guides the various actions and policy instruments of government. One of the key aims is to further strengthen R&D capabilities and expertise, namely by financing and support dedicated to R&D programs and innovation activities. Key measures include:

- (i) Continued support to suppliers' development, through dedicated incentives available for Finnish firms to maintain their technological leadership across the minerals sector.
- (ii) A specific investment program for the mining industry of EUR 30 million to provide financing opportunities and loan guarantees.
- (iii) Sustained investment in education and R&D (e.g., the Green Mining program to enhance research and innovation, funded by Tekes, the Finnish Funding Agency for Innovation).
- (iv) Development of specialized training programs at universities in applied sciences, and technical trade schools to meet the needs of the mineral sector.

Source: Korinek & Ramdoo, 2017; ICMM, 2013; Arraiz et al., 2011.

3.4 VOLUNTARY BUSINESS INITIATIVES

While the role of governments is to give direction for LCPs based on a country's industrial strategy, in practice, the drive to implement LCPs must come from the industry itself. While some mining firms do the minimum to simply comply with existing rules, increasingly, mining firms are becoming more proactive and are developing their own schemes to foster local development. They are taking voluntary initiatives to seek local and innovative solutions to source their inputs locally.

These firms acknowledge that there are significant business benefits that can be derived from sourcing locally, provided the conditions are met to keep their businesses competitive. Relevant to local content discussions, business initiatives generally relate to (i) support to supply chains and (ii) support to local workforce development.

3.4.1 SUPPORTING LOCAL SUPPLY CHAINS

As more and more countries legislate on local content, many multinational mining firms are adapting their approach to procurement sourcing in mineral-rich countries. Many have changed their modes of operation from mere compliance with regulatory requirements toward integrating local sourcing as part of their core business models. This structural change brings a fundamental difference: initiatives to support local supply chain report to supply chain management departments of mining firms rather than corporate social responsibility (CSR) departments, therefore directly connected to procurement business processes. In Madagascar, Sherritt has attempted to take this approach through its Ambatovy Local Business Initiative. It allows better prospects to substantially increase the share of domestic sourcing, therefore providing business opportunities for more strategic goods and services, which are generally of higher in value than those which are the traditional focus of CSR initiatives and are much lower in value.

In many cases, this change in approach may have a cost because initially, local products may not be as competitive as those that are globally sourced, local firms may be too small to supply the amount required by mining firms, or they may need dedicated support to meet standards and requirements.



But in the long run, if local firms manage to supply mining firms in a sustainable manner, production costs are likely to go down because strengthened domestic supply chains arguably lower logistics costs, limit sourcing cycle time and time-to-market, hence minimizing inventories and other supply chain management costs. Further, economic spillovers created leave mining firms with a more positive footprint in the local economy and ensure they obtain and maintain their social licence to operate.

Initiatives to support local supply chains focus on three categories of suppliers:

- (i) **Existing suppliers:** Some existing local industries may be strong enough to supply mining firms with their procurement needs. But access to procurement information may not be easily available, or when they are, contracts may be too large for smaller firms. In that case, mining firms can support local suppliers through better access to procurement information and contracts, by unbundling group supplies and by facilitating joint venture contracts with OEMs. In other cases, mining firms may provide support to technological development, so local firms can upgrade the quality of their products. Chile offers an interesting example of this type of initiative: BHP Billiton established a world-class suppliers program to support existing local suppliers so they can compete globally. This was done through a collaborative effort between BHP's business and community relations functions, where local suppliers were encouraged to develop innovative solutions to manage various areas of the firm's operations, such as water, energy, human capital, maintenance, air quality, acid mist control and leaching. Suppliers were also encouraged to have a global outreach.

Sometimes, existing suppliers may be weak or very small. In such cases, some mining firms have designed suppliers' development programs, including by providing training to suppliers to meet requirements and standards; financial support to SMEs to be able to buy inputs for products; or by reserving some market share for SMEs.

- (ii) **New suppliers:** To increase the share of local sourcing, new suppliers must be identified, included or supported. Some mining firms have initiated support programs to build the capacity of new suppliers, help them register in suppliers' databases, support them in meeting tender requirements and product standards; provide management and accountancy training so they can sustain their businesses etc.
- (iii) **Future suppliers:** Sometimes mining firms have dedicated support programs to prepare and identify *future suppliers*, either because they may decide to source new products domestically or because there are new challenges that require innovative solutions, which can be developed locally if local industries are offered the space to do so. [Peru](#) has an interesting experience in this regard. The suppliers' development program is supply-driven: mining firms identify their future suppliers by asking local firms to come up with innovative solutions to specific challenges the companies face.

Table A2 highlights some successful examples of initiatives driven by mining companies to support local suppliers.

3.4.2 SUPPORT TO WORKFORCE PRODUCTIVITY

The mining sector is known to be capital-intensive, except during the construction phase where temporary and unskilled labour is in high demand. During the production phase however, most labour requirements for core activities are highly skilled, and a number of resource-rich countries encounter challenges in meeting the requirements of mining firms, which then seek recourse to foreign labour to fill in the gaps. This can cause serious tensions with the local population, in particular if the rate of unemployment is high in the affected community.



In response, as a way to improve their local footprint regarding local labour, many mining firms choose to reinforce their workers' skills and capabilities and provide training opportunities for the local population. It is a strategic concern because it can significantly scale up the productivity of workers and companies, but it is also a developmental one because it can enable the local population to develop their capacities and to seize employment opportunities in the mining industry and raise their incomes.

Efforts to support workers' productivity include:

- (i) Identifying the skills gap with a view to support local initiatives to close the supply deficit
- (ii) Financial support to local training and vocational institutions
- (iii) Providing scholarships and bursaries to students
- (iv) Provide continued access to training and skills development to employees, including through intra-corporate internships

While it is clear that extractive firms can have greater impact on supplier development, employment and on cost savings by developing inclusive business models, unfortunately, these types of inclusive business models are not as sufficiently widespread across the industry as may be possible and desirable. Long-term benefits are undeniable and merit greater effort and attention on the part of companies. Where they exist, mining firms do not always collaborate among themselves to make combined orders to provide the critical business mass to local suppliers, who often struggle to meet specific requirements in limited of individual mining firms. This prevents suppliers from benefiting from economies of scale.

Table A1 highlights some successful examples of initiatives driven by mining companies to support workforce development.

3.5 LOCAL CONTENT POLICIES IN PRACTICE

It is difficult to measure the impact of LCPs in resource-rich countries, in part due to a lack of empirical evidence regarding the causality of successes and/or failures but also because experiences vary significantly across countries. For instance, despite extensive use of LCPs, many resource-rich countries continue to attract significant levels of FDI (Nikièma, 2014), although there are many cases where measures have failed to achieve their stated objectives due to a number of endogenous and external barriers that hinder the development of supply chains. In the case of local procurement and employment for example, these include, among other things:

- (i) **Market failures and information asymmetry**, where demand for local procurement or skilled workers is not matched by local supplies, due to strategies to source globally regardless of local availability; non-availability of domestic good and services; skills shortage on the local market; quality issues and lack of trust of local suppliers; ignorance of mining procurement needs or employment opportunities etc.
- (ii) **Systemic or policy coordination failures**, where policies (national, international, private-led) are not aligned or consistent or are driven by short-term considerations tied to political/commodity cycle changes. This is relevant to various areas such as local procurement, skills development, policies to stimulate local value addition etc.
- (iii) **Institutional limitations**, where there are gaps in the institutional frameworks (or lack of coordination) surrounding local supply chains and workforce development and lack of capacity to implement, manage and monitor LCPs.
- (iv) **Limited capacity of local firms**, due to size, access to credit, ability to deliver on quality, quantity and price competitiveness.



- (v) **Insufficient linkages with research institutions and universities**, which limits the ability to innovate or provide technical solutions to specific challenges encountered by mining companies in difficult environments.

Countries that have been successful in using LCPs have all used a combination of quantitative and qualitative measures, based on their capacity to deliver, while ensuring a fair balance between their economic objectives and the viability of investments. This section highlights some successful cases. Most of those occurred in very specific circumstances under conditions that were appropriate to those countries at the time, hence making them interesting from an intellectual perspective, but obviously difficult to replicate in practice. However, some useful lessons can be drawn from them.

Norway is the prime example of a country that successfully used legal instruments to encourage the use of domestic inputs in order to build its own capabilities. When it started oil exploration, Norway was not a rich country by OECD standards. However, it had some assets that were critical for the success of its LCPs. For instance, the country had a high level of education and solid institutions and political system, which meant that it had low levels of corruption and high levels of accountability (Havro & Santiso, 2008). It also had a very strong industrial base, notably featuring a very solid shipbuilding industry and other highly competitive industries producing pulp and paper, fertilizer and aluminum. Local factors of production and talent were available, trained and ready to switch to the nascent petroleum industry.

In the early 1970s, Norway enacted local content regulations that had clear targets accompanied by sunset clauses, in particular for quantitative regulations. For example, the conditions to obtain licences for petroleum exploitation, were (i) the use of onshore Norwegian bases, provided the latter were competitive on the basis of price, quality, and delivery and (ii) the employment of Norwegian labour when available.

Norway also pushed for state participation in exploration. This led to the creation of its national champion Statoil in 1972. At the same time, the government also chose to allocate the most attractive blocks to Norwegian oil companies,¹¹ including Statoil. The presence of these companies allowed Norway to develop technological know-how and raise revenues from petroleum.

Furthermore, the government entered into technology transfer agreements, with particular targets on R&D, with foreign petroleum companies. This led to the creation of world-class global suppliers. In 2014, BP and Anglo American reported that they spent an estimated 87 per cent and 64 per cent, respectively, of total value created on suppliers. These expenditures are significantly more than tax and royalty payments paid by the two companies, estimated at 2 per cent for BP and 11 per cent for Anglo American (GIZ, 2016).

When Norway joined the European Economic Area in 1994, one of the conditions of its entry into the European single market was the removal of all preferential treatment accorded to its national industries. However, by then, most of its backward linkages were well established. In 2014, the oilfield services industry¹² was one of the largest contributors to the Norwegian economy with 1,100 companies employing 122,000 people.

¹¹ Other Norwegian companies were Saga and Norsk Hydro.

¹² According to the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) (2017, p. 10), "the industry is composed of (1) the seismic segment, which includes the manufacturing of equipment for the exploration of oil and gas, and gathering and interpreting seismic results; (2) the exploration and production drilling segment, which includes companies that own and operate drilling rigs and associated services; (3) the engineering, fabrication and installation segment, which focuses on the construction and installation of offshore oil platforms; (4) the operations segment, which supports oil companies during the production phase; and (5) the decommissioning segment, which advises companies on abandonment."



Chile is often referenced as a country which took a less “interventionist” approach to mining-related development compared to other mineral-rich economies. However, the role of the state-owned company Codelco should not be underestimated. Codelco had its own local content policy and systematically supported smaller mining-related companies in developing their human capital, in particular their local engineering competencies. When it partnered with international firms, it ensured that smaller local firms benefited from the exposure to gain experience and markets. As a result, the share of engineering service providers sharply increased from barely 10 per cent in the 1970s to 90 per cent in the 1990s.

Chile’s success is attributed to its clear vision regarding the desire to upgrade the participation of its local suppliers in the global value chain. Accordingly, it systematically encouraged the development of world-class supply chains by providing a number of incentives and support mechanisms, while ensuring that activities were coordinated across stakeholders. But the program is largely attributed to effective partnerships with the mining company BHP Billiton and national industries and research institutions. This program was distinctive on several fronts. The company identified and presented an operational challenge to suppliers instead of simply requesting existing, standardized solutions. This created a demand for innovation, which built a better alignment with market needs and improved the use of resources, and therefore created a secured and tailor-made market for suppliers.

Ghana enacted a local content policy for its mining industry in 2012.¹³ The regulation specified the use of local content, applicable to: (a) holders of reconnaissance and prospective licence holders (i.e., exploration companies); (b) holders of mineral licences (i.e., mining companies involved in extraction activities); and (c) mine support service providers, and focused on four specific aspects, namely:

- (i) Employment, through the promotion of local workforce and training requirements. The regulation set numerical targets for the number of expatriates allowed, restrictions for certain categories of employees reserved for local staff and timeframes for implementation.
- (ii) Procurement of locally produced goods and services. This is guided by a list of specific product categories published by the Minerals Commission. A first list, consisting of eight products,¹⁴ was published in 2014. In 2016, 11 new product categories¹⁵ were added to the initial list, bringing the number of products required to be sourced locally to 19 in total. Mining firms must provide a procurement plan stating how much they will buy from local firms.
- (iii) Compulsory reporting requirements.
- (iv) Strict penalties for non-compliance.

Compliance with the local content requirements is assessed annually. With regards to local employment, it would appear that most companies have been able to meet the quotas set in the legislation for all professional categories listed. With respect to local sourcing of goods and services, the latest assessment suggests that local manufacturers have managed to supply on average about half of the products listed, with wide variations across product categories. This pointed to a number of challenges, mostly related to product quality, difficulties finding enough suppliers who had sufficient manufacturing capacity, and internal policy inconsistencies that made local

¹³ The Minerals and Mining Law of 2006 (Act 703) calls for the (i) “localisation of mining staff”; and (ii) for “holders of mineral rights to give preference (a) in employment to citizens to the extent possible”; and (b) to materials and products made in Ghana and services agencies located in the country”. To complement the Act, in 2012, the government passed a local content regulation, the Minerals and Mining (General) Regulation LI 2173 to clarify the interpretation of the Act and to give clearer guidance for its implementation.

¹⁴ These include: (i) grinding media; (ii) electrical cables; (iii) HDPE/PVC pipes; (iv) quick/ hydrated lime; (v) general lubricants; (vi) tire retreading; (vii) explosives; (viii) cement.

¹⁵ These are (i) bolts and nuts; (ii) crucibles; (iii) plastic sample bags; (iv) calico bags; (v) bullion boxes; (vi) chain link fencing; (vii) conveyor rollers; (viii) metal/ PVC core trays; (ix) overalls and work clothes; (x) haulage services; (xi) catering services.



manufacturers less competitive than importers. It is interesting to note that mining companies took the lead to support local suppliers in addressing some of those challenges. For instance, two items, electrical cables and grinding media, were particularly problematic, due to supply-side constraints. Mining companies provided technical and financial support to find practical solutions and improve quality and standards. In the case of electrical cable, this led to a substantial increase in locally manufactured items, from 36.1 to 73.4 per cent in between 2015 and 2016. Similarly, for grinding media, procurement doubled from 28.7 per cent to 42.2 per cent in the same period

In **Brazil**, use of local content was a key criterion for the award of petroleum rights (Cosbey, 2015). To improve the network of equipment and services suppliers so they can supply the oil and gas industry, Brazil introduced a domestic content clause in the bidding process for licensing. It created the PROMINP program to increase domestic supply of equipment and services. Local content increased from 25 per cent to 80 per cent in a decade (Sigam & Garcia, 2012). Over time however, the process became increasingly complex and difficult for companies to comply with¹⁶ and subject to rising criticism, with a number of offshore investment projects being put on hold. The corruption scandal that shook Petrobras in 2015, including on the implementation of its local content requirements,¹⁷ saw a review of the policy in 2017 when the Brazilian government indicated that the local content rules would be simplified and previous levels significantly relaxed.

In **Australia**, local content requirements are not prescribed in primary laws, but are part of community agreements between mining industries and local communities. These include specific targets for Aboriginal employment and sourcing of inputs. Fortescue Metals Group Ltd. is a global leader in the iron ore industry, operating several mines in the Pilbara region in Australia.¹⁸ It has set a number of targets¹⁹ related to the realization of its UN Sustainable Development Goal (SDG) commitments, including on local procurement, employment of staff from the Aboriginal community in various roles. The company also provides incentives to support local suppliers, such as new payment structures for small businesses.

In 2017, Fortescue spent about 98 per cent of its total procurement spending in Australia, of which 68 per cent originated in Western Australia and 6 per cent from the local Aboriginal community. To generate business opportunities for SMEs from the local community, in 2011, the company created a program (Billion Opportunities) which proved quite successful: between 2011 and 2017 it awarded 244 contracts and subcontracts to 105 Aboriginal-owned businesses and joint ventures totalling AUD 1.95 billion. In 2017 alone, the company spent AUD 200 million with 54 Aboriginal businesses (6 per cent of its total annual procurement spending).

Similarly, in terms of employment, 99.5 per cent of people employed are from Australia and 15.8 per cent of the company's total workforce comes from Aboriginal communities. There are dedicated training programs to build skills and capabilities at the local level, to meet the commitments made under the SDGs.

¹⁶ There have been various evolutions in the rules over the years, but the tendency has been towards ever-more complex and stricter requirements, with increasing minimum percentages, the creation of around 90 different categories of services and equipment, each with different requirements and the requirement for certification by accredited agencies.

¹⁷ The so-called "Carwash" scandal—in which some of Brazil's largest contractors and oil suppliers are currently facing allegations that they formed a cartel and paid kickbacks to Petrobras executives and politicians—has brought to light the downside of an excessive dependence on local industries, as this encouraged collusive behaviour.

¹⁸ Fortescue has Land Access Agreements (LAAs) with seven Native Title Groups in the Pilbara region. Since 2015, it has been working with Native Title Partners to convert the LAAs into Indigenous Land Use Agreements.

¹⁹ For examples, relating to local procurement, the company committed, by 2021, to achieve a spend of 10 per cent of total procurement with Aboriginal businesses, with 50 per cent of the number of contracts awarded to businesses with more than 50 per cent aboriginal ownership. With regards to employment, it committed (a) by 2020 to achieve an employment rate of 20 per cent for Aboriginal people across the business; (b) by 2020, achieve an employment rate of 10 per cent for Aboriginal people in leadership roles; and (c) by 2022, achieve an employment rate of 20 per cent for Aboriginal people in skilled trades.



4.0 KEY PREREQUISITES BEFORE MAKING A DECISION ON LOCAL CONTENT POLICIES

As the examples above illustrate, designing LCPs is not an end in itself. Policies will only be successful provided that the *political economy dynamics* do not divert “good policies” into perverse incentives for rent-seeking, corruption and political capture. Although not the focus of this paper, it is important to highlight that one should not underestimate *the power of the political economy* surrounding the extractive industries’ ecosystem. Experience has shown that (i) the power relations at play in a given context/country, among ruling elites, dominant firms local communities etc.; (ii) (vested) interests of various groups of stakeholders (multinationals, local intermediaries, local manufacturers and communities alike), (iii) incentives of ruling elites and established industries for change (or to maintain the status quo), and (iv) growing pressure for the redistribution of rents from various quarters, have all contributed to distort the outcomes of LCP design, initially intended to address the weak linkages to the rest of the economy. In many cases, these dynamics have rendered well-intentioned LCPs totally ineffective or have contributed to worsen the economic situation.

Further, and perhaps most importantly, countries need to have some fundamental prerequisites and conditions in place to ensure that any measure to stimulate local content will not be held back. The rest of this section unpacks the key conditions that a country needs to have in place or strengthen before it decides whether or not it should design LCPs.

4.1 LONG-TERM VISION AND CLEAR OBJECTIVES WITH MEASURABLE TARGETS

The debate around local content should be framed within the overall national long-term goal, which transcends short-term political cycles and aims at breaking the enclave within which the mining sector operates, to instead create sustainable industrial linkages with the rest of the economy. Many countries have national strategic documents, such as national development plans or “vision” documents. In Africa, for instance, in 2009, heads of state endorsed the **Africa Mining Vision**, a continental framework that seeks to foster a “*transparent, equitable and optimal exploitation of mineral resources to underpin broad-based sustainable growth and socio-economic development.*” Member states committed to domesticating the Vision in their respective national strategic development programs through Country Mining Visions (CMVs). Some countries, including Ghana, have used their CMV processes to put in place national supply chain development programs, using the mining sector as a springboard.



To deliver meaningful results, objectives must be well-defined and responsibilities clearly allocated so that the burden of delivery does not fall solely on the mining industry and that all stakeholders involved can be made accountable for their role in the process. For instance, it is advisable to roll out a roadmap, with measurable targets and timelines, that would be assessed within a defined timeframe. To ensure effectiveness, lessons must be drawn from successes or failures, and there must be a space within the process to adjust or review policies if they do not work.

4.2 INSTITUTIONAL READINESS

One of the fundamental pillars of effective economic transformation is the level of institutional readiness. The term “institution” is here understood to mean the set of formal structures, agencies and organizations that govern the implementation of policies, in both the public and private domains. In fact, countries do not lack such institutions. Rather, the capacity to respond to challenges is restrained by:

- (i) The quality and robustness of institutions: In many cases, public administration is plagued by a lack of transparency about the way certain decisions regarding mining policies are made, or non-functional or heavy bureaucracy that negatively affects business dynamics.
- (ii) Ineffective policy coordination and incoherence within government bodies: Ministries often operate in “silos” and do not necessarily coordinate their efforts across policy areas. For instance, industry ministries promote the development of local industries, without considering the shrinking policy space resulting from trade policy commitments taken by trade departments or advantageous fiscal incentives granted by finance departments to mining firms to import local inputs.
- (iii) Insufficient coordination among the business community, in particular between the mining industry and the rest of the economy. Local manufacturers might not be aware of the needs of the mining industry in terms of operational expenditures and therefore may not invest in activities of interest to the mining industry. Similarly, mining firms, for fear of competition, may not cooperate among themselves to support local supply chains, which prevents local industries from using the scale of large contracts to develop competitive industries.
- (iv) Ineffective private–public dialogues, which hamper the ability to take informed decisions based on needs and capabilities.

4.3 BUSINESS AND INVESTMENT CLIMATE

A **business-friendly environment** is a critical condition for effective local business development. This includes having a regulatory environment that:

- (i) Reduces administrative red tape and simplifies procedures (such as approval procedures to obtain permits and licences or property registration).
- (ii) Avoids complex fiscal systems.
- (iii) Refrains from applying unfair trade practices that may favour imports at the expense of local manufacturing.

Access to and cost of credit are among the main limitations incurred by domestic firms. Interest rates for borrowing are high in many countries, keeping a number of domestic firms out of the traditional banking system. Small firms in particular find it difficult to obtain credit if they do not have sufficient collateral. It is necessary to provide access to credit at competitive rates and support small firms with guarantees to enable their access to finance.

Predictability is also essential: frequent changes in regulations can lead to additional operating costs and delays, thereby reducing the competitiveness of firms.



4.4 INDUSTRIAL CAPABILITIES

Local content policies do not make much sense if a country does not have a solid local industry. Any decision to design an LCP must therefore take into account the following:

- (i) The actual **capacity of the local industrial base**, which is often too thin. Many countries are under-industrialized, have undiversified economic bases and are characterized by significant productivity gaps.
- (ii) The **ability of the domestic private sector to compete**: in many countries (in particular in low-income countries) the private sector is composed of a very small number of large firms, often multinationals, which dominate outputs (mainly for exports) and a very large number of endogenous small and micro firms that are limited by low productivity and low-value addition. If not largely informal, domestic businesses are small, weak and not embedded in national, regional and global supply chains. This is not sufficient to trigger competitive industries. Countries must therefore strengthen their domestic businesses by facilitating the process of upgrading (for existing firms), addressing barriers to firms' entry, and providing support to accompany SMEs to grow into resilient industries. *The bottom line for any successful policy is that a country must have a critical mass of viable domestic firms that can function durably in competitive markets.* If it does not have that critical mass, it should provide incentives and develop programs to build the necessary capabilities.
- (iii) The **demand for locally manufactured products is low**, often due to quality issues and difficulties that small firms may face in sustaining output. It is therefore necessary to ensure that local industries get the necessary access to technical training, technology and certification to meet the specific requirements and international standards required by the mining industry.
- (iv) **Investment in R&D** to foster innovation is necessary to enable local firms to move up the value chain and increase their competitiveness. Countries like [Finland](#) have shown how investments in technology, in particular through dedicated support to R&D, can increase the competitiveness firms and their expansion to global markets.

The sequencing of policy design may depend on countries' levels of development. For instance, lower-income countries may need to focus on certain priorities, such as building industrial and human capabilities and creating the business climate to foster competitive supply chains. As local industries mature and countries acquire sufficient levels of capabilities, other policy areas may take more prominence. Countries' experience show that emerging and developed economies tend to design policies focused on innovation and R&D and provide incentives for local companies to develop their competitiveness.

4.5 MARKET KNOWLEDGE

To establish the potential to develop upstream mining supply chains, governments must have a profound knowledge and understanding of market opportunities for mining-related goods and services, nationally, regionally and globally. This is equally relevant for downstream linkages, where the strategy of developing processing industries needs to be guided by smart market intelligence, knowledge of global competitors' strategies and market access information. Similarly, it is critical to have a deep understanding of the types of broader horizontal linkages that are possible, so they can be linked to local content strategies.

At the national level, it is important to know to what extent potential goods and services that can be developed by the local industry can also serve broader industrial purposes. At the regional level, it means the ability to supply regional mining industries and building resilient regional mining supply chains.



This also means the ability to prepare for technological change, which may, in the future, render certain products redundant, due to automation or innovation in processes. To prepare for the future, both the mining industry and authorities must work together to prepare the transition for both local suppliers and labour and find alternative ways of supporting economic activities and mining communities.

4.6 INFRASTRUCTURE AND COST-EFFECTIVE LOGISTICS

Despite significant recent investment in infrastructure, many developing resource-rich countries continue to lack sufficient electricity, water, roads, railways and ports. In some countries, despite relative stability in power supply, for instance, the major challenge is the cost of power, which significantly drives up the cost of production, making domestic firms uncompetitive. The World Bank estimates that sub-Saharan Africa's infrastructure challenges reduce companies' productivity by as much as 40 per cent.

Soft infrastructure—such as IT connectivity, sharing of data, online access to procurement and tenders, trade logistics (customs clearance, competitive international shipping costs etc.)—is also critical to effective business practices.

4.7 HUMAN RESOURCE CAPABILITIES

Another core condition for effective LCPs, in particular to response to the objective of employment, is the quality of the human resources. Several elements must necessarily be available:

- (i) More broadly, **the level of expenditure on education and the level of education**: A country with a higher level of education, measured by the share of university graduates, particularly in the science, technology, engineering and mathematics (STEM) field, will be better prepared to respond to the needs of mining industries and their supply chains in terms of skilled labour. Governments must therefore ensure that educational policies reflect industrial and supply chains ambitions, to provide the necessary tools to the labour force to response to demand.
- (ii) The importance of **linking technical training to industrial needs** is fundamental, in particular for those who follow the technical and vocational education route. Without the inclusion of trainees in the industrial world, the system will produce skills that may not be fit for the kind of jobs the country is contemplating and may therefore not supply sufficient local talents to mining industries and their supply chains.
- (iii) More specifically, **the quality of the labour market or the skills match**, i.e., to what extent the competences available locally are compatible with what is required by the mining industry and its supply chain, for various types of tasks, namely at the technical, specialized and managerial levels.

4.8 POLICY SPACE

By their nature, LCPs underscore preferential treatment for local suppliers against foreign goods and services providers. However, from an international trade perspective, countries need to be prudent to ensure that these measures do not contravene commitments they have already taken at the bilateral or multilateral level.

The policy space in which countries operate today has shrunk sharply, making it increasingly difficult to enact regulatory measures to boost industrial development. Members of the World Trade Organization (WTO) are bound by a number of legal instruments that secure non-discrimination between local and foreign products or service providers. With the exception of services, all quantitative restrictions are no longer compatible with the WTO rulebook. Trade-related performance



requirements are prohibited, save for least-developed countries (LDCs). Subsidies are also regulated, and governments must thus be careful when they give sector-specific incentives to local companies.

In addition to multilateral commitments, a number of countries have entered into bilateral or regional trade agreements and have taken additional measures that further limit the ability of national governments to protect local industries and domestic service providers.

Finally, most resource-rich countries have bilateral investment treaties, which further constrain governments in their capacity to provide more advantages to local investors than they do to foreign investors.



5.0 SUMMARY AND KEY LESSONS

5.1 DEFINING CLEAR OBJECTIVES

The complexity of clearly defining “local content” makes it challenging to assess the effectiveness of policy measures. Governments often design blanket policies hoping that they will help achieve the multiple objectives of job creation, industrial development, local ownership and so forth. Yet in practice each of these objectives would require tailor-made or sector-specific support. For instance, policy-makers need to get a profound understanding of the resource supply chain and of domestic capacity to supply the mining industry. This includes knowing whether domestic suppliers are sufficiently capable of supplying competitive inputs, whether skills are available domestically to perform the tasks required by the industry, what the size of the procurement market is (and at which stage the project life cycle is) and where the highest value can be captured. Information is often asymmetric, and markets are not perfect. Therefore any local content policy must be based on systematic information, partnerships with the industry to identify areas where a country at a particular level of development can usefully provide support to meet its development objectives.

5.2 ENHANCING MONITORING AND ENFORCEMENT MECHANISMS

Designing a policy is not an end in itself. It must be administered, enforced and have its progress measure against realistic benchmarks. Few LCPs include performance indicators, and when they do they rarely provide for a mechanism for review in case of suboptimal results. Many countries choose to “punish” mining firms for non-compliance by imposing heavy penalties, but do not sufficiently put into question whether the measure was “fit for purpose” in the first place. It is too often assumed that the measure was “right” and therefore the burden of compliance lies solely on mining firms.

Local content policies must therefore include:

- a. A set of key performance indicators (KPIs), which are measurable instruments to demonstrate how effectively various stakeholders are achieving policy objectives defined by the LCP. KPIs can be measured at different levels. For example, to provide a more conducive business climate to local industries, government can agree to remove certain specific constraints or give a certain number of incentives within a set time frame. For their part, beneficiary companies must show progress in their performance. Similarly, mining firms and local suppliers can agree on specific areas to work together to improve their business relationship.



- b. A built-in monitoring mechanism, which can have two functions, namely:
 - (i) To guarantee compliance with LCPs and accountability of various stakeholders, notably to monitor KPIs and ensure regular dialogue with the industry (mining and contractors) to track progress.
 - (ii) To monitor progress, notably to allow the government to correct measures that were poorly designed, identify challenges and gaps affecting effective implementation of LCPs.
- c. An enforcement mechanism, to ensure that policies are implemented.

The institution(s) or body(ies) that will monitor this mechanism must be independent, to avoid tipping the burden on some actors and being too lenient toward others. In particular, it must be able to:

- (i) Assess in a fair and equitable manner where the difficulties lie when the policies do not deliver on their objectives.
- (ii) Propose the phasing out of certain support measures when industries become competitive enough to be independently sustainable, or if, after a given timeframe, the support measures have not been effective. KPIs should serve as a basis for that purpose. This would help to avoid breeding inefficiencies, creating anti-competitive practices and supporting rent-seeking behaviours.
- (iii) Identify the gaps and any alternative policies, that could better respond to objectives set out by governments. For instance, setting up a labour market observatory to detect skills and human capabilities challenges can be a more effective way to address labour market challenges and supply-side constraints.

5.3 SCALING UP IMPACT

Successful stories relate to countries that have managed to use LCPs as a vehicle to diversify away from the mineral sector. It is therefore necessary to scale up the impact on the broader economy, given the finite nature of resources or the forthcoming technological advances that may affect the needs for local factors of production.

5.4 STRENGTHENING PARTNERSHIPS

Compliance with, and the implementation of, LCPs are a joint responsibility of mining firms, suppliers and governments. Although compliance necessarily rests with mining firms, there is clear need for solid partnerships among all stakeholders involved to achieve intended goals at all levels of the life cycle of extractive projects and all along the value chain.

Governments' role does not end in simply enacting LCPs and then leaving implementation to mining firms. They have a fundamental role of facilitator to ensure all the conditions are right for various types of firms to perform (see Section 4). Most importantly, their role as regulators must be informed by the reality of the business environment and the capabilities available in the country, to avoid situations where policies hurt rather than support firms.

Since success is a joint responsibility, on their side mining firms should play a proactive role in including local sourcing in their core business functions, when supply capacity is available. Mining firms can also actively support national suppliers development programs, to help local businesses address their weaknesses and improve their competitive edge.



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APPENDIX A

TABLE A1. TYPES OF LCPS AND RELATED POLICY INSTRUMENTS

TYPE OF POLICY INSTRUMENT	EXAMPLES
1. Local employment	
<p>Compulsory requirement to employ a percentage of local staff</p>	<p>Kazakhstan (petroleum): Subsoil users are obliged to retain Kazakhstan producers of works and services on the condition that they meet the necessary standards and requirements.</p> <p>Angola (petroleum): At least 70 per cent of workforce to be Angolan nationals.</p> <p>Ghana (mining and petroleum): Minimum levels of employment of Ghanaians prescribed, increasing over the life cycle of the project. Specific timeframes set to achieve the local employment targets.</p> <p>South Africa (mining): Compulsory employment of at least 40 per cent local labour at all levels including senior management and board levels. Companies must achieve also a minimum percentage of historically disadvantaged South African representation at executive management, senior management, core and critical skills, middle management and junior management levels. Also a requirement to employ at least 10 per cent women in mining activities.</p> <p>Kazakhstan (petroleum): 95 per cent minimum requirement for employment of nationals.</p> <p>Brazil (petroleum): Local employment and training is one of the three determinants in the bidding process to obtain a petroleum licence. In presenting their offers, bidders must indicate a specific percentage of local content, which is turned into a number of points used to rank bidders' offers along with other parameters. Companies to hire local personnel as employees, respecting the maximum proportion of two thirds of Brazilian employees and one third of foreign employees. This proportion must also be observed regarding the payroll of the companies, which means that the remuneration received by the foreign employees is to observe the same proportionality in relation to the number of employees.</p> <p>Ecuador (mining and petroleum): Mining Law requires 80 per cent of companies' workforce to be Ecuadorian while the Hydrocarbon Law requires that companies employ 90 per cent of Ecuadorian staff in technical positions.</p> <p>Bolivia (petroleum): Any company that enters into a contract with the National Oil Company must demonstrate explicitly its preferential process to hire local workforce.</p>
<p>Certain types of jobs exclusively reserved for nationals</p>	<p>Ghana (mining): Unskilled labour and clericals only for nationals.</p> <p>Ghana (petroleum): Ghanaians must be employed in junior or middle level positions.</p> <p>Nigeria (petroleum): Companies are required to employ only Nigerians in junior and intermediate positions.</p> <p>Ecuador (petroleum): 100 per cent of administrative jobs reserved for nationals</p> <p>Bolivia (petroleum): Foreign personnel should not exceed 15 per cent of the total share of employment.</p>



TYPE OF POLICY INSTRUMENT	EXAMPLES
<p>Quotas on number of expatriates per job categories</p>	<p>Ghana (mining): Firms must apply for an immigration quota for expatriates, with the ability to adjust the quota in certain circumstances. The share of expatriate staffs should not exceed 10 per cent of total senior staff within the first three years and 6 per cent after three years.</p> <p>Tanzania (petroleum): Where a foreign national is employed, a succession plan to a Tanzanian national must be submitted alongside any work permit application.</p> <p>Angola (petroleum): Allows employment of foreign workers only when no Angolan worker with the equivalent qualifications is available.</p>
<p>Compulsory training of staff detailed in localization plans</p>	<p>Angola (petroleum): Production-sharing agreements (PSAs) require contractors to train all Angolan workers involved in various stages of petroleum operations in order to improve their knowledge and professional skills. Companies are also required to contribute USD 0.15 for every dollar per barrel of oil produced each year toward the training of Angolan personnel, with companies in the exploration stage being obliged to contribute a fixed amount of USD 200,000 each year.</p> <p>Malaysia (petroleum): Contractors must undertake the development and training of their Malaysia personnel for all positions, including administrative, technical and executive management positions. The PSC requires annual submission for PETRONAS' approval of plans and programs for development and training.</p> <p>Ghana (petroleum): Company must provide or fund training to Ghanaian employees.</p> <p>Ghana (mining): Compulsory training programs to replace expatriates with local staff.</p> <p>South Africa (mining): Companies must invest a percentage of annual payroll (5 per cent in 2014) in essential skills development activities of historically disadvantaged South Africans.</p> <p>Bolivia (petroleum): Any company that enters into a contract with the National Oil Company must explicitly demonstrate its training processes for the national oil companies' employees.</p> <p>Nigeria (petroleum): Companies to submit an "employment succession plan" on how to "Nigerianize" such positions within a four-year period</p>
<p>Financial contribution to train local personal</p>	<p>Angola (petroleum): companies are required to contribute on an annual basis USD 0.15 for every dollar per barrel of oil produced for the training of Angolan personnel. In the exploration stage, the contribution is a fixed amount of USD 200,000 per year.</p> <p>South Africa (mining): Companies must contribute 5 per cent of their total annual payroll to human resource development. In addition, companies have their own programs to support capabilities.</p>



TYPE OF POLICY INSTRUMENT	EXAMPLES
2. Local Sourcing Requirements	
Mandatory requirements	
<p>Requirement to source a defined percentage or specific list of inputs locally</p>	<p>Ghana: Local content Regulation LI 2173 (mining) of 2012 (revised in 2015) require 19 items to be sourced from domestic firms. In the petroleum sector, minimum levels are prescribed for services and goods, increasing over the first 10 years of the project.</p> <p>South Africa (mining): Historically disadvantaged groups must be allocated 40 per cent of local procurement expenditure, 50 per cent of purchase of local consumable goods and 70 per cent of local services.</p> <p>Nigeria (petroleum) provides for categories of activities (for example, floating products; storage and offloading vessels; steel plates) to be locally procured. Local content targets for some goods and services are set between 80 and 100 per cent.</p> <p>Kazakhstan (petroleum): Obligation to use equipment, materials and products manufactured in Kazakhstan on the condition that they meet the necessary standards and requirements</p> <p>Indonesia (petroleum): Companies to procure locally at least 35 per cent of services for contracts larger than USD 100,000. For offshore oil and gas drilling, local content targets are 45 per cent and for land drilling targets are 70 per cent. Companies offering shipping services have a local sourcing components of 75 per cent.</p> <p>Mexico (petroleum): Exploration and production activities must reach, on average, a local content of 35 per cent (not applicable to exploration and production activities in deep waters and ultra-deep waters).</p>
<p>Preference to purchase locally (without numerical targets)</p>	<p>Tanzania (petroleum): IOCs to give preference to the purchase of Tanzanian goods, services and materials provided such goods and materials are of an acceptable quality and are available on a timely basis in the quantity required at competitive prices and terms. This requirement is also applicable to the subcontractors who are contracted by the IOCs.</p> <p>Canada (upstream offshore petroleum): In Nova Scotia, Newfoundland and Labrador preference to be given to local contractors; to services performed and goods manufactured in the province where those goods and services are competitive in terms of price and quality. When negotiating benefits agreements with Indigenous communities, firms are required to provide business opportunities to the communities.</p> <p>Malaysia (petroleum): Petroleum operations under the PSC and the contractors are required to give priority to locally manufactured goods and to purchase the goods and services from suppliers licensed by PETRONAS.</p> <p>Botswana (mining): Preferential treatment should be given to materials and products made in Botswana as well as to services located in Botswana and owned by Botswana citizens.</p> <p>Bolivia (petroleum): Any company that enters into a contract with the National Oil Company must explicitly demonstrate its preferential process to purchase goods and services.</p>
<p>Reporting requirement and submission of plans</p>	<p>Angola (petroleum): Oil companies must submit an “Angolanization” plan to the ministry of petroleum annually, detailing how they plan to achieve their targets.</p> <p>Zambia (mining): Companies to submit plan with indications of estimated staff requirements (local and expatriates), training and creation of a local business development program.</p> <p>South Africa (mining): Companies to report annually through a scorecard local content, employment and company ownership to historically disadvantaged groups.</p>



TYPE OF POLICY INSTRUMENT	EXAMPLES
Obligation to use local facilities, infrastructure or agents	<p>Argentina (mining): All transport services used by mining firms must be locally sourced.</p> <p>Nigeria (petroleum): A company is considered “Nigerian” if it is owned by Nigerian capital, used infrastructure in Nigeria and produces in Nigeria.</p>
Certain lines of business exclusively reserved for nationals	<p>Kazakhstan:</p> <p>Angola (petroleum): Logistics and catering.</p> <p>Nigeria (petroleum): Exclusive consideration to Nigerian domestic service companies provided local company has capacity to execute.</p>
Database, publishing tenders and procurement requirements	<p>Mozambique (mining): For large purchases (whose value exceeds a certain amount to be determined in subsequent regulations), tendering procedures must be published in widely read newspapers in Mozambique and on the company’s website.</p> <p>Brazil (mining): Database set up to facilitate business linkages.</p> <p>Chile (mining): Information sharing, suppliers’ registration and certification.</p>
Promoting regional content	<p>Liberia (mining): The 2014 bid round provided that bidding groups that included a significant West African company or a company operating in the Economic Community of West African States (along with a Liberian partner) would have their bids evaluated with a 20 per cent uplift in their signature bonus proposal.</p>
Preference for local inputs and conditionalities	
Preference price premium exclusively for local firms	<p>Kazakhstan (petroleum): Procuring entities to reduce price of bids by 20 per cent for local suppliers.</p> <p>Ghana (mining): Bids with highest level of Ghanaian participation must be selected where bids are within 2 per cent of each other on price. In the petroleum sector, preference must be given to a qualified domestic Ghanaian company, if within 10 per cent of the lowest bid and a non-domestic company must incorporate a local joint venture.</p> <p>Brazil (petroleum): The minimum local content requirement is a criterion for evaluation of the bid in the concession regime and in the production sharing agreement regime it is defined in the tender protocol. Firms must comply with the respective minimum local content percentages by acquiring local services and goods.</p> <p>Norway (petroleum): A decree published in 1972 required that, on the condition that Norwegian suppliers were competitive on the basis of price, quality and delivery reliability, they should be given priority over foreign suppliers during tendering processes. Before the tender selection, oil companies were required to submit the tender schedule and the list of bidders to the ministry, who could request to include Norwegian firms and had the final authority to change the company selected for the supplier contract. The law was repealed in 1994, when Norway became a member of the European Economic Area.</p> <p>Angola and Mozambique (petroleum): Preference may be given to local goods and services on the condition that the latter are of comparable quality and quantity to international materials and services, and that their price does not exceed foreign goods and services by more than 10 per cent.</p> <p>Mozambique (mining): Preference must be given to goods and services purchased or obtained from Mozambican individuals or entities (no target set). For large purchases (whose value exceeds a certain amount to be determined in subsequent regulations), companies must do so through a tendering process.</p>



TYPE OF POLICY INSTRUMENT	EXAMPLES
3. Ownership or Local Presence	
Compulsory joint venture with local partner	<p>Libya (petroleum): Foreign companies that wish to do business in Libya are required to enter into a joint venture with a local entity in which the foreign entity can hold a maximum equity stake of 49 per cent.</p> <p>Uganda (petroleum): Where goods and services required by a contractor or licensee are not available locally, these must be purchased from a company that has entered into a joint venture with a Ugandan firm (provided the Ugandan firm has an equity stake of at least 48 per cent in the joint venture).</p>
Rights of application to citizens only	<p>Botswana (mining): Only citizens of Botswana to be granted permits to exploit industrial minerals (exceptions can be granted by minister). Non-compliance may lead to termination of exploitation concession.</p> <p>South Africa (mining): Historically disadvantaged South Africans must have 15 per cent ownership of existing mining companies and 26 per cent ownership of companies applying for new mineral rights.</p>
Maximum foreign ownership	<p>Indonesia (petroleum): (i) Exploration drilling and sampling services: oil and gas survey services (49 per cent); geological and geophysical survey (49 per cent); geothermal survey (95 per cent); (ii) Construction companies: non-small scale EPC services (67 per cent) and for construction contracting and consulting (55 per cent); (iii) hauling and barging company: ferry, river and lake transport and transport facilities (49 per cent); special goods, cargo and heavy equipment transport (49 per cent); support business in terminals (49 per cent); domestic and international sea transport (49 per cent); land transport rental (local investor only); Up to 100 per cent, if formed as a general mining services company.</p>
Obligation to provide equity participation to local partner	<p>Ghana (petroleum): Compulsory 5 per cent equity participation of an domestic Ghanaian company to obtain a licence.</p>
Local equity participation	<p>Kenya (mining): 2012 Mining (Local Equity Participation) Regulation requires that every mining license shall have a component of equity participation amounting to at least 35 per cent of the mineral right.</p>
Limitations on number of licences contracted	<p>Indonesia (mining): Privately owned companies are limited to one licence per company. Only companies listed on the Indonesian stock market can hold more than one licence.</p>
State participation	<p>Brazil (petroleum): Target set at 50 per cent for onshore projects; 51 per cent for offshore in shallow water; 37 per cent for deep-water projects.</p> <p>Tanzania (petroleum): Tanzania Petroleum Development Corporation to participate in the oil and gas business during the production phase from 5 up to 20 per cent of the entire business so long as they provide the needed capital for the projects. In mining projects, the state can negotiate a free equity participation in mining companies for projects requiring investment of at least USD 100 million.</p> <p>Saudi Arabia (petroleum): The state-owned company has a monopoly over exploration and production, and role of private companies is limited to being a “service provider” to the state-own enterprise (SOE).</p> <p>Angola, Malaysia, Ghana: The state is a “concessionaire” and can choose the private companies it wants to work with.</p> <p>Kenya (mining): Requires local equity participation of at least 35 per cent in companies holding mining rights.</p> <p>Brazil (petroleum): Petrobras as operator of all exploration and production has a minimum 30 per cent stake.</p>



TYPE OF POLICY INSTRUMENT	EXAMPLES
4. R&D, Innovation and Technological Transfer	
Compulsory transfer of technology	<p>Ghana (petroleum): A national policy on technology transfer to be developed in partnership with industry. Companies must have a program for technology transfer, in accordance with the national plan, outlined in a sub-plan. Company must have a sub-plan outlining a three to five-year program of R&D initiatives to be undertaken in Ghana.</p> <p>Norway (petroleum): Operators were required to enter into R&D agreements with the Norwegian Ministry of Petroleum and Energy. At least 50 per cent of R&D activities undertaken in connection with any petroleum activities under a petroleum licence had to be performed in Norway.</p> <p>Nigeria (petroleum): Investor to submit annual knowledge transfer plans.</p>
Subsidies or duty concessions for suppliers who invest in latest technology	<p>Sweden (mining): Government provides significant financial support to its world-class research institutions specializing in mining-related activities and at the same time has developed strong partnerships to connect businesses with R&D.</p> <p>Finland (mining): Provides substantial loans and grants to its public research institutions to support domestic companies in becoming global leaders in specific sections of mineral value chains.</p>
Share of contribution to national R&D Fund	<p>Malaysia (petroleum): Contractors must pay an annual research contribution of 0.5 per cent of the amount of cost of oil plus their share of oil profits to PETRONAS</p> <p>Brazil (petroleum): Concessionaires are required to spend 1 per cent of gross revenues on R&D. At least 50 per cent of these resources must be channelled to universities or R&D institutes for the implementation of activities and projects relevant for the petroleum sector and at least 10 per cent of these resources must be allocated to the hiring of companies involved in activities of research, development and innovation, which are suppliers to the oil industry.</p> <p>Angola (petroleum): Training of workers must necessarily comprise transfer of the knowledge of petroleum technology and the requisite management experience to enable Angolan personnel to use the most advanced and appropriate technology.</p> <p>Philippines (mining): Contractors must allocate a minimum of 1.5 per cent of operating costs annually to support the development of mining technology and geosciences.</p>
5. Beneficiation Requirements	
Mining firms are required to sell a percentage of their proceeds to local firms for local value addition	<p>Indonesia: Minimum processing requirements (i.e., quantitative restrictions) are set for different types of minerals and coal; oil and gas. Companies are required to carry out in-country processing and refining to increase the value of the relevant minerals or coal.</p> <p>India: Bituminous coal; ferro-manganese; manganese must be processed locally.</p>



TYPE OF POLICY INSTRUMENT	EXAMPLES
<p>Export duties to discourage export of raw minerals</p>	<p>Indonesia: Various minerals, incl. coal, copper, gold, nickel.</p> <p>China: Various minerals incl. antimony, cobalt, copper, iron and steel, lead; manganese, molybdenum, silver, titanium, tungsten, tin, zinc, zirconium.</p> <p>Argentina: Various minerals incl. cobalt, copper, iron and steel; waste and scrap of various metals.</p> <p>Bolivia: Antimony, tin; tungsten.</p> <p>Dominican Rep.: Various minerals incl. antimony, cobalt, copper, iron and steel, lead; manganese, molybdenum, silver, titanium, tungsten, tin, zinc, zirconium.</p> <p>Vietnam: Various minerals including antimony, cobalt, copper, iron and steel, lead; manganese, molybdenum, silver, titanium, tungsten, tin, zinc, zirconium.</p> <p>India: Manganese, iron and steel, chromium, mica.</p> <p>Russia: Various minerals incl. copper, molybdenum, tungsten.</p> <p>Malaysia: Waste and scrap incl. of aluminum, copper, lead, silver, zinc.</p> <p>South Africa: Diamonds.</p> <p>Zambia: Copper and cobalt concentrates.</p>
<p>(Non-automatic) licensing requirements</p>	<p>China: Various minerals including rare earth elements, antimony, bauxite, molybdenum, cobalt, tungsten, tin; phosphates, talc, thorium.</p> <p>Malaysia: Antimony, molybdenum, cobalt, tungsten, tin.</p> <p>Philippines: Antimony, molybdenum, cobalt, tungsten, tin.</p> <p>Russia: Antimony, bauxite, molybdenum, cobalt, tungsten, tin, copper, sulphur.</p> <p>South Africa: Antimony, molybdenum, tungsten, cadmium, chromium, copper, lead, precious metals and other.</p> <p>Grenada: Antimony, molybdenum, cobalt, tungsten, tin.</p> <p>Argentina: Iron, copper and cobalt.</p> <p>India: Chromium, manganese, silica sands.</p> <p>Indonesia: Precious metals and stones.</p> <p>Burundi: Niobium, tantalum, vanadium.</p> <p>Brazil: Limestone, titanium, phosphates, iron and steel, nickel, aluminum, manganese, titanium.</p>
<p>Export bans</p>	<p>Indonesia: Ban on exports of unprocessed ores. Government has issued regulations to allow exports of certain types of ores on the condition that companies:</p> <ul style="list-style-type: none"> • Pay export levies till 2017 • Commit to build processing/ refining facilities in Indonesia <p>Angola: Export ban on unworked diamonds.</p> <p>Burundi: Waste and scrap of various metals such as copper, nickel, aluminum, tin, tungsten, tantalum, antimony, chromium, cobalt, magnesium.</p> <p>United States: Crude oil (ban was suspended in December 2015).</p> <p>Ghana: Waste and scrap of iron and steel.</p>
<p>Export quotas</p>	<p>China: Various minerals including rare earth elements, tungsten, tin, bauxite, magnesium, molybdenum, phosphates, aluminum, coke, fluorspar, iron and steel.</p> <p>Belarus: Waste and scrap of iron and steel; nickel, copper aluminum.</p> <p>Brazil: Niobium, zirconium.</p>
<p>Minimum export prices</p>	<p>Argentina: Copper.</p>



TYPE OF POLICY INSTRUMENT	EXAMPLES
Qualified exporters	<p>Russia: Diamonds.</p> <p>Indonesia: Waste and scrap of silver.</p> <p>Oman: Aluminum ores and concentrates, corundum; aluminum (including chemicals).</p>
Restrictions on customs clearing points	<p>Russia: Diamonds, unsorted; industrial diamonds, unworked; gold; base metals or silver; platinum, palladium; rhodium, iridium.</p>
Subsidies on inputs	<p>Nigeria, Venezuela and Indonesia provide subsidies on fuel prices, including to support industrial production.</p>
Captive mining	<p>India: Use of certain inputs for the steel industry (such as ferro-manganese) or coal in India.</p> <p>Indonesia: Nickel.</p>
Tax incentives to refiners	<p>Indonesia: The government offers generous tax incentives to smelters to build in-country processing plants.</p> <p>Zambia allows companies to deduct the costs of refining and smelting from the 6 per cent mineral royalty</p>

Source: Ramdoo, 2015a, 2015b, 2016; PwC, 2016; Easo & Wallace, 2014; CCSI, 2014a–2014e; 2015a, 2015b; OECD, 2014; OECD Raw Materials Database; Deloitte, 2015.



APPENDIX B

TABLE A2. EXAMPLES OF INDUSTRY-LED INITIATIVES IN SUPPORT OF LOCAL CONTENT

COMPANY/ COUNTRY	INITIATIVE	TYPE OF MEASURES	REPORTED RESULTS
Vale, Brazil	<p>Some of the largest operations of Vale in Brazil are located in remote areas and lack a structured network of local suppliers. To bridge this gap, Vale has initiated a local content program called Inove.</p> <p>The aim is to support the development of local SMEs and provide their managers and workers with the relevant skills to meet Vale's procurement needs and to promote competitive and sustainable insertion of micro & SMEs in the mining production chain. The program is exclusively reserved for Vale's contracted suppliers in Brazil.</p>	<p>This program provides three types of support:</p> <p>(i) Management and technical training courses to improve qualification of suppliers, workers and entrepreneurs.</p> <p>(ii) Financial support solutions to local companies such as prepayment of receivables, lines of credit for the purchase of equipment and for the mobilization and/or working capital.</p> <p>(iii) Business incentives, through favourable conditions to enable suppliers to acquire goods and services. It organizes business round tables and events to promote interaction between different players in the supply chain. It also introduces suppliers to the structure of Vale's purchasing mechanism.</p>	<p>Since its creation in 2010, Inove has trained about 700 companies and 4,000 users, and there has been more than USD 186 million in transactions of materials and supplier kit services. The program has financed more than USD 800 million through its partners (data from 2015).</p>



COMPANY/COUNTRY	INITIATIVE	TYPE OF MEASURES	REPORTED RESULTS
<p>Vale, Brazil</p>	<p>Creation of a Vendor Portal</p>	<p>Vale has created a Vendor Portal, which is a virtual space for marketing of products and services. It is an interface between Vale and its suppliers, to improve their integration throughout the purchasing process, from quotation to payment.</p> <p>The portal offers the following benefits:</p> <ul style="list-style-type: none"> • A single and integrated platform that centralizes different procurement processes • A tool to help reduce tax differences • Visibility of the payment process so that vendors receive the return with their payment status • Access to the platform from mobile devices (i.e., tablets; smartphones) • Simpler and friendlier browsing of the platform • Support services in the use of platform for internal users and exclusive support channels for vendors 	



COMPANY/COUNTRY	INITIATIVE	TYPE OF MEASURES	REPORTED RESULTS
<p>AngloAmerican, Brazil (iron ore)</p>	<p>AngloAmerican established local supplier development program named Promova (Portuguese for “promote”) for its Iron Ore Brazil operation 2012.</p>	<p>The aim is to support small and medium-size local suppliers to:</p> <ul style="list-style-type: none"> • Increase operational efficiency • Improve supply chain performance • Lower costs over the life cycle of purchasing • Reduced transport and logistical costs <p>Suppliers also benefit from distance- and classroom-based learning courses.</p> <p>Suppliers receive payment for work immediately on presentation of an invoice.</p>	<p>Promova has particular prominence in the state of Minas Gerais, where the Minas-Rio iron ore mine is located.</p> <p>In that region alone, the program has identified 520 potential local suppliers where more than 120 were being considered in the bidding processes, and 35 companies have secured business with AngloAmerican.</p> <p>AngloAmerican estimated that in 2015, Promova-supported business was equivalent to about 10 per cent of the local GDP in the municipalities where it operated.</p> <p>Almost USD 100 million has already been paid to 50 suppliers this way. The company also estimates that for each dollar invested in Promova, around USD 25 dollars are unlocked in local procurement with community-based SMEs.</p>
<p>Sherritt, Madagascar</p> <p>Aims to foster broader economic diversification and contribute to the development of local and regional economies in Madagascar.</p>	<p>Ambatovy Local Business Initiative (ALBI)</p> <p>Database of suppliers</p> <p>Certification program</p>	<p>Provides support to local businesses and entrepreneurs through training, mentoring and capacity-building programs</p> <p>Program requires all potential suppliers—including internationally based firms—to register in the online supplier database. They must fill out a pre-qualification questionnaire for minimum-eligibility requirements. Database classifies suppliers and matches them with relevant opportunities. It can also link their information with other stakeholders.</p>	<p>Since 2007, Ambatovy has awarded over USD 2 billion in contracts to local suppliers, and in 2013 local suppliers met almost 60 per cent of firm’s total supply chain needs.</p> <p>Over 10,000 jobs have been created (including indirect).</p> <p>Over 700 training sessions were held in 2013.</p>



COMPANY/COUNTRY	INITIATIVE	TYPE OF MEASURES	REPORTED RESULTS
	<p>ALBI Training Business Centre</p>	<p>Once local supplier is matched with an opportunity, an audit of their administrative systems, quality processes, environment, health and safety systems is conducted. Recommendations for improvement, if required, relevant training is provided.</p> <p>ALBI's Business Training Centre (BTC) offers courses in business administration, anti-corruption, entrepreneurship, business planning and growth management, quality management, environment, health and safety and other areas. Courses are open to all suppliers and potential suppliers, as well as to students and young entrepreneurs—with special consideration for women entrepreneurs. Courses prepare them to meet Ambatovy requirements, but also for markets beyond Ambatovy.</p> <p>Mentorship support is provided after training to potential suppliers to help them integrate what they have learned into their business practices. Audit scores are readjusted accordingly. Once the supplier has achieved a passing score and committed to Ambatovy's continuous improvement requirements, they are eligible to participate in bidding processes, which take "localness" into account.</p>	



COMPANY/COUNTRY	INITIATIVE	TYPE OF MEASURES	REPORTED RESULTS
<p>BHP Billiton, Chile</p>	<p>World-Class Suppliers' Development Programme, developed in partnership with other companies and coordinated by Fundacion Chile, a non-profit that supports technology transfer innovation, and competitiveness across the Chilean economy</p>	<p>The program helps suppliers to reach the level where they can offer innovative solutions to challenges facing mining companies in Chile.</p> <p>Mining companies identify areas where solutions could assist operational efficiency across their operations, and identify local suppliers who have the capacity to work on the problem.</p> <p>Each prioritized challenge is advertised to suppliers. Two to three local suppliers are then formed into a cluster to research the problem and pilot innovations, with technical support.</p> <p>The program also works with training institutions and local universities.</p>	<p>The aim is to create 250 world-class suppliers by 2020.</p> <p>In December 2012, the program was estimated to have saved USD 121 million on the cost of inputs, goods and services, working with 36 suppliers, employing over 5,000 people and generating USD 400 million of combined sales.</p>
<p>Antofagasta, Chile</p>	<p>Vendor Qualification System and supplier database, established by the Antofagasta Industry Association (AIA) in 2001.</p>	<p>The qualification system provides the following support:</p> <ul style="list-style-type: none"> • Registration, evaluation and qualification of suppliers • Certification of labour and social security compliance • Financial and legal analysis • Training for improving operations <p>Suppliers pay fees (registration and annual maintenance) of between USD 200 and USD 400 per supplier.</p> <p>The system has information on over 2,500 suppliers. In order to qualify, suppliers must register be evaluated, and certified for labour and social security compliance.</p>	<p>This system used by around 20 purchasing companies in the mining and oil & gas industries, including international suppliers (e.g., Komatsu and ABB) and primary contractors.</p>



COMPANY/COUNTRY	INITIATIVE	TYPE OF MEASURES	REPORTED RESULTS
<p>Antamina, Peru</p>	<p>Suppliers of Excellence Programme (2012)</p>	<p>The objectives of the program are to:</p> <ul style="list-style-type: none"> (i) improve the productivity of the company and (ii) develop the capacity of suppliers to provide increasingly complex services for the industry. <p>The program puts challenges to local suppliers to identify and find innovative solutions and approaches to resolve high-value challenges, i.e., existing operational problems, inefficiencies or anomalies faced by mining operations.</p> <p>The company offered interested and capable suppliers the opportunity to co-design these solutions, leading to the development of cooperative relationships, therefore changing the nature of engagement with suppliers from a purely transactional one. Following a process of strategic selection, suppliers were offered the opportunity to test their solutions before being awarded contracts.</p> <p>Compared to the supplier programs in Australia and Chile for example, the Antamina program has some novelties: i.e., universities are included and interact with clients and suppliers, and suppliers are allowed to use the mine as a laboratory.</p>	<p>In 2015, the company had 4,667 registered suppliers, of which 1,249 had trade relations with the them for a value of USD 969,681,451. Out of all suppliers, 160 were from Ancash and reached a transaction value of USD 29.4 million.</p>



COMPANY/COUNTRY	INITIATIVE	TYPE OF MEASURES	REPORTED RESULTS
<p>Vale and Rio Tinto, Mozambique</p>	<p>Support to enterprise development in Moatize and Benga</p>	<p>In Tete, the first two mining projects undertaken by Vale at Moatize and Rio Tinto at Benga (subsequently sold in 2014 to ICVL) implemented farming support programs and local food procurement policies through their contracted catering suppliers. A business centre was established in 2013 in Tete to support enterprise development.</p>	<p>An example of successful local procurement from the resettlement area of Cateme in Tete is that of a local farmer selling food to both Moatize and Benga mines.</p> <p>This supplier started farming at Cateme in 2010 and now grows vegetables, maize and sesame on 20 hectares of land, employing 15 workers. He provides vegetables to catering contractors to the two mines, through his company Fazenda Mizimu and Tete-based distributor, CB Farm Fresh.</p> <p>In 2013 he won an award from the Ministry of Agriculture as Mozambique's "Farmer of the Year." This small business and the CB Farm Fresh supply chain offer a model for similar initiatives for local food procurement for mines in Tete province.</p>
<p>Vale, Mozambique</p>	<p>VALE's Supplier Development Programme in partnership with Centro de Promoção de Investimentos, 2012</p>	<p>Targets SMEs operating in regions where Vale has its operations (Tete, Beira and Nacala)</p> <p>It provides diagnostic services and firm-specific training and professional guidance.</p> <p>Eligible firms must demonstrate the capacity to provide goods and services to the wider market (not only to Vale).</p>	<p>In 2012, Vale had awarded contracts to approximately 813 companies—of which 54 per cent were based in Mozambique. Vale also awarded contracts to 179 (22 per cent) of firms located in Tete Province directly.</p> <p>However, these contracts were in relatively low-value, non-core goods and services such as maintenance, cleaning services, catering services and transportation; however, some contracts are in areas such as drilling, laboratory services and tire retreading.</p>



COMPANY/COUNTRY	INITIATIVE	TYPE OF MEASURES	REPORTED RESULTS
Newmont, Ghana	Ahafo and Akyem worker apprenticeship programs	<p>In 2005, Newmont launched an apprenticeship program, offering skilled mechanical and electrical specialist training.</p> <p>Objective is to enhance the productivity of the technical workforce to:</p> <p>(i) Reduce labour costs of employing non-local staff (estimated at up to 20 times higher than local employees for the same functions)</p> <p>(ii) Create a pool of trained local workforce and</p> <p>(iii) Increase local labour's employability should Newmont not be able to hire all trained locals.</p> <p>In 2015, Akyem mine launched a leadership program for local community members to gain experience in mine processing and operations.</p>	<p>Graduates of the program are offered employment in a variety of roles including process operators, specialized trades and maintenance. Out of a total of 182 graduates since the program began in 2005, Newmont employed 125 in 2016.</p> <p>Since the program was introduced in 2015, 40 local community members have enrolled in the six-month program and eight have been hired at Akyem.</p>
Newmont, Ghana	<p>Ahafo Linkages Programme, 2007–2010</p> <p>Ahafo Linkages Programme, in partnership with IFC, 2006</p>	<p>Developed in partnership with IFC</p> <p>The ALP's aim was to develop local micro-, small- and medium-sized enterprises that provide goods and services to the mine as well as facilitating the development of non-mining businesses to support a diversified local economy.</p>	<p>Program trained 53 local suppliers (living around Ahafo mine) and contributed USD 14 million to local procurement.</p> <p>Since entering commercial production in 2006, Ahafo has awarded contracts to around 500 local businesses through the ALP and other programs.</p>
Tullow, Uganda	Creation of an enterprise centre	<p>Aims to provide business skills training, mentoring and networking, and information on opportunities within Tullow's supply chain to local entrepreneurs and SMEs.</p> <p>Simultaneously, the company launched a Tullow Group Scholarship Scheme.</p>	The scheme has brought more than 180 students to Europe for postgraduate studies.



COMPANY/COUNTRY	INITIATIVE	TYPE OF MEASURES	REPORTED RESULTS
<p>Oyu Tolgoi, Mongolia (Rio Tinto)</p>	<p>Development of a strategic supplier local content collaboration</p> <p>Partnership with American Center for Mongolian Studies and the Royal Roads University of Canada to improve the sustainability of native Khanbogd suppliers</p>	<p>Targets international suppliers and asks them to commit to developing and optimizing local procurement.</p> <p>The supplier development program helps businesses enhance their skills in critical operational areas such as safety, human resources management (including human rights), stock and warehouse management, order tracking, cash flow management and marketing. The team also works with suppliers to create sustainable business development plans.</p> <p>As part of the program, Mongolian and Canadian business school graduates spend four weeks working closely with the suppliers to identify improvement areas, develop tailored business plans and provide support as the businesses begin to implement the improvements.</p>	<p>At the end of 2016, 93.5 per cent of Oyu Tolgoi's total workforce was Mongolian, including 96 per cent Mongolian employees at the open pit mining and concentrator operations; and with South Gobi residents comprising 22 per cent of the total workforce.</p> <p>Oyu Tolgoi spent 62 per cent of its total procurement expenditures with Mongolian companies in 2016, totalling USD 279 million.</p> <p>Between 2012 and 2015, the program helped eight local businesses achieve tangible improvements to their business performance. As a result of the program, a number of businesses have broadened their client portfolio by extending into other markets, increasing the sustainability of their business by making them less reliant on Oyu Tolgoi. Five of the participating businesses have also been recognized in Oyu Tolgoi's prestigious supplier recognition award ceremony, "Gobi Gem." The program also delivers benefits to Oyu Tolgoi, making the project's supply chain more reliable and sustainable. The benefits of the program have also flowed to other local businesses in the South Gobi region, through improved safety, business continuity and business integrity standards.</p>



COMPANY/COUNTRY	INITIATIVE	TYPE OF MEASURES	REPORTED RESULTS
<p>Rio Tinto, Weipa Bauxite Mine, Western Cape, Australia</p>	<p>Weipa’s Indigenous Employment and Training strategy</p> <p>It includes a number of initiatives designed to improve Indigenous employment participation rates, while also ensuring the business has the skills needed to support its operations.</p> <p>One such initiative is Weipa’s Kinection program.</p> <p>Weipa also runs a traineeship program.</p>	<p>Developed in collaboration with members of the agreements including the Western Cape Communities Co-existence Agreement (WCCCA). It defines a long-term commitment to increasing the participation, retention and advancement of local Aboriginal people in our operations.</p> <p>This is an innovative pre-employment training course designed to equip local Aboriginal people with the skills needed to work in the mining sector. Kinection provides training in a range of personal development and practical work readiness skills, such as social and emotional well-being activities, and entry-level knowledge across areas such as road and building construction, machinery repairs and maintenance, and conservation and land management.</p>	<p>In 2015: 24 per cent of Weipa’s employees are Indigenous, and 13 per cent are local Aboriginal people.</p> <p>In 2015, 12 people completed the program with four transitioning into stage two (entry-level roles within the business).</p>
	<p>School-to-work pathways</p>	<p>It helps local Indigenous people gain practical industry experience. Some trainees have gone on to work at Weipa and others have pursued apprenticeships or secured roles with other companies.</p>	<p>Since the partnership began, there has been a 186 per cent increase in the number of senior certificates awarded to Indigenous students. The partnership was awarded the 2015 Excellence in Industry Partnerships at the Queensland Government Showcase Awards for Excellence in Schools.</p>
	<p>A school holiday program</p>	<p>A partnership with the Western Cape College in Weipa focuses on developing school-to-work pathways and providing quality local education options for the region.</p>	



COMPANY/COUNTRY	INITIATIVE	TYPE OF MEASURES	REPORTED RESULTS
	<p>Western Cape Regional Partnership Agreement (RPA)</p>	<p>Since 2014 it allows local Aboriginal boarding school students to spend time at Weipa operations and learn about the different parts of the business and possible career pathways.</p> <p>Through this partnership, Rio Tinto is working with Western Cape Indigenous stakeholders and Australia’s state and federal governments to overcome barriers to Indigenous employment, grow the region’s economy and increase Indigenous participation in a broad range of industries beyond the mining sector.</p> <p>The RPA’s initiatives include workshops that help adults improve their skills in areas such as driving, literacy and numeracy—areas which are known barriers to Indigenous people gaining employment—as well as forums to support the development of local Indigenous businesses.</p> <p>The program also looks at ways to broaden the regional economy and encourage growth of local businesses through our Weipa supplier development and procurement strategy. This includes building relationships with Indigenous businesses in the region, and educating locals on the company’s procurement process and criteria.</p>	

Source: Rio Tinto, 2015; Farole & Winkler, 2014; Korinek, 2013; Vale sustainability Report, 2007; Shared Value Initiative, 2014; World Gold Council, 2014; Chamber of Mines South Africa, PwC, 2015; AngloAmerican sustainable development reports; Newmont, 2016.



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