

DEVELOPMENT CENTRE

POLICY DIALOGUE ON NATURAL RESOURCE-BASED DEVELOPMENT

Inaugural Meeting, OECD Conference Centre, 18-19 December 2013:

- **Annotated Agenda**
- **Scoping Paper**

This document is circulated FOR INFORMATION among members of the Governing Board of the Development Centre. It reproduces the annotated agenda for the inaugural meeting of the Policy Dialogue on Natural Resource-based Development and the scoping paper designed to support the discussion among participating countries. The meeting will be held at the OECD Conference Centre on 18-19 December 2013. Australia, Bolivia, Brazil, Chile, Colombia, Democratic Republic of Congo, Dominican Republic, France, Germany, Guinea, Kazakhstan, Liberia, Mexico, Mongolia, Morocco, Mozambique, Nigeria, Norway, Peru, Russian Federation, South Africa, Switzerland, United Kingdom, United States, Zambia will be in attendance.

Input from business, civil society, think tanks and foundations will be sought during the multi-stakeholder consultation organised as part of the inaugural meeting to bring in additional perspectives and ensure the added-value of this initiative.

Members of the Governing Board that are not participating in the Policy Dialogue on Natural Resource-based Development, but that are nonetheless interested in attending the meeting are kindly invited to contact the Secretariat (lahra.liberti@oecd.org).

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**INAUGURAL MEETING OF THE
POLICY DIALOGUE ON NATURAL RESOURCE-BASED DEVELOPMENT**

Building collective knowledge for actionable policies

ANNOTATED AGENDA

18-19 December 2013, Paris - OECD Conference Centre

Objectives for the inaugural meeting

- Foster mutual understanding of participating countries' key priorities, opportunities and constraints to harness natural resource potential for inclusive and broad-based socio-economic development.
- Consult participating countries and stakeholders on the proposed areas for future work of cross-cutting relevance for the mining and oil & gas sector as well as associated output results.
- Collectively identify knowledge needs, issues of common interest and select priorities for future work in 2014-2015.
- Discuss institutional arrangements and next steps.

Structure, format of the event and participant expected contribution

The Policy Dialogue on Natural Resource-based Development is a knowledge sharing and peer learning multi-year structured process among OECD and partner oil & gas, coal, minerals and metals producing countries, all participating on an equal footing. The meetings of the Policy Dialogue **will depart from** the traditional conference format distinguishing between speakers and audience. **Every participant will play a role as both a knowledge holder and a knowledge recipient while the OECD Development Centre will act as a neutral knowledge broker, by contributing to framing the issues and facilitating the generation, systematisation and access to tacit or newly developed collective knowledge.**

Participants are not only expected to share relevant experience, policies and case-studies but also to clearly articulate their knowledge needs and indicate which countries they would like to learn from to build or further refine their knowledge base. **Participants are also expected to engage in a constructive dialogue to collectively contribute to shaping the priority issues to be addressed in 2014-2015 to ensure the added value of this initiative.**

In this interactive setting, there will be no prepared speeches, official statements or presentations. **The guiding questions proposed below are intended to help participants to prepare their contributions and identify relevant issues and questions they would like to see addressed during the meeting. The scoping paper is also designed to support the discussion. Participants are invited to react on the proposals for future work contained therein and are encouraged to suggest other potential areas for future work where the OECD could bring added value.** Participant contributions are expected to be short, narrative in style and reactive to other interventions. **The event will be closed-door and held under Chatham House Rule of non-attribution of sources in order for participating countries and stakeholders in the multi-**

stakeholder consultation to engage in frank and thought-provoking discussions.

It is expected that this method of work will be conducive to the establishment of a trustworthy and enabling environment where participating countries engage in frank and open exchange that could pave the way for the collective development of innovative and mutually beneficial policy solutions and outcomes.

Expected outcomes

- Enhanced understanding and awareness of priorities, objectives, challenges and opportunities for natural resource-based development in participating OECD and partner producing countries.
- Collective identification of areas of common interest and prioritisation of issues to be included in the programme of work for 2014-2015, benefiting from input received during the multi-stakeholder consultation.
- Definition of possible output results under each thematic area (compendium of good practices, thematic comparative analysis/ policy reviews, operational frameworks)
- Modalities for the organisation of future work (establishment of Thematic Sub-Groups, Expert Advisory Board and Steering Committee).

Proposed deliverables for 2014-2015

It is proposed that this knowledge sharing process will be fed by thematic comparative analysis/policy reviews co-ordinated by the OECD Secretariat, with possible involvement of OECD and partner countries willing to engage in an in-depth mutual learning exercise to share experience, technical expertise and possibly shape collaborative solutions leading to mutually beneficial outcomes. As it evolves, this process may lead to compendiums of good practices and thematic operational frameworks that could be tailored to specific contexts and support the design and implementation of policies at country-level.

Looking ahead

Drawing on the experience and lessons learnt during the first cycle 2014-2015, participating countries may consider the opportunity to identify and address new emerging issues not covered in the initial phase and/or broaden the scope of this initiative to renewable natural resources.

DAY 1 – 18 December (Room CC15)**8:30 – 9:30 Registration & coffee****9:30 - 9:45** *Welcome address***Mr. Rintaro Tamaki , Deputy Secretary-General, OECD****9:45 - 12:30** **Session 1: Overview of the Policy Dialogue on Natural Resource-based Development and initial feedback from Participating Countries****Chair: Ambassador Hans-Juergen Heimsoeth, Chair of the Governing Board, OECD Development Centre**

This session will feature a short introduction by the OECD Development Centre on the rationale, proposed objectives, methodology and expected outcomes of the Policy Dialogue on Natural Resource-based Development. Participating countries are expected to feed their knowledge and experience into this nascent process to successfully shape its future orientations. Preliminary feedback will be sought from participating countries on the proposed thematic areas for possible consideration as outlined in the scoping paper as a basis for the discussion. Participating countries will be invited to share their perspectives on the document and to articulate their key objectives, priorities and knowledge needs to harness their natural resource potential for inclusive and broad-based socio-economic development.

*Kick-off by **Mario Pezzini**, Director & **Lahra Liberti**, Senior Adviser, OECD Development Centre followed by initial feedback from participating countries*

Guiding questions:

- ✓ *What is your initial feedback on the proposed thematic areas and issues for consideration outlined in the scoping paper? Participating countries may wish to share one or two key examples of policies, experiences or lessons learnt in each of the proposed thematic areas.*
- ✓ *Do the proposed thematic areas adequately reflect the key policy objectives, needs and priorities for unlocking your country's potential for natural resource-based development?*
- ✓ *Are there any specific issues that would be worth taking forward as a matter of priority?*

For reference: Scoping Paper prepared by the OECD Development Centre.

12:30 -14:00 Hosted Lunch (Room G. Marshall)

14:00 - 18:00 | Session 2: Framing the issues – Multi-Stakeholder Consultation

Moderator: Carl Dahlman, Head of Global Development Research, OECD Development Centre

The multi-stakeholder consultation involving representatives of the private sector, civil society, and think tanks will provide the opportunity for **participating countries to solicit additional perspectives and seek input on the proposed areas for future work and output results** outlined in the scoping paper.

Representatives from International Organisations and OECD experts from various Directorates are encouraged to take part in the discussion and share knowledge on on-going relevant OECD work that can underpin and feed into the Policy Dialogue on Natural Resource-based Development.

For reference: Scoping Paper prepared by the OECD Development Centre.

14:00 – 14:45 | How to Optimise Revenue Collection?

*Kick-off by **Bruce Shapiro**, President, MineAfrica Inc., On The Ground Group and Canada-Southern Africa Chamber of Business & Open Discussion*

Guiding questions:

- ✓ *What are the key factors that producing countries need to take into account to design optimal fiscal regimes and preserve the economic viability of long-term investments?*
- ✓ *What type of fiscal instruments, policies and tools can help governments effectively generate revenues from extractive industries, considering the fluctuations of the commodity cycle?*
- ✓ *Are state-owned enterprises an effective means through which producing countries can retain revenue?*
- ✓ *What are the key challenges and gaps faced by producing countries in effectively mobilising revenues from extractive industries (e.g. corruption, abusive practices like transfer pricing)?*
- ✓ *Would proposed future work on mechanisms to increase responsiveness and reactivity contribute to optimising fiscal regimes? Would the collective development of a common reference framework also enable countries to negotiate better deals?*

14:45 - 15:30

How to use transparency as an effective tool for accountability and development?

*Kick-off by **Dr Peter Eigen**, Chair of the Advisory Council, Transparency International & Open Discussion*

Guiding questions:

- ✓ *Would the proposed development of common reporting templates help reduce reporting fatigue for companies affected by multiple transparency requirements and better translate into a demand for accountability?*
- ✓ *Would the proposed comparative analysis of key clauses in oil & gas, mining contracts contribute to enabling countries to negotiate better deals through better understanding of the implications associated with different available options?*
- ✓ *Which incentives could be envisaged for both advanced and emerging economies as well as private and state-owned companies to value transparency as a useful means to deliver better development outcomes?*
- ✓ *Would it be worth undertaking a typology study looking at different patterns of conduct, activities and types of entities that frequently give rise to illegal payments to foreign public officials and compile relevant information about high risk profiles in the extractive sector?*

15:30 – 16:00 Coffee break

16:00 – 16:45

How to leverage non-renewable natural resources for structural transformation and local value creation?

*Kick-off by **Natalie Stirling-Sanders**, Upstream National Content Manager, Exxon Mobil & Open Discussion*

Guiding questions:

- ✓ *What types of approaches can be put in place to promote sustainable local value creation?*
- ✓ *What are the underlying policy objectives and trade-offs to be considered?*
- ✓ *Which forms of collaboration would be needed for developing a sustainable competitive advantage?*
- ✓ *Which initiatives/tools can be used to measure domestic value added from extractives and better understand the degree to which this translates into substantial gains for the national economy?*
- ✓ *Would the proposed comparative cost-benefit analysis of different approaches and associated implications be useful to better understand how local content policies can best drive sustainable and competitive local development?*

16:45 – 17:30 **How to manage and spend natural resource revenues for inclusive and broad-based development?**

Kick-off by Dr Christian von Haldenwang, Head of the research project "Mobilising domestic revenue in developing countries" and Coordinator for Latin America, German Development Institute & Open Discussion

Guiding questions:

- ✓ *How would you assess existing tools and mechanisms (e.g. SWFs) to manage revenues?*
- ✓ *What are the main bottlenecks and most pressing challenges faced by governments when arbitrating and allocating revenues?*
- ✓ *How are priorities ranked?*
- ✓ *Could targeted spending policies help address critical bottlenecks hampering inclusive and broad-based resource-linked development?*

17:30 – 18:00 **Wrap-up and Key Recommendations for consideration by Participating Countries on Day 2 - 19 December**

18:00 – 19:00 **Cocktail Reception (Expresso Area)**

DAY 2 – 19 December (Room C - Château)

8:30 - 9:00 Registration & coffee

9:00 – 13:00 **Session 3: Building common ground and convergence around areas of shared interest for future work (2014-2015)****Chair: Prof. Petter Nore, Chief Energy Analyst, Ministry of Foreign Affairs, Norway**

Participating countries will engage in an in-depth discussion to collectively identify and agree upon a set of priority issues to be addressed in the biennium 2014-2015, taking into account the feedback received from stakeholders during multi-stakeholder consultation. Participating countries will be invited to consider the proposals as well as the associated intermediary and final output results for future work outlined in the scoping paper. Participating countries will amend, adjust, modify, integrate the thematic areas and associated output results as they deem appropriate. A room document prepared by the Secretariat consolidating proposals contained in the scoping paper and input received during the multi-stakeholder consultation will be distributed to support the discussion.

For reference: Room document consolidating proposals for future work, including feedback from the multi-stakeholder consultation

9:00 – 10:00 **Open Discussion on Thematic Area 1 “Revenue Optimisation” and Proposed Output Results**

The proposed priority issue for consideration is to increase the responsiveness of fiscal and revenue-generating mechanisms and maximise revenue collection while preserving countries’ ability to attract investment. To address this issue, the scoping paper proposes to look into revenue-generating frameworks with sufficiently built-in responsiveness and reactivity to enable countries to manage more efficiently volatility and ensure predictability of revenues. Intermediary output results would include an inventory and cost-benefit analysis of different fiscal and revenue-generating instruments in participating countries and an assessment and comparison of their impact and effectiveness.

Guiding questions:

- ✓ *Would you agree with the proposed priority issue?*
- ✓ *Would you agree with the proposed intermediary and final output results?*
- ✓ *Are there any other priority issues that would be worth taking forward? If so, what would be the related output results (e.g. revenue statistics from the extractive sector)?*

10:00 – 11:00 **Open Discussion on Thematic Area 2 “Transparency” and Proposed Output Results**

The proposed priority issue for consideration is to create a level playing field for reporting of payments made to governments, reduce reporting fatigue and compliance costs for the extractive sector and enable collected information to

translate into effective demand for accountability. To address these issues, the scoping paper proposes to collectively develop a standardised reporting template to harmonise efforts at operational level. This would involve an initial phase in which a feasibility study would be carried out.

Guiding questions:

- ✓ *Would you agree with the proposed priority issue?*
- ✓ *Would you agree with the proposed intermediary and final output results?*
- ✓ *Are there any other priority issues that would be worth taking forward? If so, what would be the related output results (e.g. comparative analysis of key contractual provisions; typology study on bribery in the extractive sector, study on the role of state-owned enterprises)?*

11:00 – 11:15 Coffee break

11:15 – 12:15 Open Discussion on Thematic Area 3 “Shared Value Creation and Local Development” and Proposed Output Results

The proposed priority issues for the third thematic area are to enable the creation of a value added economy along the life cycle of mining and oil & gas development projects and to design successful local content strategies. To address these two issues, the scoping paper proposes to develop operational frameworks for assessing linkage development on the one hand, and for enabling local development through local content strategies, on the other hand. This would involve an initial phase in which comparative and cost-benefit analysis of different existing approaches and country experiences would be carried out.

Guiding questions:

- ✓ *Would you agree with the proposed priority issue?*
- ✓ *Would you agree with the proposed intermediary and final output results?*
- ✓ *Are there any other priority issues that would be worth taking forward? If so, what would be the related output results?*

12:15– 13:00 Open Discussion on Thematic Area 4 “Revenue Spending” and Proposed Output Results

The proposed priority issue for the fourth thematic area is to enable natural resource-broad based and inclusive development through the combination of spending options. To address this issue, the scoping paper proposes to develop a framework for identifying bottlenecks to structural transformation and spending options of revenue resources. This would involve an initial phase in which comparative analysis of country experiences would be carried out. Additional proposed work may include the collective development of an enabling framework for leveraging infrastructure as a catalyst for broad-based development.

Guiding questions:

- ✓ *Would you agree with the proposed priority issue?*
- ✓ *Would you agree with the proposed intermediary and final output results?*
- ✓ *Are there any other priority issues that would be worth taking forward? If so, what would be the related output results?*

13:00 – 14:30 Lunch (Room G. Marshall)

14:30 - 16:30 Session 4: Institutional arrangements and next steps

Chair: Prof. Petter Nore, Chief Energy Analyst, Ministry of Foreign Affairs, Norway

Participating countries will be expected to agree on the institutional arrangements to carry out the programme of work for the biennium 2014-2015. Suggested options for consideration by participating countries include the creation of Thematic Sub-Groups and the establishment of a Steering Committee, supported by an Expert Advisory Board composed of international organisations and the Secretariat. Each Thematic Sub-Group would be jointly led by two participating countries on a voluntary basis. The 8 co-lead would sit on the Steering Committee in charge of leading and organising the work for the biennium.

Participating countries will convene twice a year with plenary and working sessions of the Thematic Sub-Groups. With a view to enhancing ownership of the initiative, it is proposed that the next four meetings of the Policy Dialogue in 2014 and 2015 be hosted by participating countries on a rotating basis. The hosting country would also chair the Policy Dialogue meetings.

Participating countries will be invited to express interest in joining the Thematic Sub-Groups and in hosting the next meetings of the Policy Dialogue in 2014 and 2015.

Guiding questions:

- ✓ *Would you agree with the proposed institutional arrangements (Thematic Sub-Groups, Steering Committee, Expert Advisory Board, rotating Chairs, etc.)?*
- ✓ *Which thematic sub-groups should be structured in two tiers of governments and then business and civil society?*
- ✓ *Which Thematic Sub-Groups would you be interested to join or lead?*
- ✓ *Which specific countries would you be eager to share experience with and learn from?*

16:30 – 17:00 Closing remarks

POLICY DIALOGUE ON NATURAL RESOURCE-BASED DEVELOPMENT**SCOPING PAPER**

This document is intended to support the discussion around the future orientations of the nascent Policy Dialogue on Natural Resource-based Development at its inaugural meeting scheduled for 18-19 December 2013. An earlier version of this document was circulated for comment by interested countries in October 2013. It was subsequently revised and integrated, also in light of preliminary feedback received from Australia, Chile, Germany, Mexico, Mongolia and the International Monetary Fund.

This paper aims to frame issues of cross-cutting relevance for possible consideration in the mining, oil and gas sector. Participating countries will enjoy the opportunity to provide comments, bring in additional perspectives, share experience and knowledge, with a view to identifying and shaping the programme of work for 2014-2015 and ensuring the added value of this nascent process.

Delegations from participating countries and stakeholders in the consultation are invited to react on the proposals for future work contained in this document and are encouraged to suggest other potential areas for future work where the OECD could bring added value.

This document was prepared by the Development Centre. It benefited from preliminary input received from the Centre for Tax Policy and Administration and the Development Co-operation Directorate and the Trade and Agriculture Directorate.



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EXECUTIVE SUMMARY

This document is intended to frame the issues for possible consideration by participating countries in the inaugural meeting of the Policy Dialogue on Natural Resource-based Development on 18-19 December in Paris. Participating countries as well as stakeholders invited to join the consultation will enjoy the opportunity to provide comments, bring in additional perspectives, share experience and knowledge, with a view to contributing to identifying and shaping the issues to be considered in 2014-2015.

The paper is structured around **four proposed thematic areas** for possible future work:

- *Revenue optimisation*: optimise revenue collection and increase responsiveness of revenue-generating systems while ensuring predictability of outcomes and preserving investment attractiveness;
- *Transparency of payments*: promote transparency and accountability across the value chain, including through the development of common templates for reporting of payments;
- *Shared value creation and local development*: foster value creation along the life cycle of mining and oil and gas development projects by identifying collaborative approaches to maximise local development and promote the integration of the extractive sector into global supply chains;
- *Spending and distribution*: enable natural resource-based structural transformation through targeted spending and equitable distribution of resource revenues.

For each proposed thematic area of work, the paper identifies **gaps, priority issues** as well as **associated output results for possible consideration**:

- *Revenue optimisation*: The paper proposes to focus on increasing the responsiveness of fiscal and revenue-generating mechanisms and maximise revenue collection while preserving countries' ability to attract investment. To address this issue, the scoping paper proposes to look into revenue-generating frameworks with sufficiently built-in responsiveness and reactivity to enable countries to manage volatility and ensure predictability of revenues. Intermediary output results would include an inventory and cost-benefit analysis of different fiscal and revenue-generating instruments in participating countries and an assessment and comparison of their impact and effectiveness. The Policy Dialogue will benefit, as appropriate, from the knowledge base and advancements made in OECD work led by the Committee on Fiscal Affairs on Base Erosion and Profit Shifting, feeding in lessons on transfer pricing, the Tax Inspectors Without Borders experience and policy work on comparables.
- *Transparency of payments*: The paper proposes to create a level playing field for reporting of payments made to governments, to reduce reporting fatigue and compliance costs for extractive companies and to enable collected information to translate into effective demand for accountability. To address these issues, the scoping paper proposes to collectively develop a

standardised reporting template to harmonise efforts at operational level. This would involve an initial phase in which a feasibility study would be carried out. Additional proposed output results may include a comparative analysis of key clauses in oil and gas, mining contracts to enable countries to negotiate better deals through better understanding of the implications associated with different available options, a typology study looking at different patterns of conduct, activities and types of entities that frequently give rise to illegal payments to foreign public officials and a compilation of relevant information about high risk profiles in the extractive sector.

- *Shared value creation and local development:* Proposed priority issues under this third thematic area are to enable the creation of a value added economy along the life cycle of mining and oil and gas development projects and to design successful local content strategies. To address these two issues, the scoping paper proposes to develop operational frameworks for assessing linkage development on the one hand, and for enabling local content development through local content strategies, on the other hand. This would involve an initial phase in which comparative and cost-benefit analysis of different existing approaches and country experiences would be carried out.
- *Spending and distribution:* The proposed priority issue for this thematic area is to enable natural resource-based structural transformation through targeted spending of resource revenues. To address this issue, the scoping paper proposes to develop a framework for identifying bottlenecks to structural transformation and spending options of revenue resources to address these. This would involve an initial phase in which comparative analyses of country experiences would be carried out. The collective development of an enabling framework for shared infrastructure as a catalyst for broad-based development has also been included as part of possible future work.

SECTION I

HOW TO OPTIMISE REVENUE COLLECTION?

A. FRAMING THE ISSUES

Why is revenue collection important?

Generating revenue is the necessary pre-condition for distributing benefits from the extractive sector. Extractive industries offer the prospect of substantial rents—returns in excess of the minimum required by the investor, in particular when prices are on the rise or settled above the minimum level necessary for firms to generate enough profits to be able to continue investing in the future. The key is striking the right balance between securing an optimal and predictable level of government revenues while preserving governments' capacity to attract investment.

The extractive sector often accounts for over half of government revenue in petroleum-rich countries, and for over 20% in mining countries. Dependence upon resource revenue is especially marked in some developing economies: for instance, revenues from petroleum accounted for about 93% of all government revenue in Timor-Leste (2008) and around 82% in Angola (2007). Revenues from the extractive sector increased over the past decade, most consistently in petroleum producing countries, and this in all regions as mining and energy prices have risen consistently over the last decade. According to the IMF¹, revenues from petroleum rose from a (GDP-weighted) average of 8% to 12% of GDP, and from 26% to 35% of government revenue. For countries in which the mining sector makes a significant contribution to the economy, the increase in revenue has been somewhat less marked relative to GDP, but much greater (and very volatile) relative to all government revenue. This is particularly reflected in the government revenue of relatively low income mining-intensive countries that tend to have fewer alternative revenue sources.

Proper design of fiscal and revenue regimes is a key challenge and opportunity for producing countries. Given the substantive contribution of the extractive sector to the public purse, the ability of governments to collect taxes, generate and manage volatile revenues has been subject to increased public scrutiny. In particular, when prices are on the rise, as they were for the last decade, producing countries may become more exposed to criticism for not striking an adequate balance between the need to capture rents, share risks and reward investors. Many producing countries have recently undergone or announced the adoption of reforms of tax regimes or revenue mechanisms in an effort to better respond to evolving market conditions while preserving their attractiveness to investments. Australia has imposed a new mining rent tax as recently as last year. The Government is currently considering repealing the mining rent tax. However, it appears that this will not affect revenues expected from the petroleum resource rent tax which was introduced in July 2012 together with the mining rent tax. In Canada, the province of Alberta has introduced in 2009 a royalty tax regime that also applies to oil sands and factors in oil prices and well production.

Amplifying the already considerable macroeconomic significance of the extractive sector, recent and prospective discoveries make designing and implementing fiscal regimes a key challenge and opportunity

¹ International Monetary Fund (2012), *Fiscal Regimes for Extractive Industries: Design and Implementation*, Fiscal Affairs Department, August 2012, Washington DC.

for many emerging producing countries. IMF simulations² suggest governments should be able to tax 40-60% of rents in the minerals sector, around 65-85% in the petroleum sector. The IMF further estimates that increasing production by 1 million barrels per day in sub-Saharan Africa would increase government revenue by about USD 12 billion annually, or by 1% of the 2011 GDP of the region³. Exactly how much of the rents can actually be collected is debatable. There is competition amongst countries to attract investment and limits to the amount of capital that investors can deploy for developing new projects.

Examples of revenue mechanisms

Oil sector

Governments in most countries own the resources located under the surface of the earth, including oil. The participation of the state varies notably, however, when it comes to involvement in the production of oil. In the oil sector, it is not uncommon for the state to be actively involved in the production process. At one extreme, all oil can be fully owned and fully produced by the state. At the other extreme, there are countries where the state encourages oil corporations to take the lead. In this latter case, the state primarily focuses on offering an appropriate regulatory and fiscal framework for companies to make the necessary investments and for the authorities to collect revenues. Such concessionary systems still predominate in OECD countries. In between, there are countries where the state co-operates with the private sector to explore and extract oil under various forms of contracts, called Production Sharing Contracts (PSC) or Agreements (PSA). PSCs and PSAs predominate in non-OECD countries.

Regardless of the system, when oil is produced the producer often has to retrocede right away a share of the oil production income to the state, in compensation for the extraction. The basis on which this (non-tax) royalty payment is calculated can be a fixed amount per ton produced in which case it is known as to be specific, or a percentage of the production value in which case it is known to be *ad valorem*. When the royalty rate is fixed, it is called a flat rate; at other times when it increases with the amount or the value produced (daily production rate), the royalty is then said to be on a sliding scale. Royalty is normally allowable as a deduction against other taxes.

Under a concessionary system, the oil sector is typically liable to normal Corporate Income Tax (CIT) as in other sectors. Most countries offer incentives for exploration and development by allowing these costs to be deducted from CIT. Indeed, most corporate income tax (CIT) systems allow a tax deduction for recovery of the cost of assets used in a business. The cost of assets not currently consumed in a given fiscal year is recovered over time through depreciation. These costs can often be deducted from CIT liabilities on an accelerated basis, i.e. faster than the cost of capital would be allowed to be depreciated for standard investment projects. The case of the UK is an extreme case where 100% deduction is allowed in the year of expenditure. A Special Tax (ST) can be collected in the oil sector on top of the regular CIT, sometimes with an uplift on investment, i.e. by giving back to the investor a fixed rate of return on investment. A Rate of Return (ROR) tax is a rent tax that affects revenues above a set threshold rate of return on investment. A ROR tax is called first tier if it dispenses the corresponding profits from all withholding taxes on interest and dividend.

The equivalent of a tax is actually collected in a Production Sharing Agreement (PSA). First, on the one hand, the oil company must pay a royalty on production, where applicable. On the other hand, the private investor is entitled to a share of oil production as payment for the costs of producing oil, this is called cost oil; there is usually a limit for cost recovery that typically ranges from 30 to 60% of gross revenue. In some countries, however, exploration and development costs can be uplifted, i.e. increased by a

² International Monetary Fund (2012), *Fiscal Regimes for Extractive Industries: Design and Implementation*, Fiscal Affairs Department, August 2012, Washington DC.

³ *Ibid.*

pre-determined minimum rate of return on investment. The corresponding uplift is added to the company's cash-flow.

Second, what is left is called profit oil and it is shared between the government and the company at a pre-negotiated rate. In addition, the government is sometimes entitled to purchase a share of production below market price. This kind of provision is referred to as "domestic market obligation" (DMO). Under a Production Sharing Agreement, the split between the company and the government can depend on the achieved project profitability, referred to as Rate of Return (ROR) or R-factor. Under a ROR system, the effective tax rate increases as the rate of return on the project increases.

Third, nominally, the company still has to pay income tax on the combination of its cost and profit oil after deductions allowed by the tax law. In most countries, however, the government typically pays Corporate Income Taxes with its share of profit oil "on behalf" of the private investor. State participation is said to be "carried interest" when the authorities acquire its equity share in the project from the production proceeds including an interest charge (added to the cost of the equity share as a way to guarantee the investor a rate of return equivalent to the interest charge).

The table in Annex A is taken from Daniel et al.⁴ It illustrates the range of tax regimes that are applied in oil producing countries. *Updating such inventory exercise would be worthwhile to support possible future work on revenue optimisation.* Nonetheless, key observations made below are unlikely to be reversed using updated data as tax regimes evolve slowly, if only because of the need for countries to build and maintain their fiscal credibility.

The range of tax regimes that are applied across countries to the oil sector is obviously wide. This reflects not only the equally wide range of country contexts in which oil is produced as the recognised fact that a wide range of tax regimes can actually accommodate oil production. The literature's consensus is that systems as diverse as a pure concessionary system and a pure Production Sharing Contract can be structured in such a way as to generate a comparable amount of revenues for the state. Indeed, companies do not favour one system over the other *a priori*; it depends on the tax regime that is applied, in one case, and the terms of the contract, in the other case. Furthermore, countries tend to combine different taxation and revenue-generating instruments. For example, many countries combine royalties with some taxes on income or profits, regardless of whether the state directly participates in the production of oil.

Second, a majority of countries (with the notable exception of most OECD countries) impose a form of state participation on the production of oil. The rate of profit sharing between the authorities and private investors varies greatly, however, reflecting, among several other factors, the varying degree of profitability across oil fields. Many countries with production sharing agreements combine profit sharing with some royalties and/or corporate income taxes.

Third, on their own, royalty rates vary notably across countries. Flat royalty rates that do not depend on production level vary between 5 and 12.5%. There are also many instances of sliding-scale royalty rates, where the royalty rate increases according to production. In this case, the minimum rate ranges from 5% to 13% and the maximum rate ranges from 16% to 25%. Similarly, the share of profit oil going to the authorities typically varies according to production, with the minimum share ranging from 10% to 52% and the maximum share from 28% to 90%. Corporate Income Tax rates vary greatly, from 28% to 50%; with some regimes including a Special Tax (ST) on top of regular CIT, often with exemptions and/or uplifts for exploration costs.

⁴ Daniel, P., Goldsworthy, B., Maliszewski W., Puyo, D. and A. Watson (2010), "Evaluating fiscal regimes for resource projects: an example from oil development" in *The Taxation of Petroleum and Minerals: Principles, Problems and Practice*, Daniel, P., Keen, M. and C. McPherson (eds), New York: Routledge / International Monetary Fund.

Fourth, however, it should be emphasised that in assessing a given regime, comparing the rates for royalties, corporate income taxes or profit sharing can be quite misleading. Indeed, all these rates and many other important rules, e.g. for refunding exploration and development costs, interact with one another. Oil taxation regimes have to be evaluated integrally; such an exercise can be fairly technical and depends on parameters like the type of oil project at stake (onshore, offshore or deep water), the cost of extraction in various fields, the expected amount of recoverable oil, time-span of the project etc. This evaluation is all the more complex given that different taxation regimes have different advantages and drawbacks for both host governments and investors. Hence, a specific tax regime can rank well on one criterion of interest to the investor or to the authorities while it implies a significant trade-off with respect to another criterion.

Minerals sector

Governments in most countries own the minerals located under the surface of the earth. Active participation of the state in the exploitation of minerals is observed in some countries but is rarer than in the oil sector. In other words, a concessionary system predominates across the world in the minerals sector. Most often, authorities encourage private mining corporations to take the lead and the state typically focuses on creating the appropriate regulatory framework and fiscal regime for companies to make the necessary investments and for the authorities to collect tax and non-tax revenues.

When minerals are extracted, the mining company most often has to retrocede a share of the production income to the state. The basis on which this royalty payment is due can be defined as fixed amount per ton of minerals produced (specific royalty) or as a percentage of the production value (*ad valorem* royalty). When the royalty rate increases with the amount of mineral produced or with the value of production, the royalty is then said to be on a sliding scale. Royalty payments can usually be deducted from other tax liabilities owed to the authorities, such as Corporate Income Taxes (CIT). The minerals sector is typically liable to normal Corporate Income Tax (CIT) as other sectors; in federal countries, additional sub-national income taxes sometimes apply. A few countries apply some additional taxes to the mining sector when the price of a mineral or cash-flow breaks above a pre-defined threshold; such taxes are sometimes referred to as windfall taxes.

The table in Annex B is taken from Hogan and Goldsworthy.⁵ It illustrates the range of tax regimes that are applied in the mineral sector across countries. *Updating such an inventory exercise would be worthwhile to support possible future work on revenue optimisation.* Here again, however, key observations made below are unlikely to be reversed using updated data as tax regimes evolve slowly, if only because of the need for country to build and maintain their fiscal credibility.

First, the range of tax regimes that are applied throughout countries to tax the minerals sector is quite wide but all regimes usually entail a mix of different instruments. For example, most countries combine royalties with some Corporate Income Tax (CIT) and with withholding taxes on interest and/or dividend. In the US and Canada, the federal government's regime is complemented at the sub-national (state or province) level with additional royalties or taxes on net income. The heterogeneity of fiscal regimes reflects both the heterogenous conditions and methods of production of various minerals but also the equally wide range of country contexts in which minerals are produced.

Second, royalty rates vary notably across countries. Most royalty rates are flat and *ad valorem* (a percentage based on the value of production) and range from 1.5% and 12% depending on the country and the commodity. However, there are also many cases of specific royalties (a fixed amount per unit of production multiplied by the volume of production), on the one hand, and of sliding scale royalties (in

⁵ Hogan, L., and B. Goldsworthy (2010), "International Mineral Taxation: Experience and Issues" in *The Taxation of Petroleum and Minerals: Principles, Problems and Practice*, Daniel, P., Keen, M. and C. McPherson (eds), New York: Routledge / International Monetary Fund.

which case the percentage of the value of production rises with the price of the mineral and/or the volume of production). Royalty rates vary notably across minerals with regular minerals typically associated with the lowest rates (3%-6%) and precious stones and diamonds with the highest rates (8%-12%).

Third, Corporate Income Tax (CIT) rates also vary greatly, from 25% to 55%;⁶ with several regimes, particularly in Africa, varying their CIT rate in this sector according to the ratio of taxable income to gross income. Withholding taxes vary similarly from 8% to 35%; in addition some countries apply a reduced rate to non-residents or to investors domiciled with a jurisdiction with which a tax treaty has been signed, or simply do not collect altogether withholding taxes on interest and/or dividends. Most minerals are exempted from import duties; exports are zero-rated for VAT in most countries.

Fourth, it is worth emphasising that in assessing a tax regime, merely comparing the rates for royalties, corporate income taxes or withholding taxes can be misleading. These rates and many other important rules for refunding exploration and development costs interact with one another. Mineral taxation regimes have to be evaluated integrally and such an exercise can be fairly technical. The effect of a tax regime depends on parameters such as the type of minerals at stake (ores, precious stones, metals, coal etc.), the cost of extraction, the expected amount of recoverable minerals, time-span of the project etc. This evaluation is all the more complex that different taxation regimes offer different advantages and have different drawbacks for both the authorities and the investors. Therefore, a specific tax regime can rank well on one criterion of interest to the investor or to the authorities but imply a significant trade-off with respect to another criterion.

What are the main common challenges that producing countries face?

Designing optimal regimes and mechanisms to generate revenue. Optimal fiscal and revenue regimes ensure an adequate government take as well as a rate of return for investors. The key challenge common to all producing countries is to put in place a fiscal regime conducive to an appropriate pace of resource development. Indeed, only if resources are developed and exploited can the host country hope to capture some of the corresponding rents. The exploitation of resources involves physical operations with outputs that can be analysed, weighed and measured, with prices in most cases quoted on international exchanges. And the vast bulk of revenues are often paid by a few large taxpayers, with a high stake in maintaining government goodwill. Over time, state-owned enterprises have been regarded as a tool to reduce asymmetry of information about a country's geological endowments and to increase control over the pace of resource extraction and the ability to generate and retain rents.

The profits made by investors in excess of the returns necessary to cover exploration and development costs are referred to as quasi-rents. Taxing excessively quasi-rents can turn a profitable project into a loss-making venture, thereby discouraging development. However, it is possible to tax actual rents, the excess of revenues over all costs of production, including those of discovery and development, as well as the normal return on capital, without disincentivising or discouraging investment.

Governments struggle to factor into the design of policies multiple variables affecting the economic viability of extractive projects over their entire lifespan. There are many parameters that need to be taken into due account while designing fiscal and revenue regimes aiming at striking a balance between the need of producing countries to capture rents while preserving their ability to attract investments.⁷ First of all,

⁶ These percentages vary from those of the previous section because they have been calculated on the basis of a different set of countries.

⁷ According to the IMF, the appropriate tax and revenue regime for many resource-rich developing countries typically combines: *i*) a modest *ad valorem* royalty; *ii*) the standard corporate income tax (CIT); *iii*) a tax targeted explicitly on rents.

Such a regime would ensure that:

- A balance is struck between the challenges that each instrument poses for tax administration. However, royalties need not be as easy to administer, nor rent taxes so hard, as is sometimes believed.

- Thanks to the royalty, some revenue arises from the start of production;

energy and mining projects are characterised by the long term-duration of operations; this generates pervasive uncertainty with respect to exploration cost and associated risk,⁸ input costs, and political risk. Second, there are usually high sunk costs which create a time consistency problem, i.e. the government may be tempted to lure investors to invest in a project and renege promises once the investment is made. Third, there is also considerable asymmetric information between investors and governments notably on available geological data, revenues and costs. Fourth, the multinational dimension of the sector and the structure of the firms add a degree of complexity to tax administration. There is tax competition among different jurisdictions to attract investment and capital. Investors tend to structure activities taking into consideration differences between tax treaties so as to maximise net profits. Fifth, there is an on-going debate about ring-fencing resource projects and activities for fiscal purposes. In the absence of ring-fencing, extractive companies can use losses on one operation to offset profits on another. Ring-fencing protects fiscal revenues but increases risk for investors and therefore may impact on the decision to invest.

A regime is considered neutral if it does not affect the economic decisions made by investors. Rent taxes are neutral by construction since the tax base is defined above and beyond a normal return on investment. Signature, discovery and production bonuses are also neutral provided the investors decide to go ahead with the corresponding activities. Corporate Income Taxes are generally neutral but an excessive tax rate could reduce profitability below the rate of return on investment that investors demand on international capital markets, taking into account all the types of risks incurred. Since royalties do not even take account of profitability, they can turn otherwise profitable mining projects into loss-making ventures. Sliding scale royalties are an attempt to make royalty payments at least partially responsive to profitability by linking them to commodity prices. Of course, tax administrations have the option of adjusting royalty rates to reflect changes over time and differences across projects in terms of exploration and extraction costs. However, this represents a burden on the tax administration and the proliferation of *ad hoc* adjustments carries the risk of increasing the complexity of the tax regime. In addition, severe information asymmetries unavoidably make finding the optimal rate a challenging exercise, implying that often either rents are left untaxed or firms are discouraged from investing in some projects because of excessive royalty rates.

Policy objectives loom large in revenue and fiscal policy design ... There is no “one size fits all” in fiscal and revenue regimes for extractive industries: tax policy prescriptions need to take into account specific circumstances. As a matter of fact, fiscal and revenue regimes applicable to extractive industries vary greatly reflecting the producing countries’ specific objectives, context and needs as illustrated in Tables 1 and 2.

... involving complex trade-offs and various approaches to risk-sharing. Governments can either tax independently of profit, as with a royalty, at little risk except that of discouraging investment, or act as business partner to investors and see its tax revenues correlate with investor’s profits. Typically, the more a fiscal regime incentivises investors to carry out projects, the more the government stands to share risks and rewards with investors. A tax regime can be designed to be sensitive to losses and/or profit but this will make tax revenues more volatile.

- Thanks to the CIT, the normal return to equity is taxed at corporate level in the EIs as in other sectors and, moreover, foreign tax credits will be available where investing companies’ home countries (notably the US) tax them on worldwide income.
 - Thanks to the rent tax, that the government’s revenue rises as rents increase with higher commodity prices or lower costs; in so doing, it can also enhance the stability and credibility of the fiscal regime (though processes to allow renegotiation in a predictable fashion may also be needed);
 - There can be scope for the competitive allocation of licences or contracts. A bonus could be a bid variable (though of course use of a bidding system will affect the design of the tax and royalty elements in the system).

⁸ Reducing exploration risk through providing improved geological information could allow the government to take more informed decisions on taxes. Government could directly fund basic exploration or facilitate this exploration by others through speculative seismic surveys.

Table 1. Primary Government Objective and Relevant Mechanism

	Flat royalty	Sliding-scale royalty	Resource rent tax	CIT/VIT	State participation
Signature bonus					
Maximising government share over project life			x	x	
Securing early revenue	x	x			
Ensuring adequate incentives for exploration			x	x	
Visible share of commodity price increases		x			
Strategic ownership interest					x
Maximise resource utilisation			x	x	
Minimise administrative burden and risks	x	x			

Source: International Monetary Fund (2012), *Fiscal Regimes for Extractive Industries: Design and Implementation*, Fiscal Affairs Department, August 2012, Washington, DC.

Table 2. Context Variables and Propensity for Risk-Sharing or Early and Stable Revenue Streams

	Type of resources	Stage of resource development	Relative ability of a government to bear risk	Credit market access	Administrative and institutional capacity	The country's income level; its economic structure and the skills of its labour force
Propensity for risk-sharing and investment incentivisation	Commodities generating high and volatile rents. Governments find it politically challenging to let investors untaxed when the price of a major export commodity rises very fast. Conversely, royalties can discourage investment in projects with unpredictable and differed profitability.	Experimental projects require the government to be sensitive to costs incurred by investors at the early stages of a project in order to have exploration and development carried out.	The more effective its instruments to manage its revenues (e.g. via an effective stabilisation fund) and the larger its portfolio of projects to diversify fiscal risks over, the more the government can share risks and upside potential with investors.	Countries with relatively cheap and easy access to credit markets can afford to share more risks with investors. They can borrow on "rainy days" and can pay down their debts in "good times".	Rent taxation, commonly regarded as the best fit to share risk and encourage investment is often seen by governments as complex to implement. Therefore, it is often countries with the strongest administrative capacity that are able to share both risks and rewards with investors.	The more diversified the economy, and therefore the sources of revenues of the government, the more it can afford to take risks alongside investors.
Propensity for early payment by each project in isolation	Commodities with modest and predictable rents. The more predictable and stable a commodity price and extraction costs	Mature projects can generate incentives to tax beyond what would have encouraged investment ('obsolescing	A government in need of immediate and predictable tax revenues cannot afford to share risk with investors and	Countries that do not have access to international financing have an incentive to generate immediate	Royalties are often seen by governments as easy to implement because their implementation does not	Countries that rely heavily on a few large extractive projects to sustain their budgets will have incentives

	are, the more a simple royalty can be used by the government to generate immediate tax revenues. Such projects resemble more those of non-resource sectors, and therefore can alternatively be handled by the general corporate income tax system.	bargain' or 'hold-up problem'). Conversely, excessive deduction allowances for investment costs can incentivise over-exploitation.	has an incentive to opt for royalties that generate early and stable revenues.	liquidity by collecting royalties from the onset of projects. Such countries can also be challenged to make good use of high tax revenues when projects turn out to be highly profitable.	necessitate assessing the revenue and cost structure of producers. They therefore tend to be used more heavily by countries with low administrative capacity. Royalties are actually not as easy to manage as sometimes believed.	to avoid risk and to turn these projects into predictable streams of stable revenues by relying more systematically on royalties.
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Source: OECD Development Centre

Governments face the challenge of ensuring legal certainty and predictability while preserving fiscal policy space. Extractive companies invest with the expectation of making a profit commensurate with the risks involved and the cost of capital. Predictability in fiscal policy design provides an incentive for investment in the extractive sector. Fiscal credibility is like trust, time-consuming to earn, rapid to lose and laborious to earn back. States with nascent extractive industries, states privatising loss-making companies, or states recovering from civil war may make certain tax concessions or provide certain tax incentives in order to attract early investors. The main source of concern for investors is that at the end of a long and expensive exploration period, and after the expenditure of very significant resources on project development, their investment will be vulnerable to unilateral, unfavourable revision of fiscal terms, especially where circumstances have unexpectedly changed in the investors' favour through resource price increases or discovery of unanticipated large or rich reserves.⁹ The overall process in which this can occur has been described as the obsolescence bargain or the hold-up problem.¹⁰

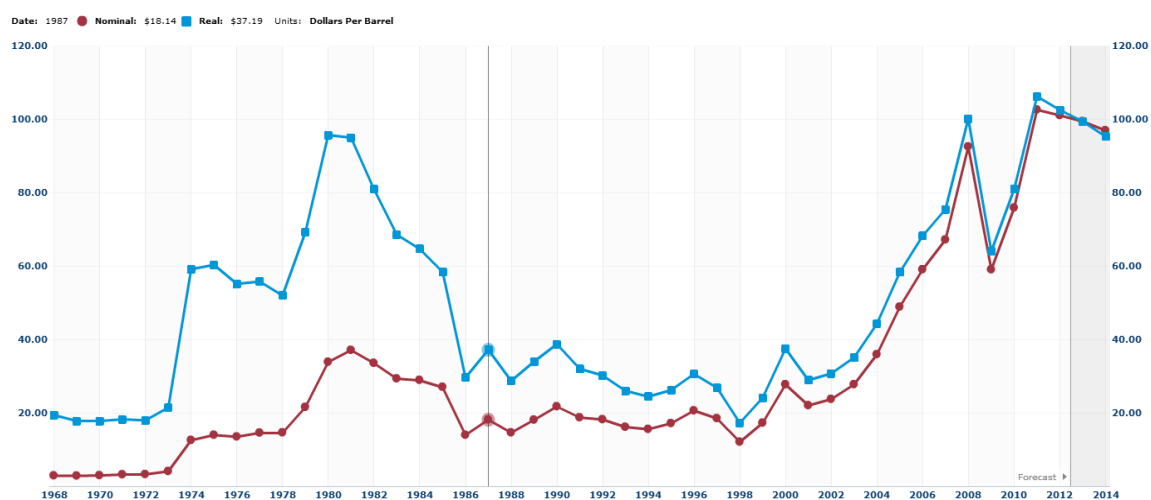
The most commonly found approaches to overcoming the hold-up problem are fiscal stabilisation clauses that may be incorporated into investor-state contracts or legislation. Stabilisation clauses are relatively rare in OECD countries but widespread in non-OECD countries.¹¹ From an investor's perspective, they help to protect foreign investments from the obsolescence bargain, in which the host state can use changes in circumstances to impose new requirements on investors. Host states may view stabilisation clauses as a way to foster a favourable investment climate. Increasingly common are renegotiation clauses allowing for periodic reviews of fiscal or other contract provisions. An alternative, discussed by the IMF, is the development of 'responsive' approaches, i.e. fiscal mechanisms that are sensitive to profits and losses incurred by the investors, thereby relieving some of the pressure for the renegotiation of contracts.

⁹ International Finance Corporation (2009), *Stabilization Clauses and Human Rights*, Washington DC, page 5: "Some industries (power, for example, and resource extraction) that involve large initial investment (to build infrastructure or search for resources) require relatively long periods of time to recoup costs and become commercially viable. Such investments are vulnerable to the "obsolescence bargain", in which the host state forces renegotiation, and the investor has a hard time refusing, due to significant sunk costs. The investor needs to be assured that, once the infrastructure is built or once the resources are found, obligations under the contract will not change to the detriment of the investment.

¹⁰ See inter alia Boadway, R., Keen, M., *Theoretical perspectives on resource taxation design*, in *The Taxation of petroleum and Minerals: Principles, Problems and Practice* (Daniel, P., Keen, M., McPherson, C., eds. Oxon, United Kingdom: Routledge, 2010).

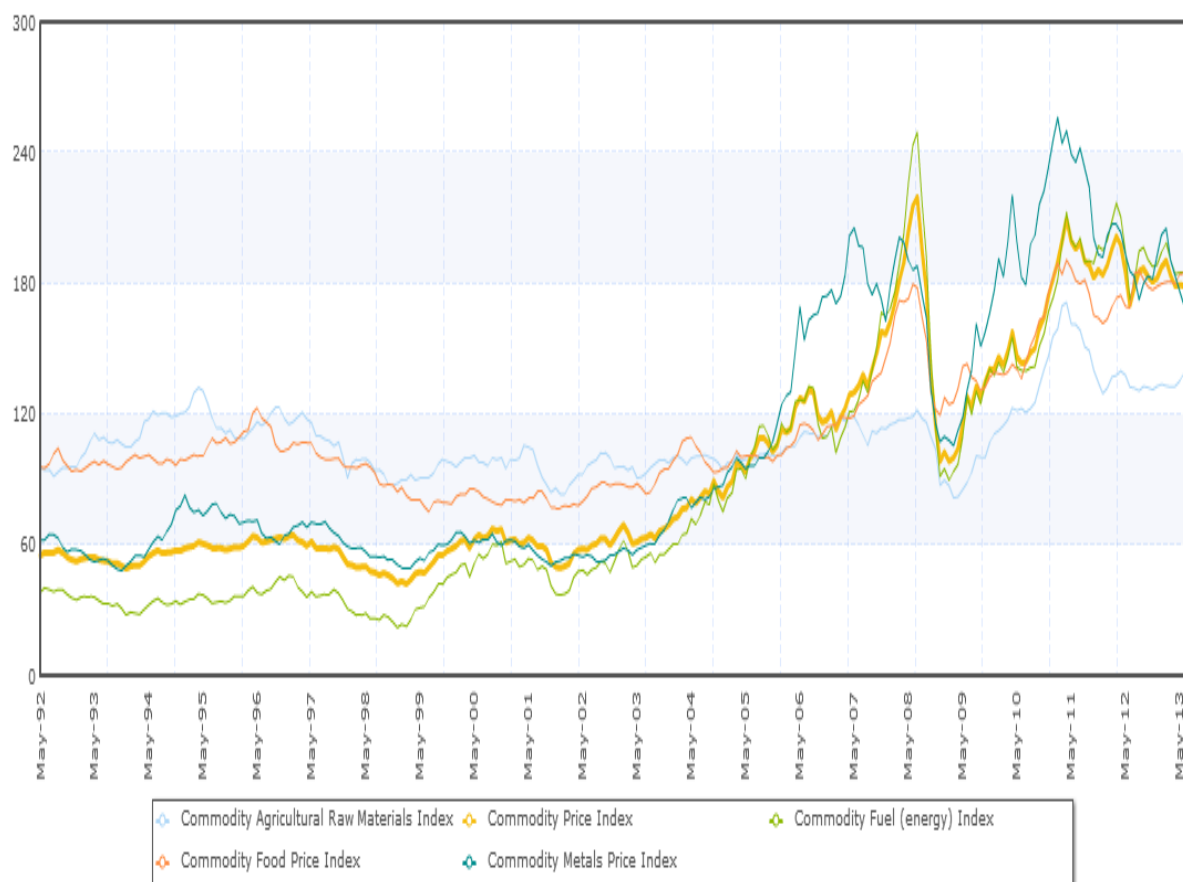
¹¹ International Finance Corporation (2009), *Stabilization Clauses and Human Rights*, Washington DC.

Figure 1. Nominal and Real Oil Prices in USD – 1968 – 2014 (forecast)



Source: US Energy Information Agency - <http://www.eia.gov/forecasts/steo/realprices/>

Figure 2. Commodity Price Indexes 1992 – 2013



Source: IMF via <http://www.indexmundi.com/commodities/>

Figure 1 plots the nominal (WTI prices) and real (inflation-adjusted) price of crude oil. The strong and sustained pick up from the end of the nineties is clearly identifiable. The drop and the subsequent recovery around the financial crisis are also notable. While the nominal price of oil is still hovering around all-time highs, the graph shows that the real price of oil reached similar levels in the early eighties during the second oil shock. Going forward, most analysts expect oil prices to remain high but not to repeat their rapid rise of the last decade. Indeed, while at high oil prices, new reserves will be discovered, these reserves will not be economically viable at the prices experienced for a large part of the nineties.

Figure 2 plots five different indexes of commodity prices. It illustrates the fact that while each family of commodities has separate dynamics, there is a high degree of correlation between these series. In other words, economic factors that sustain or undo the oil commodity super-cycle are likely to have a similar effect on other commodities. Of course, for commodities produced in a restricted number of countries, supply factors (such as rising geopolitical tensions in a key producing region) can drive a more or less temporary wedge between the direction taken by the price of this commodity and others.

Several factors complicate the outlook, however. While, for the time being, outright resource exhaustion is not foreseen anymore for most minerals and fossil fuels, replacement deposits typically have higher exploration costs. This is best exemplified by the case of off-shore oil exploration. Quality-wise, maturing deposits tend to offer ores of declining quality. As mining companies need to look for resources in ever more remote areas, their operations are increasingly faced with additional challenges related to infrastructure, transport and electricity supply. The grim view of ore quality and extraction costs needs to be balanced by the fact that exploration and extraction technology have continued to evolve rapidly in the recent past. Notable examples include the use of fracking technology to access shale gas and deep-water drilling to access off-shore oil. While technological progress needs to be financed, technological advances do help to turn marginal deposits into economically viable ventures.

Producing countries may offer direct and/or indirect incentives to encourage investments in the extractive sector. Tax incentives can take several forms: tax holidays (a temporary reduction or elimination of a tax), reduction on CIT rate for certain sectors or for export companies, accelerated investment allowances (whereby the investors can bring forward the amortised cost of capital for tax purposes), investment tax credits (allowing the investor to deduct a percentage of the investment cost), reduced taxes on dividends and interests paid abroad, preferential treatment of long-term capital gains, deductions for qualifying expenses (R&D, export marketing expenses, exemptions from indirect taxes) and export processing zones.

Tax incentives for promoting investment are often overrated. Most international studies have shown that general economic and framework conditions, rather than incentives, are far more important in determining the size and quality of investment flows. Lack of co-ordination amongst governmental agencies can lead to foregone government revenues. Nonetheless, countries often have multiple laws offering incentives, whose design and administration lie with separate ministries. In 1980, no low-income sub-Saharan African countries had tax free zones, 50% did so by 2005; in 1980 40% offered tax holidays, by 2005 about 80% did so. Eleven out of fifteen member states of the Southern African Development Community offer tax holidays to certain types of investors, nine of them offer a full exemption from company tax during the holiday period. Often these different ministries do not co-ordinate their work on incentives, with the result that the incentives often overlap and are not entirely consistent. Incentives can also be exploited by investors or by those administering them. Despite the popularity and widespread use of incentives, there generally have not been systematic reviews of their effectiveness, either by individual countries or groups of countries. Yet, dramatic turnarounds are possible. For example, prior to 2006,

Mauritius had an extensive set of tax incentives. A major tax reform was undertaken in 2006 which included the removal of most tax holidays, exemptions and investment tax credits.¹²

Investors do not consider tax incentives as a top three motivation factor for investment decisions in West and Central Africa. In only 4 out of 15 countries in the Latin America and Caribbean region, are they regarded as one of the top three drivers of investment decisions. In South East Europe investors indicate that, rather than encouraging FDI, special tax incentives were either not taken into account or operated to discourage investment – provisions were difficult to track, understand or comply with and/or invited corrupt behaviour on the part of tax officials, tending to increase project costs and uncertainty.¹³

The principal function of the tax system is to raise the revenues necessary to fund government expenditures, as well as provide incentives and correct potential externalities. The tax system can also be used directly to achieve public policy objectives through the application of special measures such as low tax rates, exemptions, deductions, deferrals and credits. These measures are often described as tax expenditures because they achieve policy objectives at the cost of lower tax revenue. Tax incentives are also known to generate opportunities for corruption. Further, once a particular tax incentive is introduced, a constituency demanding it is created. This can make it politically difficult to remove the tax incentive once it is no longer needed or has been shown to be ineffective. The importance of addressing the governance of tax incentives was raised in 2011 by the IMF, OECD, UN and World Bank in their joint report to the G20 on supporting effective tax systems in developing countries. The OECD Tax and Development Taskforce has produced draft principles¹⁴ to enhance the transparency and governance of tax incentives for investment in developing countries.

A tax expenditure report benchmarks the tax structure that applies the relevant tax rates to a broadly defined tax base – e.g. personal income, business income or consumption. Tax expenditures are then defined as deviations from this benchmark. Many countries estimate tax expenditure in reports; OECD (2010)¹⁵ reviews tax expenditure in OECD countries. As an example amongst OECD countries, the Department of Finance of Canada has published tax expenditures for personal and corporate income taxes as well as for the Goods and Services Tax (GST) since 1994. As an example amongst non-OECD countries, Morocco has elaborated a Tax Expenditure Report, which has been integrated into the government's budget process.¹⁶ Morocco's Tax Expenditure Report helped to raise the attention of Parliamentarians to how much tax revenues, and hence developmental public expenditure, is foregone through these types of tax incentives.

More broadly, producing countries often pursue active policies towards economic diversification and maximising opportunities for resource-linked development (see Section III) to broaden the fiscal base. In a

¹² OECD (2013), Draft Principles to enhance Transparency and Governance of Tax Incentives for Investment in Developing Countries, http://www.oecd.org/ctp/tax-global/Transparency_and_Governance_principlesENG_June2013.pdf.

¹³ *Ibid.*

¹⁴ http://www.oecd.org/ctp/tax-global/Transparency_and_Governance_principlesENG_June2013.pdf. The Draft Principles to enhance the Transparency and Governance of tax incentives for investment in developing countries are: *i)* make public a statement of all tax incentives for investment and their objectives within a governing framework; *ii)* provide tax incentives for investment through tax laws only; *iii)* consolidate all tax incentives for investment under the authority of one government body, where possible; *iv)* ensure tax incentives for investment are ratified through the law making body or parliament; *v)* administer tax incentives for investment in a transparent manner; *vi)* calculate the amount of revenue forgone attributable to tax incentives for investment and publicly release a statement of tax expenditures; *vii)* carry out periodic review of the continuance of existing tax incentives by assessing the extent to which they meet the stated objectives; *viii)* highlight the largest beneficiaries of tax incentives for investment by specific tax provision in a regular statement of tax expenditures, where possible; *ix)* collect data systematically to underpin the statement of tax expenditure; *x)* enhance regional co-operation to avoid harmful tax competition.

¹⁵ OECD (2010), *Tax Expenditures in OECD Countries*, OECD Publishing, doi: [10.1787/9789264076907-en](https://doi.org/10.1787/9789264076907-en)

¹⁶ OECD (2013), Draft Principles to enhance Transparency and Governance of Tax Incentives for Investment in Developing Countries, http://www.oecd.org/ctp/tax-global/Transparency_and_Governance_principlesENG_June2013.pdf.

context where the workforce is low-skilled, the costs associated with the implementation of local content requirements may result in the negotiation of lower royalty and/or corporate income tax rates.

Governments are vulnerable to abusive transfer pricing practices and to a lack of enforceability of the arm's length principle. Transfer pricing rules serve to allocate income earned by a multinational enterprise among those countries in which the company does business. In many instances, the existing transfer pricing rules, based on the arm's length principle, effectively and efficiently allocate the income of multinationals among taxing jurisdictions. In other instances, however, multinationals have been able to use and/or misapply those rules to separate income from the economic activities that produce that income and to shift it into low-tax environments. This most often results from transfers of intangibles and other mobile assets for less than full value, the over-capitalisation of lowly taxed group companies and from contractual allocations of risk to low-tax environments in transactions that would be unlikely to occur between unrelated parties.

Transfer pricing applies not only to the sale of products and goods but also to the supply of services and the terms and pricing of loans or credit instruments such as pre-financing arrangements. The internationally accepted principle underlying transfer pricing determinations is the arm's length principle, which requires that, for tax purposes, related parties must allocate income as it would be allocated between independent entities in the same or similar circumstances.

Although all OECD and most non-OECD economies have domestic transfer pricing systems based on the arm's length principle, each domestic system has its own specificities and reflects domestic country positions on transfer pricing. In the context of the extractive industry sector, transfer pricing may represent a risk to the tax base of the host resource extraction jurisdiction where the taxpayer is a member of a multinational enterprise and enters into controlled transactions involving under-pricing of a sale of product to a related party or the over-pricing of purchases or services to a related party. This results in an artificial shifting of profits from the host resource extraction jurisdiction to a lower tax jurisdiction outside the host state with the result that the tax payments to the host state are reduced. In such cases, transfer pricing may arise from the shifting of risks and intangibles, the artificial splitting of ownership of assets between legal entities within a group, and transactions between such entities that would not take place between independents. Transfer pricing issues related to the extractive industries include, but are not limited to, the under-pricing of the commodity or product, the over-pricing of technical fees, management fees, interest and other finance charges and royalties paid for the use of intellectual property. Abusive transfer pricing practices may be facilitated by the fact that extractive operations in host-countries typically require large inflows of financing, technology, physical capital and services from the headquarters of companies legally and fiscally based in their home country. On the other hand, the availability of publically quoted international prices may assist with identifying and addressing transfer pricing issues relating to the sale of the product. Such data may be useful in determining a comparable uncontrolled price to value controlled transaction. However all the facts and circumstances of the transaction must be taken into account when considering if the publically quoted prices provide a comparable uncontrolled price

Transparency also relates to transfer pricing and value-chain analyses. A key issue in the administration of transfer pricing rules is the asymmetry of information between taxpayers and tax administrations. This potentially undermines the administration of the arm's length principle and enhances opportunities for base erosion and profit shifting (BEPS). In many countries, tax administrations have little capability of developing a "big picture" view of a taxpayer's global value chain. In addition, divergences between approaches to transfer pricing documentation requirements lead to significant administrative costs for businesses. As part of its project on transfer pricing simplification, the OECD has released a White Paper on Transfer Pricing Documentation. This document is intended to initiate an international discussion of ways in which compliance with transfer pricing documentation requirements can be made simpler and more straightforward, while at the same time providing tax authorities with more focused and useful

information for consideration in connection with transfer pricing risk assessment and transfer pricing audits. The BEPS Action Plan also calls for the development of transfer pricing documentation rules that will enhance transparency for tax administrations, taking into account the compliance costs for business. The Action Plan indicates that “the rules to be developed will include a requirement that MNEs provide all relevant governments with needed information on their global allocation of the income, economic activity and taxes paid among countries, according to a common template”.

B. MAPPING EFFORTS TO TACKLE THE ISSUES

This section provides an initial mapping of initiatives by multilateral institutions as well as bilateral and multilateral donors designed to support resource revenue optimisation in developing countries. It complements the Extractive Industries Initiatives Database¹⁷ created by the World Bank Institute and available on the GOXI platform. The World Bank database is an evolving tool providing an overview of existing initiatives in the extractive sector and offering a breakdown by value chain and geographic focus. It covers initiatives carried out by international organisations, non-governmental organisations (NGOs) and a few bilateral donors (e.g. Australia, Norway). The present survey adopts a complementary approach covering major donor and international initiatives established by multilateral institutions with a breakdown by donor (bilateral and multilateral) or organisation.

Information and data collected are mainly taken from annual reports of bilateral agencies and multilateral institutions, publicly available official development co-operation strategies and other specific government sponsored programmes. The information is organised by donor. This mapping exercise aims to:

- highlight the objectives of donors’ development co-operation strategies in the raw materials sector as they relate to revenue optimisation;
- provide an overview of the activities and initiatives carried out to pursue each objective;
- identify the methodology and type of interventions used to achieve those objectives;
- identify the beneficiaries of donor support.

OECD initiatives

G8 and G20 countries support the OECD’s work to tackle base erosion and profit shifting (BEPS) by multinational enterprises and have also pledged to support developing countries to collect the taxes owed to them, with access to the global tax information they need.

The **OECD Forum on Tax Administration (FTA)** is working on new ways to improve large taxpayer compliance, including through building enhanced engagement and greater trust between the parties. The FTA has developed a framework of co-operative compliance for the large business segment that provides a sustainable basis for a relationship based on transparency, justified trust and confidence between tax administrations and business. The FTA continually refines this framework, also working with the business community, and recommends all countries to adopt it.

G8 countries have asked the OECD to find ways to address the concerns expressed by developing countries on the quality and availability of the information on comparable transactions that is needed to administer transfer pricing effectively. Application of the arm’s length principle to determine transfer

¹⁷ World Bank Institute, Extractive Industries Initiatives Database, <http://goxi.org/page/search-initiatives> (accessed 22 November 2013).

pricing between associated enterprises requires a comparison to be made between the prices in place in transaction between associated enterprises and those which would be made in similar transactions between independent enterprises in the same circumstances. This comparison is used to determine whether a transfer pricing adjustment is needed when computing the taxable profits of one or more of the associated enterprises. Comparability is, therefore, at the heart of transfer pricing. OECD and non-OECD countries frequently express concern about the availability and quality of financial data on transactions between unrelated parties that can be used for comparability purposes. The OECD is now exploring approaches it may adopt, in co-operation with other stakeholders, to respond to the G8's request.

The OECD Forum on Tax Administration report on "Dealing Effectively with the Challenges of Transfer Pricing"¹⁸ contains a survey of the best practices that have been developed to meet the challenges of transfer pricing. The report focuses on the practical experiences of a number of FTA member countries and some non-member countries. The report discusses ways in which the management of transfer pricing programmes can be optimised, so that transfer pricing audits and enquiries are conducted efficiently and in a timely manner for the benefit of MNEs and tax administrations alike. It identifies the practical steps tax administrations need to take to correctly identify transfer pricing cases that merit audit or enquiry and then to progress those cases to as early a conclusion as possible. The FTA recommends tax authorities to set clear rules and procedures for tax treatment of inter-affiliate transactions. Abuses with respect to both sales and purchases (interest costs, or subcontractor goods and services) can be mitigated by:

- preparing tax returns, for the purpose of tax assessment, using either an advance pricing agreement for any inter-affiliate transactions, or agreed *ex ante* prices, or arm's length market prices with benchmarking by reference to observable markets;
- requiring investors to provide both advance notification each year and an annual projection of the value (in terms of price and quantities) of any planned inter-affiliate transactions and then, based on the information provided, setting a ceiling for such transactions beyond which they will not be eligible to be deducted for tax purposes;
- requiring investors to identify all affiliated sales and justify their pricing; and
- referencing or incorporating into local legislation the OECD guidelines on transfer pricing.

In the case of interest costs, extra protection is often provided not only by benchmarking rates against observable market rates, but also by limiting the total debt allowed for purposes of tax calculations in the host state to a set debt-equity ratio ceiling (for example, a three to one ratio).

The OECD's feasibility study for **Tax Inspectors Without Borders (TIWB)** proposal¹⁹ explored the possibility of assisting tax administrations in developing countries investigating specific and complex tax cases. The TIWB concept was approved in June 2013, and will be developed as a project of the Task Force on Tax and Development, a multi-stakeholder body with participants from business, civil society, tax administrations and development agencies. The Tax and Development Programme is a joint initiative between the Centre for Tax Policy and Administration, and the Development Co-operation Directorate.

TIWB's objective is to enable the transfer of tax audit knowledge and skills to tax administrations in developing countries through a real time, "learning by doing" approach. Experts will be deployed to work directly with local tax officials on current audits and audit-related issues concerning international tax matters, and share general audit practices. In addition to improvements in the quality and consistency of

¹⁸ OECD (2012), Dealing Effectively with the Challenges of Transfer Pricing, OECD Publishing. doi: 10.1787/9789264169463-en

¹⁹ http://www.oecd.org/ctp/tax-global/TIWB_feasibility_study.pdf

audits and the transfer of knowledge to recipient administrations (tax administrations seeking assistance), broader benefits are also anticipated including the potential for more revenues, greater certainty for taxpayers and encouraging a culture of compliance through more effective enforcement. In June 2013, the G8 Leaders committed to take practical steps to support this initiative, including by making tax experts available,²⁰ and this support was reinforced by the G20 Leaders in August 2013.²¹

The aim is to launch TIWB in early 2014, after a six month implementation period which will include a number of pilot expert deployment projects. The areas of assistance could include transfer pricing, mutual agreement procedures, advanced pricing agreements, pre-audit risk assessment and case selection, and audit investigatory techniques. For example, an expert could be requested to assist with carrying out transfer pricing audits, who would work within the revenue authority's Transfer Pricing Unit.

The 2012 Progress Report of the G20 Development Working Group²² stresses that the effective mobilisation of domestic resources is key for development. Domestic revenues are recovering slowly in the wake of global financial and economic volatility. The G20 Development Working Group welcomed progress by International and Regional organisations in improving availability of tax revenue statistics and encouraged them to expand on this work. Data on government revenues from the extractive sector are scattered. The Extractive Industry Transparency Initiative (EITI) is contributing to shedding light on the streams of revenues between extractive firms and host governments participating in this initiative, including for the reconciliation of discrepancies where identified. Difficulties include the sector-specific and conventionally "non-tax" nature of many of the instruments used (e.g. bonuses, royalties and production sharing agreements), the need to identify resource-related components of the corporate income tax (CIT) and other standard instruments, and fragmented and inefficient data collection across ministries and agencies. The **OECD Revenue Statistics** publication presents a unique set of detailed and internationally comparable tax revenue data in a common format for all OECD member countries from 1965 onwards. OECD Revenue statistics methodology has been developed by and for tax policy makers, which makes it a tailor-made tool for decisions on tax policy. Data are compiled using the same methodology across countries, thus ensuring international comparability of data. Data are verified and validated by national authorities. This also helps build capacity in participating countries to develop statistics on accrued government revenues to facilitate well-informed tax policy analysis. *Revenue Statistics in Latin America* produced jointly by the Inter-American Centre of Tax Administrations (CIAT), the Economic Commission for Latin America and the Caribbean (ECLAC and the OECD, applies OECD Revenue Statistics methodology to 15 Latin American countries from 1990-2009). The methodology is currently being offered to Asian and African partner countries. Currently, OECD Revenue Statistics do not distinguish resource-related tax revenues. One question is whether this methodology could lend itself to such distinction with the benefit of shedding light on tax revenues paid by the extractive industries country by country, thereby contributing to improving transparency in the sector.

²⁰ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/207771/Lough_Erne_2013_G8_Leaders_Communique.pdf, at paragraph 28.

²¹ <http://www.g20.org/news/20130906/782776427.html>, at paragraphs 52 and 81.

²² http://www.g20mexico.org/images/stories/docs/g20/conclu/2012_Progress_Report_Of_The_Development_Working_Group.pdf

Bilateral initiatives

Donor country	Institutions	Official document / Strategy	Objectives	Description	Methodologies / Outputs	Beneficiaries / Partners
Australia	Department of Foreign Affairs and Trade (DFAT) Australian Aid Program	Australia's Mining for Development Initiative Strategy (M4D) ²³	Support developing countries to maximise the benefits from their mineral resource sectors. Australia focuses on three pillars to meet this objective: - Strengthening the management and governance of the extractives sector; - Improving extractives revenue management; and - Improving the flow of resources to build thriving local communities.	<p>The flagship of Australia's Mining for Development Initiative is the International Mining for Development Centre, a collaboration between the University of Western Australia's Energy and Mineral Institute and the University of Queensland's Sustainable Minerals Institute.</p> <p>The Centre was established with a USD 31 million grant from the Australian Government to provide advice, education and training services to developing countries. It works closely with Australian universities and research institutions to build capacity in mining governance and sustainable development through transfer of world-leading knowledge to developing countries in Africa, Latin America and Asia. The Centre does this by delivering courses, workshops and conferences, hosting study tours and commissioning action research. Linkages have been created with universities and research institutions in developing countries to host mining for development leaders through fellowships and build knowledge and leadership networks.</p> <p>The Centre has delivered some 36 courses and workshops over more than 6 000 training days, to more than 1 100</p>	<p>Research and training (courses, workshops and conferences, hosting study tours, commissioning action research, fellowship) Financial and technical assistance Partnership building Contribution to the IMF Topical Trust Fund on Managing Natural Resource Wealth</p>	Partners include: Governments, international organisations, industry and civil society, including universities (Asia-Pacific; Africa; Latin America)

²³ AusAid, *Australia's Mining for Development Initiative*, October 2011, Canberra, <http://aid.dfat.gov.au/aidissues/Documents/mining-for-development.pdf>.

				<p>people from 36 developing countries. The Centre has also commissioned 25 research projects, hosted 11 Fellows and presented two international conference events for hundreds of overseas delegates. Feedback shows the Centre is on the right track and demand for its services programme is increasing.</p> <p>Further examples of Australian assistance around revenue collection include:</p> <ul style="list-style-type: none"> - Assisting Liberia to establish a Natural Resources Tax Unit in the Treasury - Training and mentoring to improve the Ministry of Finance's macroeconomic management, leadership of the national budgeting process and revenue collection capabilities in Indonesia and Timor Leste 		
Canada	- CIDA - Canadian International Institute for Extractive Industries and Development	Sustainable Economic Growth Strategy ²⁴	Strengthen tax collection capabilities	<ul style="list-style-type: none"> - Supporting the role of the Tanzania Minerals Audit Agency in monitoring and auditing mining operations to improve environmental management and facilitate the maximisation of Government revenue from the mining sector - Assisting the federal Ministry of Economy and Finance in adopting a new extractive sector model for collecting resource royalties and helping municipalities to establish sound resource-management practices in Peru 	Technical assistance and capacity building	Governments (Latin America, Tanzania, Mozambique, etc.)

²⁴ Canadian International Development Agency (CIDA), *Stimulating Sustainable Economic Growth, CIDA's Sustainable Economic Growth Strategy*, [http://www.acdi-cida.gc.ca/INET/IMAGES.NSF/vLUIImages/EconomicGrowth/\\$file/Sustainable-Economic-Growth-e.pdf](http://www.acdi-cida.gc.ca/INET/IMAGES.NSF/vLUIImages/EconomicGrowth/$file/Sustainable-Economic-Growth-e.pdf).

France	- Comité interministériel de la coopération internationale et du développement (CICID) - Agence française de développement (AFD)	Mineral Resources and Development in Africa (2008) ²⁵	Manage the information necessary to exploit assets	- Establishing partnership between the French Geological Survey (BRGM) and Kazatomprom - Improving data availability on 9 raw materials in Africa to strengthen negotiating position vis-à-vis multinational companies	Partnership building Research and capacity building (creation of national and sub-regional expert groups)	Private sector Governments (13 African countries, Kazakhstan, Afghanistan, etc.)
Norway	NORAD	Oil for Development (2005) ²⁶	Improve revenue management	- Strengthening institutional capacity focusing on government take, tariffs, fees, auctions, production sharing agreements, state ownership and tax treaties, and petroleum funds. Assistance includes both economic and legal expertise.	Technical assistance (economic and legal) and training	Governments (core countries: Angola, Bolivia, Ghana, Mozambique, Sudan, South-Sudan, Timor-Leste, Uganda); other countries (Cuba, Iraq, Ivory Coast, Lebanon, Liberia, Nicaragua, Nigeria, São Tomé and Príncipe, Sierra Leone and Tanzania)

²⁵ Interministerial Committee for International Cooperation and Development (CICID), *Mineral Resources and Development in Africa*, Strategic Guidelines Document, May 2008, http://www.diplomatie.gouv.fr/IMG/pdf/mineral_resources_DOS_2010.pdf.

²⁶ NORAD, *Oil for Development Programme*, Annual Report 2011, May 2011.

Multilateral initiatives

Initiative	Secretariat / Leading institution	Official document / Strategy	Objectives	Description	Methodologies / Outputs	Beneficiaries / Partners
African Legal Support Facility	African Development Bank (AfDB)		Support African governments in the negotiation of commercial transactions	<ul style="list-style-type: none"> - Strengthening African governments' legal expertise and negotiating capacity in debt management and litigation, natural resources and extractive industries management and contracting, investment agreements, and related commercial and business transactions - Providing grants and advance funds to African countries for legal advice from top legal counsel in these areas. 	Legal advice and technical assistance	African Governments
African Mining Vision African Mineral Development Centre	<ul style="list-style-type: none"> - AfDB - African Union (AU) - UN Economic Commission for Africa (UNECA) 	<ul style="list-style-type: none"> - The African Mining Vision (AMV) (2008) - Action Plan for implementing the AMV (2011) - Minerals and Africa's Development: the International Study Group Report on Africa's Mineral Regimes (2013 - endorsed by AU and UNECA)²⁷ 	<ul style="list-style-type: none"> - Leverage resources from mining for local development - Reinforce countries' capacity for contract negotiation - Integrate mining into industrial and trade policy - Open out mining's enclave status 	<p>Nine programme clusters:</p> <ul style="list-style-type: none"> - Enhancing revenues and mineral rents management - Developing geological and mining information systems - Building human and institutional capacities - Fostering the development of viable artisanal and small scale mining - Improving mineral sector governance - Supporting research and development - Tackling environmental and social issues - Promoting linkages and diversification - Mobilising mining and infrastructure investment 	Technical assistance Capacity building	African Governments
Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development (IGF)	Canada	Mining Policy Framework ²⁸	Reinforce governance all along the value chain in the mining sector	Exchanging and promoting good governance practices in the following areas: legal and policy environment; financial benefit optimisation; socio-economic benefit optimisation; environmental management; post-mining transition; artisanal and small-scale mining	Annual plenary meetings and regional events	45 member countries
IMF Managing Natural Resource Wealth Topical	IMF		Strengthen macro-economic management and revenue collection capabilities	<ul style="list-style-type: none"> - Supporting countries in targeted areas such as resource tax policy, revenue administration, macroeconomic policy, asset and liability management and resource statistics 	Technical assistance	Governments

²⁷ UNECA and AU, *International Study Group Report on Africa's Mineral Regime*, United Nations Economic Commission for Africa and African Union, November 2011, Addis Ababa.

²⁸ Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development, *A Mining Policy Framework - Mining and Sustainable Development: Managing one to advance the other*, revised October 2013, <http://www.globaldialogue.info/MPFOct2013.pdf>.

Trust Fund				- Design a template to collect data on government revenues from natural resources (developed in co-ordination with EITI)		
Other IMF TA programmes	- IMF Fiscal Affairs department (FAD) - IMF Monetary and Capital Markets department (MCM)		Strengthen macro-economic management and revenue collection capabilities	- Facilitating management and investment of resource revenues (focus of MCM TA on asset and liability management) - Strengthening revenue administration capacities	Technical assistance Macroeconomic policy advice in the context of IMF surveillance activities (Article IV consultations) Programs	Governments
IMF analytical tools	IMF FAD and Research department and Policy Review department		Provide policy analysis and advice with regard to long- and short- to medium- term macro-fiscal considerations	- FARI (Fiscal Analysis of Resource Industries): a micro-forecasting tool to model information about the country's resources, field by field and contract by contract and forecast how much resource revenue can be generated under a variety of tax regimes scenarios - A fiscal toolkit focusing on fiscal management issues to analyse revenue volatility, fiscal sustainability and policy options for macroeconomic management - Sustainable Investment Tool for Resource-Rich Developing Countries: a macro model to check sustainability of country's public investment plans - A model to assess the external account of resource-rich countries under various scenarios	Modelling tools	Country pilots (e.g. Mozambique)
Ulaanbaatar Group on Statistics for Economies based on Natural Resources ²⁹	United Nations Statistics Division		Collect data on mining industry activities and accurately measure the industry's contribution to the economy and its impact on other social sectors and the environment	- develop methodological and practical guidelines and recommendations by pooling best theoretical and methodological practices - serve as a forum for sharing the expertise of national and international statistical organisations and other interested parties - develop practical manuals and recommendations to ensure coverage, reliability, accuracy and relevance of statistical data and support the efforts made by countries with large mining sectors to implement the System of National Accounts 2008, the System of Environmental-Economic Accounting and the revised Framework for the Development of Environmental Statistics	Guidelines and standards definition and promotion Knowledge sharing	National statistical offices Governmental organisations International organisations Countries involved include:

²⁹ <http://unstats.un.org/unsd/methods/citygroup/ulaanbaatar.htm>

						Australia, Azerbaijan, Brazil, China, India, Iran, Kazakhstan, Lesotho, Madagascar, Mexico, Mongolia, Russian Federation and Vietnam.
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C. GAPS IDENTIFIED AND PROPOSED OUTPUT RESULTS FOR THE POLICY DIALOGUE ON NATURAL RESOURCE-BASED DEVELOPMENT

Gap identified: Designing revenue policy to cope with volatility issues and the problem of the obsolescence bargain to improve predictability and incentivise investments. By allowing the government to automatically generate more tax revenues when the resource price increases, responsive approaches take away the pressure from governments (and the corresponding fear for investors) to renegotiate contracts, while preserving their fiscal policy space. In an era where resource rents are likely to come under pressure from sliding resources prices, rent generation by improving tax policy and administration becomes a priority. Failing to get fiscal policy right would put at risk the achievements of resource-rich countries in the past decade. Indeed, resource taxes have made a significant contribution to the government budget of resource-rich countries. Furthermore, the contribution of the extractive sector to economic growth in resource-rich countries has been significant. If resource prices were to slump, this situation would imperil the government budgets of many resource-rich countries. It would also cause their economies to shrink as long as other sectors do not take over.

The Policy Dialogue will benefit, as appropriate, from the knowledge base and advancements made in OECD work led by the Committee on Fiscal Affairs on Base Erosion and Profit Shifting, feeding in lessons on transfer pricing, the Tax Inspectors Without Borders experience and policy work on comparables.

Objective	Proposed Intermediate Output Results	Proposed Final Output Result
Increase responsiveness of fiscal and other revenue-generating mechanisms Enable producing countries to maximise tax collection while preserving their ability to attract investment Revenue mobilisation and attraction of good investments in the extractive sector.	Inventory and cost-benefit analysis of different fiscal and revenue-generating mechanisms Metrics paper on quantitative approaches to assessing and comparing impact and effectiveness of different regimes. Experience sharing on how to improve the efficiency of tax incentive regimes	Revenue-generating framework with sufficiently built-in responsiveness and reactivity enabling countries to adjust their fiscal policies to price volatility and cost fluctuations and provide incentives for investment and sound long-term revenue management.

Gap identified: work to limit BEPS

Objective	Proposed activity
<i>Transfer pricing knowledge sharing</i>	The Policy Dialogue will benefit, as appropriate, from the knowledge base and advancements made in OECD work led by the Committee on Fiscal Affairs on Base Erosion and Profit Shifting, feeding in lessons on transfer pricing, the Tax Inspectors Without Borders experience and policy work on comparables.

Gap identified: Extractive Industries Revenue statistics		
Objective	Proposed Intermediate Output Results	Proposed Final Output Result
<i>Improve availability of revenue statistics from the extractive sector</i>	Establish the challenges and benefits of accounting for resource-related revenues.	Offer to participants (and the global community) a reliable set of estimates of resource-related revenues across participating countries .
<p>Methodology: Thematic Sub-Group on "Revenue Optimisation" involving interested participating countries. Country-based comparative analysis of tax and non-tax revenue-generating mechanisms developed by the Secretariat with the involvement of experts from participating countries. This work would be jointly carried out by the OECD Development Centre, the OECD Centre for Tax Policy and Administration and the Development Co-operation Directorate, in collaboration with the International Monetary Fund.</p>		

SECTION II

HOW TO USE TRANSPARENCY AS AN EFFECTIVE TOOL FOR ACCOUNTABILITY AND DEVELOPMENT?

A. FRAMING THE ISSUES

Why is transparency important to promote accountability and development?

Transparency is a basic principle of good governance... While transparency is a general feature of good governance, it is particularly pronounced in extractive industries. This is primarily due to the complexity of the sector, the financial values involved, the lack of global governance mechanisms and the imbalance of power and asymmetry of information between the different interest groups involved. In this complex setting, transparency provides societies with information and can allow people to monitor the activities of both governments and other relevant actors, while helping to facilitate an open debate and consensus building on natural resource governance in a society. Accountability on the other hand is about creating the necessary structures which can make governments answerable for their actions. Transparency is not an aim in itself but can be a catalyst in enabling better accountability. In order to achieve this, however, transparency needs to be combined with functioning institutions that provide checks and balances and facilitate an effective stakeholder dialogue.

... and it yields benefits for governments, companies and society at large. By upholding transparency in extractives, *governments* demonstrate commitment to reform and anti-corruption, leading to improvements in the tax collection process and enhanced trust and stability in a volatile sector. *Companies* benefit from an improved and more stable investment climate in which they can better engage with citizens and civil society. *Citizens and civil society* benefit from receiving reliable information about the sector that they can use to better hold the government and companies to account. This increased stability encourages long-term investment in production and thus improves the reliability of supply. Taken together, transparency and accountability are thus the foundation for trust in government and effective management of natural resources.

What are the main common challenges that producing countries face?

Mainstreaming transparency and accountability across the value chain. Transparency and accountability can be considered cross-cutting topics because they apply in all phases of the natural resource value chain.

The Extractive Industries Value Chain



Source: The World Bank Extractive Industries Technical Advisory Facility, <http://go.worldbank.org/8ALSQBQEO>

Transparency and accountability are generally recognised as the most important pillars of governance in extractive industries. However, most initiatives have thus far focused on one or two elements of the value chain from contract transparency to transparency in the implementation of sustainable development projects. The emphasis has been put, in particular, on transparency with regard to sharing the financial benefits between investors and host governments, particularly on revenue collection. Other important aspects include: *i*) transparency around the decision to extract; *ii*) transparent procedures for issuing licences and allocating mineral or hydrocarbon exploration or production rights in the design of legal, contractual and policy frameworks; *iii*) publicly reported fiscal regimes that avoid non-published special deals and minimise tax evasion and avoidance in the collection of taxes; *iv*) transparent revenue management and allocation; *v*) transparent and participatory budgeting based on development priorities with effective sustainable development outcomes; and *vi*) a shared understanding on how the wealth generated through a country's natural resources richness can be translated into broad-based sustainable development.³⁰

Lack of transparency in extractive industries has often exacerbated symptoms of weak governance. The lack of transparency and accountability at any one link in the value chain can contribute to creating growing mistrust and conflict. A collapse of the management of the resources in turn leads to instability and ultimately to failure. It can: *i*) reduce the probability of corruption being discovered and thus make it more attractive; *ii*) make it easier to capture rent-seeking; *iii*) exacerbate principal agent problems between citizens and their governments or between the bureaucracy and elected officials; as well as *iv*) reduce the demand for domestic taxation – and thus demands for accountability – while undermining democracy or post-conflict democratisation processes.³¹

³⁰ http://www.eisourcebook.org/625_4TransparencyandAccountability.html (accessed on 16 July 2013). Using transparency of information around extractive projects life-cycle (See Section III).

³¹ Kolstad, I. and A. Wiig, Is transparency the key to reducing corruption in resource rich countries? In *World Development* 37 (3) (2009), pp. 521.

Table 3. Overview of selected Extractive Industries Payment disclosure standards

Initiative	US Dodd-Frank 1504	EU Transparency Directive	EITI	Global Reporting Initiative
Scope	mandatory	mandatory	voluntary ³²	voluntary
Value Chain phase	Revenue Collection	Revenue Collection	Revenue Collection	Revenue Collection
Payments to national governments	yes	yes	yes	yes
Payments to sub- national governments	yes	yes	no	no
Spending on locally based suppliers	yes	no	no	yes
Payments related to transport and export	no	no	no	yes
Payments received by Governments	no	no	yes	no
“project by project”	yes	yes	yes*	yes
Definition of “project”	yes	yes	yes*	no

Note: *new EITI Standard adopted in May 2013

Source: Authors' elaboration

Examples of country experiences

Liberia

Liberia's abundant resources in iron ore, diamonds, gold, timber and rubber have long been fueling conflicts and corruption in the country. Upon general elections in 2005, the new government led by President Ellen Johnson Sirleaf vowed to ensure growth, development and reconciliation by also improving transparency in the extractive sector. In this context, Liberia joined the EITI and established the Liberia EITI (LEITI) as a multi-stakeholder body responsible for the implementation

³² Once a country has joined, it becomes mandatory for all operators in that country.

process. Since then, the LEITI has concentrated efforts on ensuring inclusiveness and raising awareness on the initiative throughout the country.³³

The first report covered a time span from July 2007 to end June 2008 and was published in February 2009. The report provided detailed insights on the revenues paid by mineral and forestry companies to the government on a company-by-company basis.

The report covered almost thirty companies from the oil, gas, and mining sectors and showed that the government received about USD 30 million in taxes and royalties between July 2007 and June 2008. The report contributed to establishing a clear link between collected taxes and spending allocation and to improving citizens' understanding of the contribution of the extractive sector to the country's broader socio-economic development. The report allowed the identification of discrepancies between claimed payments by companies and claimed revenues by the government. The matching exercise revealed a number of discrepancies in reporting by both parties. One of the successes of the LEITI lies in that it managed to create a forum in which the different stakeholders including the government, companies and communities could engage in a frank and open dialogue on these issues. Communities' representatives were also able to raise questions about how money was being allocated and used, and whether communities were receiving a fair return on resource extraction.

In October 2009, following the publication of the first LEITI report, Liberia became the second country in the world after Azerbaijan to achieve EITI compliance. The second LEITI report was produced in February 2010 and showed significant improvement in terms of sector and firm coverage, and of reporting results. The LEITI introduced a sanction system for companies that failed to report.

The LEITI- Act

In July 2009, following the publication of the first EITI report, the government enforced the LEITI Act, which required all government agencies and extractive companies to comply with the LEITI process. The Act goes beyond core EITI requirements. It further calls for a systematic review by a multi-stakeholder forum, the archiving and public availability of all operating contracts and licences. Any company that does not adhere to this Act is subject to sanctions.³⁴ Furthermore, Liberia's national oil company launched in 2012 a national consultation programme on oil policy that will review and assess the roles of all stakeholders and in particular of the country's political subdivisions.³⁵

Spillover effects of the LEITI

The country stands out as one that has used the initiative to drive wider reforms and introduce a culture of transparency and accountability beyond the extractive sector. The government under Johnson Sirleaf started this process by disclosing all mining, oil and forestry contracts on the EITI website, making Liberia one of the first countries to adopt comprehensive natural resource contract transparency. The LEITI initiative also contributed to enriching the Liberian legislation: the new Liberian Draft Petroleum Policy has a section devoted to transparency measures and includes provisions requiring the disclosure of the beneficial ownership structure of mining companies, revenue forecasts and information on oil sale prices.³⁶ The LEITI experience also highlighted the importance of

³³ Rich E. and T. Negbalee Warner, *Addressing the roots of Liberia's conflict through the Extractive Industries Transparency Initiative*. In: Paivii Lujala/ Siri Aas Rustad: High-Value Natural Resources and Peacebuilding. London 2012, pp. 202.

³⁴ *Ibid.*

³⁵ Shepherd, Ben: Oil in Uganda. International Lessons for Success. The Royal Institute of International Affairs, February 2013, p. 24.

³⁶ Africa Progress Panel (2013), Africa Progress Report 2013, pp. 73.

political leadership and will in driving the reforms. The country still faces challenges related to corruption, vested interests and pressures on civil society organisations, institutional constraints.

Multi-stakeholder dialogue for enhanced transparency and accountability: The cases of Ghana and Mongolia

Ghana

The *Public Interest and Accountability Committee* (PIAC) is a legally constituted body that brings together representatives of academia, NGOs, churches and traditional authorities to monitor and report on the oil sector. It was established in the context of the *Ghanaian Petroleum Management Act* in order to monitor compliance with the law and serve as a forum for public debate on oil-related issues. Started in September 2011, a first assessment report has already been released. Though the PIAC is mandated by law, it does not have any coercive or enforcement capacity. Nor does it have any formal role in the legislative process. Thus, it can keep away from partisan debate and from the influence of political parties. However, the PIAC has not yet been given the financial or material support mandated by law, and tensions have arisen with parliamentarians seeing PIAC as potentially usurping their role. The PIAC has already held public consultations in the oil-producing Western region of the country, which is seen as an important step in ensuring that local interests and concerns are adequately voiced in the national debate. It therefore also offers an interesting experience of implementation of a mechanism for local consultation and transparency.

Mongolia

With more than 7 500 identified mineral deposits, Mongolia offers the example of a country that has been able to establish a viable national dialogue platform to improve transparency and accountability across the extraction value chain. Mongolia has long faced severe challenges related to the environmental and socio-economic impact of its extractive activities. Civil society organisations were concerned that mineral development would only benefit foreign companies and the government and was not bringing any positive outcome for the local economy and communities. This prompted them to call for stronger dialogue, co-operation and transparency over mineral development and its broader impact on the country's development. From 2006 onwards, officials from the Mongolian government, companies and NGOs were brought together by the *Asia Foundation* to explore more co-operative approaches to the challenges faced in the extractive industries. The dialogue led to the elaboration of a *Declaration on Responsible Mining* based on eight key principles and a definition of responsible mining. This was a first essential step towards the creation of the independent *Responsible Mining Initiative for Sustainable Development (RMI)*, which received official recognition as an NGO in 2007. The Declaration on Responsible Mining is supported by more than 60 organisations.

In 2010, the World Economic Forum convened a multi-stakeholder roundtable in collaboration with the Office of the President and the Government of Mongolia to discuss issues related to responsible mineral development and identify practical solutions. Supported by the Ministry of Mineral Resources and Energy, one of these groups works with the RMI to develop criteria to measure progress on advancing responsible mining. Within the scope of its collaboration with the WEF, Mongolia also launched the *Partnership Against Corruption Initiative (PACI)*. As of December 2011, over 150 business leaders across all industry sectors have pledged to adopt a zero-tolerance policy

against corruption under the joint leadership of the Government of Mongolia and the Mongolia National Chamber of Commerce.³⁷

B. MAPPING EFFORTS TO TACKLE THE ISSUES

This section provides an initial mapping of initiatives by multilateral institutions as well as bilateral and multilateral donors designed to support transparency for resource-based development. Information and data collected are mainly taken from annual reports of bilateral agencies and multilateral institutions, publicly available official development co-operation strategies and other specific government sponsored programmes. This mapping exercise aims to:

- highlight the objectives of initiatives and donors' national policies, including development co-operation strategies and other specific programmes in the raw materials sector as they relate to transparency;
- provide an overview of the activities carried out to pursue each objective;
- identify the methodology and type of interventions used to achieve those objectives;
- identify the beneficiaries of donor support.

OECD initiatives

The **OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas**³⁸ recommends that companies disclose – in line with EITI criteria – all taxes, fees and royalties paid to governments for purposes of mineral extraction, trade and export, regardless of whether these payments are made in an EITI country. To develop this, the OECD partnered with producing, processing and consuming countries, business and civil society from the outset. The OECD Guidance is used by G8 countries in particular to promote supply chain transparency by companies operating from their jurisdictions. The US Securities and Exchange Commission has recognised the OECD Guidance as an international framework for responsible mineral sourcing that can help companies perform due diligence and meet the disclosure requirements under the Dodd-Frank legislation (section 1502). The EU has also agreed to consider the OECD Guidance as the common reference for any new transparency initiatives in this area.

In 600 mine sites in the DRC and Rwanda, the implementation of the Guidance through industry programmes has enabled 45 000 artisanal miners – who in turn provide support for 225 000 dependents – to bring the minerals they dig to the legitimate market. The UN Group of Experts on the DRC has reported increases in revenues and transparency in the DRC and Rwanda's mineral sector as a result of the new information made available through the due diligence efforts of the private sector.

The **OECD Guidelines for Multinational Enterprises**, Chapter on Disclosure, reads: “Enterprises should ensure that timely and accurate information is disclosed on all material matters regarding their activities, structure, financial situation, performance, ownership and governance. This information should be disclosed for the enterprise as a whole, and, where appropriate, along business lines or geographic areas. Disclosure policies of enterprises should be tailored to the nature, size and

³⁷ WEF (2013), *Responsible Mineral Development Initiative 2011 - A Framework for Advancing Responsible Mineral Development*. Geneva 2011, p. 13.

³⁸ OECD (2013), *OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas: Second Edition*, OECD Publishing. doi: 10.1787/9789264185050-en

location of the enterprise, with due regard taken of costs, business confidentiality and other competitive concerns”.

International Financial Institutions

The International Financial Institutions (IFIs) such as the World Bank, the International Finance Corporation (IFC), the European Bank for Reconstruction and Development (EBRD), the African Development Bank (AfDB), the Asian Development Bank (ADB), the Inter-American Development Bank (IDB), the European Investment Bank (EIB) as well as the International Monetary Fund (IMF), have provided significant funding to governments and the private sector for resource-linked development. In order to ensure more responsible and equitable management of resource revenues, many civil society organisations advocate that the IFIs require revenue and contract transparency as a condition for lending to extractive industries. In this context, several initiatives have been implemented by IFIs in order to adhere to this plea of conditionality as a tool to improve transparency.

The World Bank is also actively promoting more effective resource management practices by both national governments and companies in its mining and petroleum sector and country work. Following a review of its lending and support activities in oil, gas and mining production, it has placed considerable emphasis on revenue transparency. The IMF has itself issued the Guide on Resource Revenue Transparency which applies the principles of the Code of Good Practices on Fiscal Transparency to the unique set of transparency challenges faced by countries that derive a significant share of revenues from natural resources.³⁹

³⁹ International Monetary Fund (IMF), *Guide on Resource revenue Transparency* (2007), pp. 3.

Bilateral initiatives

Donor country	Institutions	Official document / Strategy	Objectives	Description	Methodologies / Outputs	Beneficiaries / Partners
Australia	Department of Foreign Affairs and Trade (DFAT) Australian Aid Program	Australia's Mining for Development Initiative Strategy (M4D) ⁴⁰	- Strengthen the management and governance of the extractives sector (pillar 1) - Improve extractives revenue management (pillar 2)	- Providing funds to the Extractive Industries Transparency Initiative (EITI); the Multi Donor Trust Fund Donor to the Extractive Industries and the Technical Assistance Facility (EI-TAF) - Improving governance in mining and hydropower sectors in Laos and reforming education programmes - Sharing Australian regulatory practices with 18 African countries - Providing technical expertise to assist the Government of South Sudan to establish a governance framework for the minerals sector (including developing the law) and to develop the capacity of the Ministry of Petroleum and Mining to administer the sector.	Financial and technical assistance Knowledge sharing	Partners include: governments, international organisations, industry and civil society, including universities (Asia-Pacific; Africa; Latin America)
Canada	- CIDA - Canadian International Institute for Extractive Industries and Development	Sustainable Economic Growth Strategy ⁴¹	Build resource governance	- Supporting the implementation of EITI in Tanzania and Mozambique - Strengthening the capacity of the Ministry of Energy and Mines to manage public companies in the energy sector in Peru - Helping develop guidelines and a CSR management system for members of the Regional Association of Oil and Natural Gas Companies in Latin America and the Caribbean	Technical assistance and capacity building International standards and guidelines promotion	Governments (Latin America, Tanzania, Mozambique, etc.)
European Union	European Commission (DG)	- Africa-EU Cooperation on Raw Materials ⁴²	Improve resource governance	- Improving economic, financial, fiscal and judicial governance in general	Budget support Capacity building to	Governments (Africa)

⁴⁰ AusAid, *Australia's Mining for Development Initiative*, October 2011, Canberra, <http://aid.dfat.gov.au/aidissues/Documents/mining-for-development.pdf>.

⁴¹ Canadian International Development Agency (CIDA), *Stimulating Sustainable Economic Growth, CIDA's Sustainable Economic Growth Strategy*, [http://www.acdi-cida.gc.ca/INET/IMAGES.NSF/vLUIImages/EconomicGrowth/\\$file/Sustainable-Economic-Growth-e.pdf](http://www.acdi-cida.gc.ca/INET/IMAGES.NSF/vLUIImages/EconomicGrowth/$file/Sustainable-Economic-Growth-e.pdf).

⁴² DG Enterprise and Industry, *Africa-EU Cooperation on Raw Materials*, http://ec.europa.eu/enterprise/magazine/articles/industrial-policy/article_11029_en.htm (accessed 13 November 2012).

	Enterprise and Industry)	- The 2008 Raw Materials Initiative ⁴³		- More specifically improving governance in natural resources management and transparency of mining deals and of mining revenues	manage public finances, manage natural resources in a sustainable way and negotiations with mining companies Grants, risk capital and loans to the private sector through the European Development Fund	
	European Commission	- New EU Accounting Directive - New EU Transparency Directive	Foster transparency of payments	On 9 April 2013, the EU agreed to adopt new transparency requirements for oil, gas, mining and logging companies which require extractive and logging companies to publish details of the payments they make to governments for access to natural resources in every country they operate in. Once the Directives have entered into force, EU Members States will have 24 months to transpose them into national law. Companies will publish the information annually in a report.	Law enforcement	Applies to all companies that are registered in the EU or that are listed on EU regulated stock markets but are incorporated outside the EU
France	- Comité inter-ministériel de la coopération internationale et du développement (CICID) - Agence française de développement (AFD)	Mineral Resources and Development in Africa (2008) ⁴⁴	Improve the attractiveness, governance and transparency in the sector	- Supporting the expansion of a gold mine and the establishment of a training centre for the state-owned mining company in Mauritania - Facilitating equitable and sustainable partnership agreements between governments and companies - Supporting the action of civil society organisations	Financial assistance Advocacy and international standards and guidelines promotion	Governments (13 African countries, Kazakhstan, Afghanistan, etc.) Companies NGOs

⁴³European Commission, *The Raw Materials Initiative – Meeting Our Critical Needs for Growth and Jobs in Europe, 2008*, <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2008:0699:FIN:en:PDF> (accessed 18 November 2013).

⁴⁴ Interministerial Committee for International Cooperation and Development (CICID), *Mineral Resources and Development in Africa*, Strategic Guidelines Document, May 2008, http://www.diplomatie.gouv.fr/fr/IMG/pdf/mineral_resources_DOS_2010.pdf.

Germany	- Federal Ministry for Economic Cooperation and Development (BMZ) - DEG (German Development Bank) - GIZ (German Development Agency)	BMZ Mineral and Energy Resources as a Factor of Development (2010) ⁴⁵	Foster good governance	- Improving mining regulations - Promoting transparency in financial flows and supply chains - Advising on monetary and fiscal transparency , e.g. in Ghana	Technical and financial assistance International standards and guidelines promotion	Governments (West and Central Africa, Central Asia, in particular Laos, Mongolia, Kazakhstan, Mozambique, Namibia, Ghana, etc.)
Italy	Ministry of Economic Development		Improve resource governance	- Taking part in EITI , the International Copper Study Group (ICSG), the International Nickel Study Group (INSG), and the International Lead and Zinc Group (ILZSG)	International standards and guidelines promotion	Governments
Netherlands	Ministry of Foreign Affairs	Conflict-Free Tin Initiative (CFTI) ⁴⁶	Ensure credible traceability and due diligence system in the extractive sector	- Piloting new tracking and tracing procedures to ensure the conflict-free status of the supply chain in Eastern Congo. Following the conflict-free testing phase of the pilot, the initiative will address other mine-site sustainability issues. - Providing end user demand and overcoming the <i>de facto</i> embargo following the enforcement of national laws and implementation of international standards that have led companies to shy away from purchasing minerals from the Kivus	Development of procedures Evaluation and certification	Governments (pilot in DRC) Industry partners, including mines, smelters, component manufacturers and product manufacturers (end-users) (Philips, Tata, Motorola, BlackBerry, Alpha, etc.)
Switzerland	State Secretariat for Economic Affairs (SECO), Economic Cooperation and Development	Swiss Cooperation Strategies 2013-2016 (country level) ⁴⁷	- Ensure transparency and traceability in the raw material sector; promote the sustainability of individual value chains and	Leading several projects to ensure - Transparency Initiative in the raw material sector - Responsible supply chains of minerals - Sustainable gold value chain - Climate change mitigation - Managing Natural Resource Wealth	Partnership building Technical and financial assistance	Governments (Egypt, Ghana, Mozambique, South Africa, Tanzania, Bolivia, Colombia, Peru, Indonesia, Mongolia, Vietnam, Albania, Azerbaijan,

⁴⁵ Federal Ministry of Economic Cooperation and Development (BMZ), *Mineral and Energy Resources as a Factor of Development*, Strategy Policy Paper 04E-2010, February 2010, Bonn, http://www.bmz.de/en/publications/type_of_publication/strategies/StrategyPaper301_04_2010_en.pdf.

⁴⁶ <http://solutions-network.org/site-cfti/> (accessed 18 November 2013)

⁴⁷ State Secretariat for Economic Affairs (SECO), <http://www.seco-cooperation.admin.ch/themen/05404/05405/05406/index.html?lang=en> and Swiss Agency for Development and Cooperation (SDC), *Swiss Cooperation Strategy, Mongolia 2013–2016*, February 2013, Bern.

			develop sustainable reporting			Kyrgyzstan and Ukraine)
	- Federal Council - Interdepartmental platform on commodities	Report of the interdepartmental platform on commodities to the Federal Council ⁴⁸	Improve conditions and reduce risks related to commodity trade	- Providing 17 recommendations with measures to safeguard Switzerland's integrity and attractiveness and as a business location, provide greater transparency in terms of finance and production flows and pursue commitment to responsible corporate governance at multilateral and bilateral levels	National institutional reforms	Commodity companies Cantons Civil society Federal administration (relevant departments to implement individual recommendations)
United Kingdom	Department for International Development (DFID)		Strengthen government institutions	- Strengthening government institutions involved in raw materials policy in Sierra Leone and Afghanistan - Strengthening the legal mining sector in DRC	Technical assistance	Governments (Sierra Leone, Afghanistan, DRC)
United States	U.S. Securities Exchange Commission	U.S. Dodd-Frank Act Section 1504 ⁴⁹	Foster transparency of payments	- Making it mandatory for companies listed on US stock exchanges to report payments to the government on a project- by- project basis. These payments include royalties, taxes, fees, production entitlements, bonuses, dividends, and infrastructure improvements that equal or exceed USD 100 000 during the most recent fiscal year, either as a single payment or a series of related payments. Affected companies are required to report their payments in publicly accessible yearly reports, beginning	Law enforcement	Applies to all publicly traded companies in the US regardless of whether they are based in the US or abroad, privately or state-owned. Covered companies include eight of the ten world's largest mining companies and 29 of the 32 largest internationally active oil companies.

⁴⁸ Federal Department of Foreign Affairs, Federal Department of Finance and Federal Department of Economic Affairs, Education and Research, *Report of the Interdepartmental Platform on Commodities to the Federal Council*, 27 March 2013, Bern.

⁴⁹ H.R. 4173 (111th): Dodd-Frank Wall Street Reform and Consumer Protection Act. In early October 2012, the American Petroleum Institute (API) had sued the U.S. Securities and Exchange Commission (SEC,) seeking to strike down Section 1504 of the Dodd-Frank Wall Street Reform Act and overturn its regulations claiming that the Commission's interpretation of transparency provisions of section 1504 were unconstitutional. On July 2, 2013, judge John Bates D.C. District Court issued an opinion vacating the rule and remanding it to the SEC, concluding that the SEC needs to reconsider two aspects of the rule: (a) the requirement that all company payment reports be made public, and (b) the decision not to grant any exemptions for foreign law prohibitions. Section 1504 remains in place as law, but the remand means the SEC will need to determine the most effective way to implement the law following the Court's ruling. The SEC will have two months to decide whether to appeal or not. However, the API is well-supported with revenues of more than US\$200 million at its disposal, and member companies including ExxonMobil, Chevron, Shell, and BP. http://www.revenuewatch.org/news/press_releases/court-takes-backward-step-sec-extractives-disclosure-rules, last accessed on July 16th 2013.

				with fiscal years ending after 30 September 2013. The implementing rule of the U.S. Dodd-Frank Act Section 1504 issues by the U.S. Securities Exchange Commission has been successfully challenged before US courts. Therefore, the practical implications related to the implementation of the new requirements still need to be clarified.		
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Multilateral initiatives

Initiative	Secretariat / Leading institution	Official document / Strategy /Guidelines	Objectives	Description	Methodologies / Outputs	Beneficiaries / Partners
African Mining Vision African Mineral Development Centre	- AfDB - African Union (AU) - UN Economic Commission for Africa (UNECA)	- The African Mining Vision (AMV) (2008) - Action Plan for implementing the AMV (2011) - Minerals and Africa's Development: the International Study Group Report on Africa's Mineral Regimes (2013 - endorsed by AU and UNECA) ⁵⁰	- Leverage resources from mining for local development - Reinforce countries' capacity for contract negotiation - Integrate mining into industrial and trade policy - Open out mining's enclave status	Nine programme clusters: - Enhancing revenues and mineral rents management - Developing geological and mining information systems - Building human and institutional capacities - Fostering the development of viable artisanal and small scale mining - Improving mineral sector governance - Supporting research and development - Tackling environmental and social issues - Promoting linkages and diversification - Mobilising mining and infrastructure investment	Technical assistance Capacity building	African Governments
Extractive Industries Transparency Initiative (EITI)	EITI Board and International Secretariat based in Oslo	EITI Standard ⁵¹	Improve transparency of payments and transactions in the extractive sector	- Ensuring full disclosure and verification of company payments and government revenues from oil, gas and mining New standards were adopted during the 6th EITI Global Conference on 23-24 May 2013 in	Publication of annual EITI Reports Audit and activity reports	Governments (23 compliant countries and 16 candidate countries)

⁵⁰ UNECA and AU, *International Study Group Report on Africa's Mineral Regime*, United Nations Economic Commission for Africa and African Union, November 2011, Addis Ababa.

⁵¹ EITI International Secretariat, *The EITI Standard*, 11 July 2013, http://eiti.org/files/English_EITI%20STANDARD_11July_0.pdf.

				Sydney. They involve: (a) that each country's EITI sets its own objectives concerning the new standards, (b) a sound presentation of the context, (c) new disclosure requirements, (d) annual activity reports (e) improved EITI Validation procedures (f) a simplified and restructured framework (g) making the data machine- readable		80 of the largest oil, gas and mining companies Civil society organisations
EITI ++ Extractive Industries Technical Advisory Facility (EI-TAF)	World Bank		Implement good policy and practice along the entire natural resources value chain	- Going beyond the EITI initial effort, providing countries with technical assistance – financial and policy-related – throughout the entire value chain of extractive industries, and helping them to improve management of resource-related wealth	Technical and financial assistance	Governments (initial focus is on Ssub-Saharan Africa - pilot countries Guinea and Mauritania) Companies Local communities
Kimberley Process Certification Scheme (KPCS)	Joint governments, industry and civil society initiative chaired, on a rotating basis, by participating countries		Stop the flow of conflict diamonds – rough diamonds used by rebel movements to finance wars against legitimate governments	- Setting extensive requirements on its members to enable them to certify shipments of rough diamonds as 'conflict-free' and prevent conflict diamonds from entering the legitimate trade	Development and promotion of guidelines and standards	54 participants, representing 80 countries, with the European Union and its Member States counting as a single participant (approximately 99.8% of the global production of rough diamonds) Actively involved also: the World Diamond Council, representing the international diamond industry, and

						civil society organisations, such as Partnership-Africa Canada
Global Reporting Initiative (GRI)	Non-profit organisation	<ul style="list-style-type: none"> - GRI guidelines (G4), leading global standards in sustainability reporting – now in their fourth generation⁵² - Mining and Metals Sector Supplement (MMSS)⁵³ - Oil and Gas Sector Supplement (OGSS)⁵⁴ 	Promote transparency and accountability in sustainability performance, as well as continuous improvement against a universal framework	<ul style="list-style-type: none"> - Providing companies from different industries with a reporting structure for their sustainability efforts focusing on social, governance, environmental and economic indicators <p>The MMSS complements the G4 Guidelines and includes supplementary reporting tools specific to the mining and metals sector. It covers the complete mining and metals project life cycle (from exploration to post-closure) while the main contextual issues include: the control, use, and management of land, the contribution to national economic and social development, community and stakeholder engagement, labour relations, environmental management, relationships with artisanal and small-scale mining and an integrated approach to minerals use.</p>	Promotion of reporting standards Development of indicators and formats	Applicable to organisations of any size, type, sector or geographic region, and have been used by thousands of organisations worldwide.
International Council on Mining and Metals (ICMM)	private sector initiative (2001)	<ul style="list-style-type: none"> - EITI principles - Resource Endowment initiative (2003) - Mining and Metals Sector Supplement (MMSS) developed in partnership with GRI through a multi-stakeholder working group 	Act as a catalyst for performance improvement in the mining and metals industry	- addressing development challenges while maintaining their social and environmental responsibilities as well as their transparency and accountability commitments	Development and promotion of standards and guidelines	- 20 mining and metals companies - - 30 national and regional mining associations and global commodity associations

⁵² Global Reporting Initiative, Reporting Framework, <https://www.globalreporting.org/reporting/reporting-framework-overview/Pages/default.aspx> (accessed 18 November 2013)

⁵³ Global Reporting Initiative, *Sustainability Reporting Guidelines & Mining and Metals Sector Supplement (MMSS)*, <https://www.globalreporting.org/resourcelibrary/MMSS-Complete.pdf> (accessed 18 November 2013)

⁵⁴ Global Reporting Initiative, *Sustainability Reporting Guidelines & Oil and Gas Sector Supplement (OGSS)*, <https://www.globalreporting.org/resourcelibrary/OGSS-G3.1-Complete.pdf> (accessed 18 November 2013)

Extractives for Development Initiative (E4D)	World Bank in partnership with the ICMM, the WEF, the InterAmerican Development Bank (IADB), and the Natural Resource Charter (NRC), mining companies, CSOs and academia		Generate, Mobilise and disseminate knowledge to improve governance in mining, oil and gas sectors	Examples of projects - Study on “Rents to Riches – The Political Economy of Natural Resource-Led Development” - EI Sourcebook, a compendium of principles and good practice in mining governance produced by the University of Dundee’s Centre for Energy, Petroleum and Mineral Law and Policy in partnership with World Bank - Mining Partnerships for Development Toolkit developed by ICMM - Online professionals’ social network on extractive industries, GOXI, managed by the World Bank Institute.	Development of online and analytical tools	Governments Extractive industries CSOs
Promoting Good Governance of Natural Resource in Fragile States	World Bank (E4D team with support of the Governance Partnership Facility)		Promote good governance of natural resources in fragile states	- Developing local capacity in natural resource management - Informing the development of well-targeted interventions that leverage World Bank Group and donor comparative advantages - Guiding the formulation of multi-stakeholder dialogue and action across the extractive industry value chain - enhancing transparency, accountability and efficiency for enhanced development outcomes	Grants Technical assistance	Fragile states and emerging producers
Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development (IGF)	Canada	Mining Policy Framework ⁵⁵	Reinforce governance all along the value chain in the mining sector	Exchanging and promoting good governance practices in the following areas: legal and policy environment; financial benefit optimisation; socio-economic benefit optimisation; environmental management; post-mining transition; artisanal and small-scale mining	Annual meetings	45 member countries
Petroleum Governance Initiative (PGI)	Norway and the World Bank	Norwegian Oil for Development programme ⁵⁶	Improve governance in the petroleum sector	- Supporting developing countries in the implementation of appropriate petroleum governance frameworks, including resource and revenue management and linkages to environmental and community issues.	Technical assistance and capacity building training Consensus-building and advocacy	Governments (Bolivia, Cambodia, Colombia, Mauritania, Peru, and Yemen)

⁵⁵ Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development, *A Mining Policy Framework - Mining and Sustainable Development: Managing one to advance the other*, revised October 2013, <http://www.globaldialogue.info/MPFOct2013.pdf>.

⁵⁶ NORAD, *Oil for Development Programme*, Annual Report 2011, May 2011.

					Global knowledge management and dissemination of best practice and lessons learned	Industries Local communities
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C. GAPS IDENTIFIED AND PROPOSED OUTPUT RESULTS FOR THE POLICY DIALOGUE ON NATURAL RESOURCE-BASED DEVELOPMENT

<p>Gap identified: Closing loopholes at operational level to overcome the data deluge and consistency challenge. Creating a level playing field for reporting of payments made to governments. In 2011 the G8 committed “to setting in place transparency laws and regulations or to promoting voluntary standards that require or encourage oil, gas, and mining companies to disclose the payments they make to governments⁵⁷.” Recent developments in Canada (public announcements on forthcoming measures), the US (US Dodd Frank section 1504) and the EU (Directive on transparency requirements) on transparency of payments made by extractive industries may expose companies in the extractive sector to multiple reporting methodologies (e.g. Dodd-Frank, EITI, EU regulations etc.). Different types of disclosure for the same country would also be confusing for users. Albeit compliant with each instrument, companies may be vulnerable to claims that they have published contradictory or inaccurate reports, due to differences in approaches or in the interpretation of specific requirements. Standardised reporting templates could be used at national and international level to generate comparable information across different jurisdictions. Building common understanding around key principles would minimise the risk of proliferation of standards at various levels, foster harmonisation of efforts and consistency in interpretation (definition of payments, sensitive commercial information, security), and would lead to comparable, understandable and accessible data, thus effectively strengthening accountability mechanisms. Such a standardized template would also enable civil society to make more effective use of the available information.</p>		
Objective	Proposed Intermediate Output Results	Proposed Final Output Result
<p><i>Contribute to the creation of an operational level playing field</i></p> <p><i>Promote common understanding of core issues.</i></p> <p><i>Reduce reporting fatigue and compliance costs for the extractive industry</i></p> <p><i>Enabling collected information to translate into effective demand for accountability</i></p>	<p>Feasibility of harmonised template that would allow companies to report on payments made to government only once, taking into account EITI, US 1504 and EU requirements.</p>	<p>Standardised reporting template</p>
<p>Methodology: Multi-stakeholder Thematic Sub-Group on “Transparency of Payments” involving interested participating countries, multinationals and civil society organisations. This work could be jointly carried out by the OECD Development Centre and the EITI, in collaboration with the World Bank.</p>		

Gap identified: While contract transparency is of crucial importance for enhanced public scrutiny, it does not necessarily lead to the negotiation of better deals. Besides contract disclosure legislation, resource-rich countries need help understanding these contracts and the implications associated with different available options for negotiation. Openness of contracting may generate pressure for renegotiation, thus contributing to further undermining predictability and stability needed for long-term extractive projects. A comparative analysis of key contractual provisions would foster better understanding of the implications associated with different available options. Selective disclosure of specific clauses may help overcome confidentiality issues or sensitivity around full contract disclosure. The comparative analysis may eventually lead to the development of model clauses that could form the basis for more balanced contract negotiations. This activity could effectively support initiatives designed to strengthen resource-rich countries’ capacity in contract negotiations, such as the African Development Bank’s African Legal Support Facility or the creation of a dedicated expert pool of counsellors without borders.

⁵⁷ See final Deauville G8 communiqué: <http://www.g8.utoronto.ca/summit/2011deauville/2011-declaration-en.html>

Objective	Proposed Intermediate Output Results	Proposed Final Output Result
<p><i>Enabling producing countries to negotiate better deals and make informed choices</i></p> <p><i>Proposed contribution to G8's efforts to strengthen capacity and help building the capacity of countries to manage their resources effectively</i></p>	<p>Comparative analysis of key contractual provisions</p>	<p>Model clauses as a basis for more balanced negotiations</p>

Gap identified: Extractive industries are particularly vulnerable to illicit financial flows, including the illegal payment of bribes to foreign public officials in order to win unfair advantages in cross-border business deals. Challenges in identifying beneficial owners of legal persons (both private and publicly listed) by law enforcement authorities can be a major obstacle to effectively detecting, investigating and prosecuting cases of the bribery of foreign public officials.

Objective	Proposed Output Result
<p><i>Enhanced understanding of dynamics and mechanisms used to channel illicit financial flows through the extractive sector</i></p> <p><i>Proposed contribution to G20 Anti-Corruption Working Group tasked to follow extractive transparency</i></p>	<p>Typology study of conduct, activities and types of entities that frequently give rise to illegal payments to foreign officials in extractive industries.</p>
<p>Methodology: The OECD Working Group on Bribery and WGB's monitoring activities dissect foreign bribery cases that have been detected and investigated, and therefore can support efforts to compile the relevant information about actual high risk profiles.</p>	

Gap identified: *Shifting the focus from disclosure compliance to information sharing for the creation of shared value.* So far, transparency has been mainly regarded as a compliance issue, rather than an enabling tool for host governments, companies and civil society to partner together to maximise opportunities for local development and fully exploit the potential for resource-linked development, in terms of jobs, value-added activities and infrastructure. Having a clear understanding of the employment and business opportunities associated with extractive projects throughout their entire life-cycle can pave the way for win-win outcomes for both host countries and investors. It is expected that this approach will provide incentives for both advanced and emerging economies as well as private and state-owned companies to value transparency as a useful means to deliver better development outcomes.

Methodology: Thematic Sub-Group on "Shared Value Creation and Local development" (See Section III)

SECTION III

HOW TO LEVERAGE NATURAL RESOURCES FOR STRUCTURAL TRANSFORMATION AND LOCAL VALUE CREATION

A. FRAMING THE ISSUES

Why leveraging natural resources for structural transformation and local value creation?

Natural resources offer important opportunities for furthering structural transformation. In many natural resource producing countries, the mining and extraction sectors account for a large share of GDP (see evidence presented in Section I) and an even greater share of foreign investment. The experience of successful resource-rich countries shows that leveraging natural resource activities for structural transformation is key to development. As the resource sector expands it creates opportunities for the rest of the economy: resource production requires a large range of supplies, from food for its workers to more technology-intensive activities such as software design, chemical analysis and customisation of machinery. In addition, resource exports generate important revenues for the state that can be invested in human capital (education and health) and in infrastructure, thereby creating opportunities for economic activities that are relatively intensive in these types of capital. These government revenues can also fund public services and potentially contribute to social development, to mitigating poverty and inequality and to improving the business and investment climate (see Section IV).

An initial comparative advantage in natural resources can therefore be leveraged to push the production possibility frontier outwards and create dynamic comparative advantages through diversification. If the country manages to use its resource endowment in this way, over time resources will become proportionally less important as the rest of the economy becomes larger. During this process resource production and the absolute amount of proven natural resources is actually likely to keep growing, as new technology and an improving regulatory framework lead to new discoveries, but resources will lose in importance relative to the rest of the economy.

However, enclave structures can prevent natural resources from supporting structural transformation. Often, lead extractive industry firms are part of multinational enterprises operating in established global value chains. These are usually characterised by long-term relationships with both suppliers and processors.⁵⁸ In many developing countries that remain highly resource dependent these international relationships – coupled with originally inadequate local human capital, infrastructure, and poor business climate – have often led commodity firms to operate in isolation from the rest of the domestic economy. In such cases, resource extraction remains the single activity carried out on site, while supplies are sourced from abroad and raw materials exported immediately after extraction. Resource extraction activities characterised by this lack of linkages with the rest of the domestic economy are referred to as ‘enclave economy’ activities. Due to inherent characteristics, this adverse

⁵⁸ UNIDO (2011), Promoting Industrial Diversifications in Resource Intensive Economies: the Experiences of Sub-Saharan Africa and Central Asia Regions, UNIDO, Vienna.

pattern is even more likely in the case of energy commodities and/or where offshore extraction is involved.

Generating production linkages with the local economy can trigger multiplier effects and stimulate local economic development through the provision of jobs and the transfer of technology and skills. Production linkages refer to business relationships between resource extraction firms and local enterprises active in the resource value chain. On the one hand, local enterprises can form part of the supply chain and provide inputs for lead commodity firms.⁵⁹ As inputs are required before and during resource extraction, these relationships are referred to as backward or upstream linkages. On the other hand, business relationships might exist between lead commodity firms and local enterprises which process their output. Since these processing (or ‘beneficiating’) activities take place after resource extraction, these relationships are referred to as forward or downstream linkages. Both backward and forward linkages increase the share of value creation from resource production captured and capitalised domestically. As lead firms stimulate local supplier networks and processing activities beyond their own immediate needs, horizontal linkages can develop outside of the natural resource value chain, thanks to spill-over effects such as technology transfer and skills enhancement, thereby helping to diversify economic activity.⁶⁰

Linkages with the supply chains of resource producers offer significant potential for employment creation. For example, in the case of the Zambian mining sector, it has been shown that for every ten direct jobs in mining, approximately seven are created in first-tier mining suppliers. In turn, the incomes generated in mining and supplier industries stimulate non-mining industries. Accordingly, the total amount of employment created through mining in Zambia is almost five times as high as direct employment in the sector.⁶¹ Similarly, in the case of the gold sector in Ghana, it has been shown that 2.8 jobs are created in first-tier mining supplies for each job directly created in mining. Furthermore, counting employment created not only in supply industries but also with their suppliers and in sectors on which incomes were spent, total employment generated (including informal employment) was 28 times as much as in gold mining operations themselves.⁶² A study by the World Bank investigating the employment effects of mines in Latin America, Canada and Spain found a range from 0.03 to 3.1 jobs created in mining supply firms alone for every direct job in the lead firms.⁶³

How can natural resource revenues be used to deliver further socio-economic benefits?

Creating positive spill-overs through linkages. Promoting the integration of resource sectors into the local economy via production linkages is one major policy instrument to ensure resource-based structural transformation and local multiplier effects. Governments play a crucial role in shaping framework conditions that align the interests of investors with national welfare. Production linkages refer to business relationships between resource extraction firms and local enterprises active in the resource value chain. They are categorised as follows:

⁵⁹ Lead firms can be defined as small, medium or large firms that have forward or backward commercial linkages with a significant number of micro, small and medium-sized enterprises in non-resource sectors.

⁶⁰ Kaplinsky, R. (2011), “Commodities for industrial development: Making linkages work”, Working Paper 01/2011, UNIDO.

⁶¹ McMahon, G. and B. Tracy (2012), “Firm and sector level mining benefits in Zambia”, mimeo, Oil, Gas and Mining Department, World Bank, Washington, DC.

⁶² Kapstein, E. and R. Kim (2011), The Socio-Economic Impact of Newmont Ghana Gold Limited, Stratcomm Africa, Haarlem.

⁶³ McMahon, G. and F. Remy (eds.) (2001), Large Mines and the Community. Socioeconomic and Environmental Effects in Latin America, Canada and Spain, published jointly by the International Development Research Center, Ottawa and the World Bank, Washington, DC.

- Backward linkages: Local enterprises can provide inputs (goods and services) for lead commodity firms⁶⁴ and form part of their supply chain;
- Forward linkages: Further business relationships exist where local enterprises process the output produced by lead commodity firms;
- Horizontal linkages: Through spill-over effects such as technology transfers and skills enhancement, horizontal linkages can develop beyond the natural resource value chain per se amongst the network of suppliers and downstream processing activities. For example, where a local software sector has developed to meet the needs of resource exploration, the level of local IT capabilities is sufficient for the economy to successfully enter into software development more broadly (Australia is an example).

Backward linkages

The great variety of inputs required and the necessity to adapt technologies to local conditions can offer significant opportunities to diversify the local economy, with relatively low barriers to entry compared to other diversification strategies:

- Lead commodity firms need to source a great variety of goods and services. In the short term, the establishment of domestic supply networks can focus on areas with low technological requirements suitable for low-skilled labour, matching the existing capabilities of the country. As capabilities increase throughout the process, activities can be extended accordingly. In the long term, technological spill-overs and the established local capacity and expertise can result in an internationally competitive network of supplier industries as illustrated by the experiences of Australia, Norway, Chile and South Africa (Box 1).
- The demand for new, sustainable technologies adapted to local conditions has been growing among resource producers and will continue to do so. Each mineral deposit features individual characteristics, which require new technological developments or the adaptation of existing techniques. Increasingly strict regulations on environmental sustainability demand more efficient use of water and energy and improved treatment of waste and emissions, which again call for innovative technological solutions. Where local suppliers work in close co-operation with lead mining firms, they can provide tailored solutions to particular challenges and thereby open up a niche market which global suppliers of mining equipment cannot competitively serve.⁶⁵ Although entering the high value added upstream segment is clearly challenging for a low-income country with a low skill base, policy strategies can be co-ordinated so as to build the country's ability for the achievement of the longer term objective of local value creation.

⁶⁴ Lead firms can be defined as small, medium or large firms that have forward or backward commercial linkages with a significant number of micro, small and medium-sized enterprises.

⁶⁵ Korinek, J. (2013), "Mineral resource trade in Chile: Contribution to development and policy issues", OECD.

**Box 1. Establishing competitive supplier industries:
The experiences of Australia, Norway, Chile and South Africa**

The need to adapt technology to local conditions offers an opportunity to set up local supplier networks for the resource industry. This is illustrated by Australia's experience, where a cluster of firms in construction, engineering, drilling, manufacturing logistics and services has emerged to meet the demand of mining firms. These firms are globally competitive and diversify their client base by supplying international clients through exports and offshore production.⁶⁶ By now, about 60-70% of mining software world-wide is supplied by Australian companies. The mining technology, services and equipment sector has shown an impressive annual growth performance of 20% between 2006/07 and 2008/09.⁶⁷ Existing engineering expertise enabled Norway to rapidly adapt to the requirements of the oil industry and set up a globally competitive supply sector. From the start of oil discovery, great emphasis was placed on the transfer of knowledge and control from large oil companies to Norway. Thereby, the existing engineering skills from the country's shipbuilding industry were rapidly adapted to oil exploration and drilling. Due to the specific characteristics of its oil reserves, Norway emerged as a world-class supplier of deep-water drilling platforms, and developed new approaches to exploration which came to be known as the "Norwegian school of thought".⁶⁸

Through the active promotion of backward linkages, a network of local suppliers to the Chilean resource sector has been established. To promote a transformative role for its resource sector, Chile does not focus on downstream industries, as it does not have a comparative advantage in those activities due to lower margins, substantial energy requirements and its location far from final markets. The promotion of an industry supplying equipment has been prioritised instead. The global evolution of the mining sector from vertically-integrated operations to one with a wide array of specialised and decentralised contractors has facilitated the process. Recently, successful partnerships have been developed between lead firms in the mining industry and specialised contractors to adapt technologies to the specific requirements of Chilean mines. This development was fuelled by private-sector demand and has been backed by government efforts.⁶⁹

In South Africa, the long-standing need to provide inputs to the domestic mining industry has led to the development of local technological expertise and of a network of local suppliers.⁷⁰ The upstream industry, based on the South African platinum group metals (PGM) industry, illustrates market-driven linkage development backed by government interventions. PGM-related mining operations in South Africa are the largest consumers of PGM-related inputs worldwide. The presence of this core clientele in South Africa provided a crucial stimulus towards the establishment of a local network of suppliers. This development was further facilitated by the existence of suppliers to other commodity producers in South Africa, whose expertise provided a strong foundation on which to build. Increased competition on world markets maintained pressure for cost effectiveness, which led to constant improvements in technology.⁷¹ South Africa is now a net exporter of mining equipment and specialist services.⁷²

Source: AfDB, OECD, UNDP and UNECA (2012), *African Economic Outlook 2013*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/aeo-2013-en>.

⁶⁶ Shann, E. (2012), "Maximising growth in a mining boom", Minerals Council of Australia, Kingston. http://www.minerals.org.au/file_upload/files/publications/mca_maximising_growth_in_a_mining_boom_FINAL.pdf

⁶⁷ Tedesco, L. and C. Haseltine, (2010), "An economic survey of companies in the Australian mining technology services and equipment sector 2006-07 to 2008-09", ABARE-BRS Research Report No. 10.07, Australian Bureau of Agricultural and Resource Economics – Bureau of Rural Science, Canberra.

⁶⁸ Wright, G. and J. Czelusta (2004), "The myth of the resource curse", *Challenge*, Vol. 47/2, pp. 6-38.

⁶⁹ Korinek, J. (2013), "Mineral resource trade in Chile: Contribution to development and policy issues", OECD.

⁷⁰ Morris, M., R. Kaplinsky and D. Kaplan (2013), One Thing Leads to Another: Promoting Industrialization by Making the Most of the Commodity Boom in sub-Saharan Africa, <http://tinyurl.com/CommoditiesBook>

⁷¹ Lydall, M. (2009), "Backward linkage development in the South African PGM industry: A case study", *Resources Policy*, No. 34, pp. 112-120.

⁷² Morris, M., R. Kaplinsky and D. Kaplan (2013), One Thing Leads to Another: Promoting Industrialization by Making the Most of the Commodity Boom in sub-Saharan Africa, <http://tinyurl.com/CommoditiesBook>

Forward linkages: given the right conditions, entering into the post-extraction value chain can be an opportunity to establish a manufacturing base. In some cases local processing as opposed to raw material exports can increase foreign exchange inflows, create higher wage incomes, lead to skill transfer and technological spillovers and provide a more stable economic base.⁷³ Other arguments often cited in favour of downstream linkages include expected reductions in transport costs due to the location of processors in proximity to raw material production, cheaper local supply,⁷⁴ as well as securing supply chains of key industrial inputs in a world where distant supply chains can result in major production disruptions e.g. in times of geo-political tensions or natural disasters.

Box 2. Downstream activities in Botswana's diamond sector

Botswana's exceptional role as a major source of diamond reserves enabled it to use its bargaining power to promote forward linkages. The government acquired expertise in the organisation of the industry through interaction with DeBeers and exploited its position to align the interests of the company with its national development strategy. In the 1980s, processing was promoted through the establishment of a cutting and polishing industry for diamonds in order to create employment, even though DeBeers strongly opposed the idea. Under government pressure three factories for cutting and polishing were established. However, none of them has ever been profitable. In 2005 the government used its bargaining power when renegotiating mining licences with DeBeers. Under the new agreement, 16 factories for cutting and polishing were licensed for operation. The government and DeBeers set up a 50-50 joint venture, the Diamond Trading Company, which controls diamond supply and is required to release a specified amount of diamonds to local manufacturing companies. It contributes to employment creation by setting targets for training domestic workers. Penalties for non-performance contribute to aligning incentives for DeBeers with Botswana's objectives.⁷⁵ As part of the sales agreement, DeBeers will further "transfer its London-based rough diamond aggregation and international sales activity to Botswana by the end of 2013. This has the potential to transform Botswana into a leading diamond trading and manufacturing hub".⁷⁶ However, due to the special characteristics of the diamond market and Botswana's outstanding role, its experience is rather exceptional and it cannot be generalised, nor easily replicated.

Source: AfDB, OECD, UNDP and UNECA (2012), *African Economic Outlook 2013*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/aeo-2013-en>

Policy options to promote linkages for local value creation

Export restrictions as a means to develop local industry: Many natural resource-rich developing countries struggle to establish competitive downstream processing capacities. Strong price pressures, lack of economies of scale, long distance to major consumer markets and insufficient availability of complimentary infrastructure (electricity, transport) are the main bottlenecks. Export restrictions can in theory incentivise local processing to overcome some of these bottlenecks by making the raw product, such as oil or ores, more expensive to export and relatively cheaper to process domestically. The most common export restrictions are export taxes, licensing requirements and full-out export prohibitions; taken together these types of restriction account for 97% of export restrictions on raw materials in

⁷³ UNECA and AU (2011), International Study Group Report on Africa's Mineral Regime, United Nations Economic Commission for Africa and African Union, Addis Ababa.

⁷⁴ Hausmann, R., et al. (2011), *The Atlas of Economic Complexity – Mapping Paths to Prosperity*, Puritan Books, New Hampshire.

⁷⁵ Morris, M., R. Kaplinsky and D. Kaplan (2013), *One Thing Leads to Another: Promoting Industrialization by Making the Most of the Commodity Boom in sub-Saharan Africa*, <http://tinyurl.com/CommoditiesBook>

⁷⁶ DeBeers (2011), *Report to Society*, <http://www.bloomberg.com/news/2012-06-20/tanzania-s-natural-gasreserves-almost-triple-on-new-finds-1-.html>

2010.⁷⁷ Other measures include export quotas and minimum export prices; see Box 3 for a list of export restriction measures.

Discouraging or prohibiting exports through taxes or quotas bears the promise to reduced raw material prices for domestic producers. This way, domestic processors are indirectly subsidised, which can increase their profitability, allowing them to become globally competitive. Within the country imposing the measure, profits are expected to shift from raw material producers to processors. As the downstream sector in the mining industry is usually more labour and technology intensive, the shift induced by export restrictions should theoretically trigger more investment in downstream technology and have a positive net employment effect.⁷⁸ Export restrictions favour domestic processors and foreign investments into domestic processing. The effect, however, depends on the share of input costs in total processing costs. Generally, input price reductions only favour direct processors slightly more than activities further down the value chain.

Second, where sufficient technology is not available, downstream industries might be unable to benefit from cheaper raw material supply. Technological gaps could potentially be filled by attracting foreign investment and technology transfer. However, whether this is an actual option depends on the impact of the domestic price of the raw material on the corresponding world price. If the export restriction is imposed in a country that produces a significant share of world production, the restriction will result in an increase of the world price and may therefore reduce profitability of processing abroad. In such case, foreign processors may consider relocating operations or investing in processing facilities within the country of raw material origin. Where raw material production does not make up a significant share of world production, the world is unlikely to be affected and other measures need to be taken in order to attract the necessary technology transfers and investments.

Third, as export restrictions discourage raw material production, they carry the risk of disrupting the commodity sector itself. Export taxes or quotas render raw materials more expensive abroad and reduce their price on the domestic market. Therefore, domestic raw material producers might incur an overall welfare loss. Incentives for these producers therefore result in limited exploration, reduced production and less investment in technological innovation. In the worst case scenario, underinvestment in physical capital and innovation, coupled with sub-par technology and management, can eventually result in an increase in the domestic price of the raw material and, downstream, of the processed product. Domestic firms having the processed product as input can therefore be harmed, particularly if uncompetitive domestic processors are protected from foreign competition via tariff and non-tariff barriers.

Box 3. Export restrictions defined

Export tax: A tax that is collected on goods or commodities at the time they leave a customs territory. This tax can be set either on a *specific* (per unit) basis or an *ad valorem* (value) basis. Other terminology equivalent to export tax is also used: **export tariff, export duty, export levy, export charge.**

Fiscal tax on exports: A tax that is not paid at the border, but which still applies only to or discriminates

⁷⁷ OECD Inventory of Restrictions on Exports of Raw Materials, <http://qdd.oecd.org/subject.aspx?subject=8F4CFFA0-3A25-43F2-A778-E8FEE81D89E2>

⁷⁸ Ascher, W. (1999), *Why Governments Waste Natural Resources*, the Johns Hopkins University Press, Baltimore and London and Fung, K. and J. Korinek (2013), "Economics of export restrictions as applied to industrial raw materials", OECD Trade Policy Papers, No. 155, OECD Publishing. <http://dx.doi.org/10.1787/5k46j0r5xvhd-en>

against goods or commodities intended for export. An example is when the *sales tax* which a government charges is higher for goods or commodities intended for export than when these goods or commodities are offered for sale in the domestic market. Other terminology that is used equivalently to fiscal tax on exports: **export royalty**.

Export surtax: A tax that is collected on goods or commodities at the time they leave a customs territory, and which is applied in addition to the normal export tax rate. They can be part of a progressive tax system or can be adapted to price trends and thus be of a temporary nature. For example: a USD 10 surcharge is applied on each tonne of a commodity exported when the world price of this commodity exceeds USD 1 800 a tonne. Other equivalent terminology used to refer to export surtax: **export surcharge**.

Export quota: A maximum volume of exports that is prescribed.

Export prohibition: An absolute restriction on exports, i.e. zero exports, is imposed. Other equivalent terminology used to refer to export prohibition: **export ban, export embargo**.

Export licence/Licensing requirement: Seeking prior approval, in the form of a licence, is required to export a good or commodity. There are two types of licensing requirements: **(1) Non-automatic export licensing:** Exporters must obtain prior approval, in form of a licence, to export a good or commodity. This practice requires submission of an application or other documentation as a condition for being authorised to export. Export licences are often used in conjunction with export quotas. Besides *economic* rationales, licensing can be required for *non-economic* reasons: national security, protection of health, safety, the environment, morality, religion, intellectual property, or compliance with international obligations. Licensing schemes can operate on the basis of product lists of various types, usually lists of banned products or of restricted products that require licences, be applied to restrict exports by destination (e.g. specific countries) or have other conditions attached, such as a requirement that export may only be for a specified purpose. Other equivalent terminology used to refer to non-automatic licensing: *export permit*. **(2) Automatic export licensing:** Approval for export is granted in all cases, usually immediately upon a standardised application. This kind of measure usually only assists in the compilation of statistics and does not create significant burdens or extra transaction costs for exporters.

Minimum export price/price reference for exports: A minimum price is allowed for a good being exported. This practice is often used in conjunction with export taxes because they can facilitate customs procedures by preventing under-invoicing and can be used as a base to calculate export taxes. In some cases, minimum export prices are *not binding* but are used as *reference prices*. Other terminology is also used interchangeably for minimum export prices: **administered pricing**.

Dual pricing scheme: The government applies different prices to a product when it is exported than when the same product is sold in the domestic market.

VAT tax rebate reduction/withdrawal: Most countries with a VAT system will rebate the VAT on exports. In contrast, if a country denies VAT reimbursement in whole or part, it makes it less advantageous to export a product than to sell it domestically. This in turn encourages exports of products produced locally that use the input to produce downstream products. A variant is the removal or reduction of rebate from *other sales taxes* on exports of a product.

Restriction on customs clearance point for exports: The government specifies ports/entry points through which export of a good or commodity may be channeled.

Qualified exporters list: The rights to export a certain commodity are allocated to specific companies by the government, through a process of application and registration.

Domestic market obligation (DMO): The requirement for producers of coal and other minerals to allocate a proportion of their annual production output to the domestic market. (The term "domestic market obligation" appears to be specific to Indonesia, which introduced this measure as an inseparable part of production-sharing contracts to ensure that foreign contractors were also held responsible for fulfilling the domestic needs of its people.)

Captive mining: When a processing company is required to own the mine which produces its inputs, or has been awarded captive mining rights with the intent that the company mine the commodity for use in its own domestic facilities and does not export it. Captive mining is a form of government support for firms with access to captive supplies, as well as a means to control the price and availability of a commodity. When captive mining

concessions increase (as a share of production), exports are likely to fall.

Source: *Trade Policy Paper* No. 146, Trade and Agricultural Directorate, Trade Committee, Organisation for Economic Co-operation and Development, Paris, <http://dx.doi.org/10.1787/5k4bw6twpf24-en>

Local content policies: Local content policies typically aim to upgrade skills and to create local employment and domestic development. This can be achieved by aligning the incentives of extractive industry with the country's development agenda. Typical instruments for local content policy include: *i)* indigenisation policies such as direct ownership, preferential treatment regulations, the obligation to provide detailed plans for local value addition, and requirements for local employment and training; and *ii)* market-driven policies such as local supplier development programmes.

Direct ownership ensures full control, in particular with regard to the fulfilment of various objectives (local employment etc.). Even though the actual share of resource revenues accruing to the state increases after nationalisation in most cases, the overall rent often actually decreases, so public revenue in absolute terms can decline. This was the case in Zambia, among others, where persistent inefficiencies and underinvestment after nationalisation, compounded by price declines, led to a reduction of public revenue from the copper sector.

Preferential treatment regulations: these policies intend to promote local enterprises by requiring extractive industry firms to source goods and services locally if certain conditions are met. Typically, resource producers are required to source their supplies exclusively from domestic firms where their prices do not exceed those on the international market by more than a pre-specified margin. To this end, it is important to clearly define the criteria for defining domestic firms. Further, extractive industry firms can be compelled to provide plans for increasing local value added in their input chains with the purpose of reducing the propensity towards importing inputs. The quality of the proposals concerning local employment, skills upgrading, technology transfers and local sourcing can be factored into bids for licences. These can be allocated not exclusively based on price criteria but might be awarded to companies with superior local content proposals if their price does not exceed the lowest bid by more than a pre-determined margin.⁷⁹

Local employment quotas: extractive industry firms can be required to contribute to local employment and thereby incentivised to participate in training programmes meant to upgrade domestic capabilities. One approach consists of firms being required to hire on a preferential basis domestic workers up to a certain target percentage wherever a lack of local workers cannot be proved. In this way, employees are exposed to technologies in use by extractive industry firms. As local employees become familiar with the operations and supply needs of these firms, a process of skills development and technology spill-over can be initiated, establishing the necessary conditions for backward linkages. Where a lack of local human capital prevents the fulfilment of set targets, firm participation in skill development programs to train locals according to their needs could be envisaged.⁸⁰

A clear distinction among local value addition and mere local ownership is a crucial precondition to avoid the creation of mere import intermediaries. In the past, policies focusing on backward linkages have mainly been limited to either promoting local ownership or local employment. This was

⁷⁹ Morris, M., R. Kaplinsky and D. Kaplan (2013), *One Thing Leads to Another: Promoting Industrialization by Making the Most of the Commodity Boom in sub-Saharan Africa*, <http://tinyurl.com/CommoditiesBook> and UNECA and AU (2011), *International Study Group Report on Africa's Mineral Regime*, United Nations Economic Commission for Africa and African Union, Addis Ababa

⁸⁰ Morris, M., R. Kaplinsky and D. Kaplan (2013), *One Thing Leads to Another: Promoting Industrialization by Making the Most of the Commodity Boom in sub-Saharan Africa*, <http://tinyurl.com/CommoditiesBook> and Saggi, K. (2002), "Trade, foreign direct investment, and international technology transfer: A survey", *The World Bank Research Observer*, Vol. 17/2, World Bank, Washington, DC, pp. 191-23.

based on a common misperception of local ownership leading (somehow automatically) to local value addition. After the establishment of certain targets, compliance was often monitored poorly. However, experience has highlighted the importance of a clear distinction between mere “indigenisation”⁸¹ and localisation. There is neither a causal relation nor correlation between the two. A failure to distinguish between them potentially leads to the establishment of “local” enterprises, which de facto are mere importing intermediaries.⁸²

Market-driven policies

Creating local capacity: The participation of lead commodity producers in training programs for local suppliers or staff can help to increase their capabilities. Foreign firms active in developing countries often say that local suppliers cannot meet their requirements because they lack managerial and technological capacity.⁸³ Requiring them to participate in supplier training can help to align their incentives with the country’s interest in promoting backward linkages and local value addition. Furthermore, companies can be required to contribute financially to national programmes of technical training focused on skills needed to supply inputs to the extractive industries.⁸⁴ This investment in building up domestic supplier networks can pay off for extractive industry firms over time, through reduced input costs and improved reputation.⁸⁵ According to lessons learned from a successful SME training programme in Mozambique, the process should be planned and implemented in several phases. After a general preparation stage, training plans should be developed according to the identified skill gaps. The implementation phases consist in the provision of business and technical training designed to close identified skill gaps, individualised improvement plans, an intermediate assessment of progress, targeted mentoring and a final appraisal to provide a basis for continuous improvement of the training programme.⁸⁶

Provision of information: The formation of relationships between extractive industry firms and suppliers can be facilitated by the provision of information like surveys of domestic suppliers. International extractive industry firms often have little knowledge about existing domestic suppliers. Therefore, the provision of the corresponding information via enterprise maps or databases can help to facilitate the initiation of contacts and local partnerships. Conversely, potential local suppliers can also benefit from information on the requirements and current sourcing structures of extractive industry firms. Therefore, enterprise maps containing information about extractive industry firms can facilitate the development of linkages. For example, the Kazakhstan regulatory authority created the Registry of Domestic Producers and Foreign Investors to give local suppliers information on current and future tender opportunities. With this information, it is hoped that they can more easily assess potential demand and plan investments to upgrade their processes and plants, in the process becoming become efficient competitors over time. A similar platform was established in Brazil through a multistakeholder initiative, the Program for the Mobilization of the Oil and Gas Industry. The

⁸¹ i.e. the promotion of local ownership.

⁸² Morris, M., R. Kaplinsky and D. Kaplan (2013), *One Thing Leads to Another: Promoting Industrialization by Making the Most of the Commodity Boom in sub-Saharan Africa*, <http://tinyurl.com/CommoditiesBook>.

⁸³ Battat, J., I. Frank and X. Shen (1996), “Suppliers to multinationals: Linkage programs to strengthen local companies in developing countries”, *Occasional Paper* No. 6., Foreign Investment Advisory Service, World Bank, Washington, DC.

⁸⁴ Morris, M., R. Kaplinsky and D. Kaplan (2013), *One Thing Leads to Another: Promoting Industrialization by Making the Most of the Commodity Boom in sub-Saharan Africa*, <http://tinyurl.com/CommoditiesBook> and Saggi, K. (2002), “Trade, foreign direct investment, and international technology transfer: A survey”, *The World Bank Research Observer*, Vol. 17/2, World Bank, Washington, DC, pp. 191-23.

⁸⁵ IFC (2013), “Linking SMEs to investments”, International Finance Corporation, www.ifc.org/ifcext/sme.nsf/Content/Linking_SMEs_to_Investments (accessed 7 January 2013).

⁸⁶ Jaspers, J. and I. Mehta (2008), *Developing SMEs Through Business Linkages*, Mozal Aluminium and IFC, Maputo and Washington, DC.

programme is managed by the National Organization of the Petroleum Industry, and participation is voluntary.⁸⁷

Such enterprise maps have been developed for Ethiopia, Tanzania and Ghana by the International Growth Centre. These maps contain sector profiles, detailed supply chains, in-depth information on major companies within each sector as well as their sources of inputs. This information can be very useful both for governments seeking to identify potential areas for the promotion of backward linkages as well as for domestic firms aiming at entering supply chains.⁸⁸ Further supplier databases have been set up by Small Business Projects (SBP) in South Africa and Exxon Mobil in Chad.⁸⁹

Increasing access to finance: Access to finance is a major hurdle for small and medium enterprises in many countries, developing countries in particular. Improving such access can boost significantly the competitiveness of local firms and enable them to enter natural resource supply chains and to create local value added, as illustrated by experience from Nigeria and Ghana. The Nigerian Content Support Fund (NCSF), worth USD 350 million, was set up to provide domestic supplier companies with capital, explicitly focusing on procurement and fabrication, engineering and construction services. In combination with local content provisions, this expansion of funding opportunities enabled Nigeria to raise its local content from 5% in 2004 to 35% in 2010.⁹⁰ In Ghana, the capabilities of mining supply firms were upgraded to increase their access to capital markets. Training was provided by the Renaissance Africa Group (RA), a private investment bank, to diversify the bank's portfolio. Domestic Ghanaian firms are usually small in size and face constraints in technical and management capabilities, which in turn limit their access to finance. To gain access to the mining supply chain, however, the capacity to deliver on new contracts, as well as funding possibilities, is necessary. RA therefore supports upgrading processes of local supply firms, and trains their staff for negotiations with financial institutions. It also assists in the due diligence process. Throughout the process, firms are made familiar with the requirements of international markets with respect to their creditworthiness and to the soundness of their business model. At the same time, they receive support in addressing any weaknesses identified.⁹¹

Box 4. Local supplier development programmes as tools for building upstream capacity

In Mozambique, joint efforts to upgrade the capabilities of local suppliers have proved very successful. The government identified the risk of relying on a capital-intensive, single-site project to foster development, and therefore put heavy emphasis on the development of linkages from the outset.⁹² The Mozlink programme, run by the mining company Mozal, an aluminium smelter, together with the International Finance Corporation (IFC) and

⁸⁷ Tordo, S., M. Warner, O. Manzano, and Y. Anouti (2013), *Local Content Policies in the Oil and Gas Sector*, World Bank Study, Washington, DC: World Bank.

⁸⁸ Sutton, J. and N. Kellow (2010), *An Enterprise Map of Ethiopia*, International Growth Centre, London; Sutton, J. and B. Kpentey (2012), *An Enterprise Map of Ghana*, International Growth Centre, London and Sutton, J. and D. Olomi (2012), *An Enterprise Map of Tanzania*, International Growth Centre, London.

⁸⁹ Jenkins, B. et al. (2007), *Business Linkages: Lessons, Opportunities and Challenges*, published jointly by the IFC, International Business Leaders Forum and the Fellows of Harvard College.

⁹⁰ Otti, A. (2011), "Financing local content vehicles and local SMEs in Africa's extractive industries: Issues and challenges", as cited in M. Morris, R. Kaplinsky and D. Kaplan (2011), "Commodities and linkages: Meeting the policy challenge", *MMCP Discussion Paper No. 13*, Making the Most of Commodities Programme, the Open University and the University of Cape Town.

⁹¹ Gidi, C. (2011), "Preparing African mining services companies to source funding: The experience of an investment banker", as cited in Morris, M., R. Kaplinsky and D. Kaplan (2011), "Commodities and linkages: Meeting the policy challenge", *MMCP Discussion Paper No. 14*, Making the Most of Commodities Programme, the Open University and the University of Cape Town.

⁹² UNECA and AU (2011), *International Study Group Report on Africa's Mineral Regime*, United Nations Economic Commission for Africa and African Union, Addis Ababa.

the Investment Promotion Centre of Mozambique, was set up to build the capacity of local suppliers so they could successfully compete for procurement contracts with Mozal and with international companies. Between 2002 and 2007, 45 SMEs were trained. Over the course of the project, Mozal's operational spending on Mozambican companies increased from USD 5 million to USD 17 million per month. The number of domestic companies that supplied inputs to Mozal increased from 40 to 250, and the quality of management, maintenance and safety in SMEs was increased by 20% on average. Because of the great success of the programme, successor programmes are planned not only with Mozal but also with Sasol, Cervejas de Mocambique and Coca Cola in co-operation with the IFC to create opportunities for local companies to enter the value chains of big multinational companies operating in the country.⁹³

In Chile, Codelco, BHP Billiton and local enterprises co-operate to upgrade the capacity of domestic suppliers. The programme was initiated by BHP Billiton, to build capacity among local enterprises with development potential so as to enable them to offer innovative solutions to previously identified problems within the mining sector. The innovative solutions the enterprises put forward are tested in real-time operations within the framework of the program, and suppliers obtain support from external advisors to acquire further skills and link them up with research centres. In doing so, a double-dividend is realised: the mining companies benefit from tailor-made solutions that increase their competitiveness, and local suppliers develop the expertise to compete on the global market. While Codelco is a state-owned company, the initiative has been a private one until recently, when the government made available resources to fund external consultants.⁹⁴

In Madagascar, the Ambatovy nickel and cobalt mine established a local supplier network via its Ambatovy Local Business Initiative (ALBI). Following a "buy locally, hire locally" policy, the ALBI programme seeks to maximise local procurement. Accordingly, local businesses that are able to respond to the company's needs are registered in a database. The lead company and its suppliers use this database which currently has 2 000 entries. Furthermore, ALBI provides mentoring and training to local SMEs focusing on areas such as accounting, project management, leadership, quality control, contract administration, procurement, environment, health and safety, industrial relations, and change and growth management. By the end of 2010, more than 500 local SMEs across 54 sectors had received purchasing orders from Ambatovy worth USD 1.2 billion. In addition, training and assistance are provided to the local farmers from whom the Ambatovy purchases inputs for its catering facilities. In addition, farmers have benefited from roads established along pipelines.⁹⁵

Zimele is an example of a private-sector initiative to promote supplier development in South Africa's mining industry. Zimele is a corporation which evolved in 2000 from the small enterprise initiative set up by Anglo-American and DeBeers in 1989. It looks for opportunities for local SMEs managed or owned by previously disadvantaged people to supply goods or services to the Anglo group. Furthermore, the initiative supports SMEs more broadly by providing finance, skills transfer and technical assistance. These objectives are pursued by identifying needs in Anglo's purchasing departments and sourcing required inputs from local SMEs. SMEs receive tenders they can handle, are paid promptly and supported with training. Zimele also provides loans and takes minority stakes in SMEs, always with clear exit strategies. As a result, the amount Anglo spends on inputs sourced from SMEs has been increasing rapidly. By 2006 Zimele had invested in 100 companies and disinvested from 70 of them; out of the latter companies, 90% survived. A key factor explaining the success of the overall project is its evaluation criteria for bids: clear exit strategies, signaling the need to become profitable, the focus on the creation of viable businesses instead of jobs, and commercial sustainability.⁹⁶

By actively co-operating with governments, lead firms can facilitate the alignment of public policies with the effective promotion of reliable, competitive supply networks in their vicinity. In the long run, these supplier networks will lead to cost reductions for lead firms.⁹⁷ Ideally, an assessment of the potential for linkage development should be undertaken as early as possible in the lead firm's operations. Upcoming procurement opportunities should be communicated transparently and as early as possible to allow realistic budgeting and

⁹³ Jaspers, J. and I. Mehta (2008), *Developing SMEs Through Business Linkages*, Mozal Aluminium and IFC, Maputo and Washington, DC.

⁹⁴ Korinek, J. (2013), "Mineral resource trade in Chile: Contribution to development and policy issues", OECD.

⁹⁵ Ambatovy (2010), "2010 Sustainability Report", <http://www.google.fr/url?sa=t&rc=1&url=http%3A%2F%2Fwww.ambatovy.com%2Fdocs%2Fwpcontent%2Fuploads%2F2010Report.pdf&ei=j1AJUf6WN-TK0QXEg4GYCg&usq=AFQjCNEonWmzFGEGf97jo9RS1bNjIDTACQ> (accessed 18 January 2013).

⁹⁶ Van Rensburg, N. (2006), "Zimele – Anglo American, South Africa: Going it alone. An example of a private sector initiative in the mining industry", in UNCTAD (2006), *Deepening Development through Business Linkages*.

⁹⁷ IFC (2013), "Linking SMEs to investments", International Finance Corporation, www.ifc.org/ifcext/sme.nsf/Content/Linking_SMEs_to_Investments (accessed 7 January 2013).

preparation for bids.

Investing in renewable energy sources: A necessity that can turn into economic opportunity

The development of renewable energies is closely related to evolutions and prospects in the raw material sector. One reason is that beyond a certain oil price threshold renewable energies can offer alternative economically viable sources of energy. Despite the slowdown observed following the 2008 economic crisis, commodity prices are likely to remain high in the long term due to growing demand from emerging economies in particular. Another aspect illustrating the strong interdependency between the renewable and non-renewable resource sectors is the reliance on minerals and rare earths for the production of many emerging green technologies such as batteries, thin layer photovoltaic, fuel cells or catalysts. Their large-scale development in the future shall significantly affect demand in the raw material sector as shown in Table 4.⁹⁸

Table 4. Mineral demand from emerging technologies

Raw material	Production 2006 (t)	Demand from emerging technologies 2006 (t)	Demand from emerging technologies 2030 (t)	Indicator 2006 ¹	Indicator 2030 ¹
Gallium	152	28	603	0.18	3.97
Indium	581	234	1 911	0.40	3.29
Germanium	100	28	220	0.28	2.20
Neodymium (rare earth)	16 800	4 000	27 900	0.23	1.66
Platinum (PGM)	255	Very small	345	0	1.35
Tantalum	1 384	551	1 410	0.40	1.02
Silver	19 051	5 342	15 823	0.28	0.83
Cobalt	62 279	12 820	26 860	0.21	0.43
Palladium (PGM)	267	23	77	0.09	0.29
Titanium	7 211 000 ²	15 397	58 148	0.08	0.29
Copper	15 093 000	1 410 000	3 696 070	0.09	0.24

Notes: 1. / The indicator measures the share of the demand resulting from driving emerging technologies in total today's demand of each raw material in 2006 and 2030. 2. Ore concentrate

Source: de Ridder, M. (2013), *The Geopolitics of Mineral Resources for Renewable Energy Technologies*, The Hague Centre for Strategic Studies, pp.7.

Both sectors have therefore intertwined destinies, an aspect that has gained prominence on countries' agendas. Awareness has grown in recent years among OECD and partner countries alike about the need to diversify their energy mix to ensure security of supply and sustainable conditions for growth and development. China – the largest producer of rare earth elements, accounting for up to over 97% of global production – has set its renewable energy target at 15% by 2020, but expects to reach capacity as high as 20% by that time due to more investments in solar, wind and biomass energy resources. Brazil is already the world's largest renewable energy market with 46% of the country's energy consumption and 85% of its power generation capacity coming from renewable sources.⁹⁹

Policy options include those targeted at promoting the development of the renewable energy sector, on the one hand and encouraging the preservation of non-renewable resources, on the

⁹⁸ de Ridder, M. (2013), *The Geopolitics of Mineral Resources for Renewable Energy Technologies*, The Hague Centre for Strategic Studies, pp.7.

⁹⁹ *Ibid.*

other hand. In the first case, governments will be prompted for example to put in place favourable conditions for the development of forward linkages and expansion of the post-extraction value chain. Interesting examples in this field include the Bolivian case in which the government is co-operating with the Dutch government and Delft University of Technology to develop the industrial production of lithium batteries in Bolivia through the setting up of a plant and a research centre.

To address the issue of resource preservation, the range of solutions is broad and can be sought all along the extraction value chain. It includes measures as diverse as those prompting extractive and intermediary manufacturing industries to introduce environmentally clean technologies in their operations, to invest in operational process optimisation and resource efficiency, to recycle production waste as secondary raw materials and at the other end of the value chain, those targeting behavioural change of the end user or the recycling of materials in the end-of-life phase of products.¹⁰⁰

Not only governments but also oil and gas companies are proactively looking for new and alternative energy solutions. They are therefore being urged to factor these considerations into their investment strategies. A study by Deloitte's Oil & Gas Industry Group reveals that 56% of senior executives in large petroleum companies said they believe the world would run out of reasonably priced oil in the next 50 years; which partly explains the urgency around the development of alternative fuel sources.¹⁰¹ In this context, the development of renewable energies is increasingly seen as a business opportunity rather than a limitation to business core activities. Oil and gas companies have started investing significant efforts and money in the diversification of their activities and the optimisation of resource use and seek to position themselves at the forefront of the emergence of new products, processes and business models.

B. MAPPING EFFORTS TO TACKLE THE ISSUES

This section provides an initial mapping of initiatives by international institutions as well as bilateral and multilateral donors and institutions designed to support resource-linked development in producing countries. Information and data collected are mainly taken from annual reports of bilateral agencies and multilateral institutions, publicly available official development co-operation strategies and other specific government sponsored programmes. This initial mapping aims to:

- highlight the objectives of donors' development co-operation strategies in the raw materials sector as they relate to resource-linked development and local value creation;
- provide an overview of the activities and initiatives carried out to pursue each objective;
- identify the methodology and type of interventions used to achieve those objectives;
- identify the beneficiaries of donor support.

¹⁰⁰ Weterings R., T. Bastein, A. Tukker, M. Rademaker and M. de Ridder (2013), *Resources for our Future, Key Issues and Best Practices in Resource Efficiency*, The Hague Centre for Strategic Studies.

¹⁰¹ Deloitte (2009), Oil & Gas reality check, Top 10 issues for FY10.

Bilateral initiatives

Donor country	Institutions	Official document / Strategy	Objectives	Description	Methodologies / Outputs	Beneficiaries / Partners
Australia	Department of Foreign Affairs and Trade (DFAT) Australian Aid Program	Mining for Development Initiative Strategy (M4D) ¹⁰²	Promote inclusive development and local value creation, in particular Improve the flow of resources to build thriving local communities (pillar 3)	- Funding the development of a Regional Planning and Integrated Investment Plan for resource-rich areas in Mozambique - Providing technical assistance for the establishment of a Sovereign Wealth Fund in Papua New Guinea - Conducting research on the impact of mining land use agreements on women in Ghana	Financial and technical assistance Research	Partners include: Governments, international organisations, industry and civil society, including universities (Asia-Pacific; Africa; Latin America)
			Strengthen training and research capabilities	- Providing scholarships to Afghan public servants - Financing the creation of a mining sector think tank in Mongolia to build indigenous policy research and analytical capacity - Supporting the integration of a sustainable development dimension into education programmes at the University of Philippines - Supporting and enabling the Australian mining industry to build the geosciences research and training capacity of four West African universities	Capacity development Financial and technical assistance Partnership building	Partners include: Governments, international organisations, industry and civil society, including universities (Asia-Pacific; Africa; Latin America)
Canada	- CIDA - Canadian International Institute for	Sustainable Economic Growth Strategy ¹⁰³	Improve local economic development through economic diversification and local value creation			Governments (Latin America, Tanzania, Mozambique, etc.)

¹⁰² AusAid, *Australia's Mining for Development Initiative*, October 2011, Canberra, <http://aid.dfat.gov.au/aidissues/Documents/mining-for-development.pdf>.

¹⁰³ Canadian International Development Agency (CIDA), *Stimulating Sustainable Economic Growth, CIDA's Sustainable Economic Growth Strategy*, [http://www.acdi-cida.gc.ca/INET/IMAGES.NSF/vLUIImages/EconomicGrowth/\\$file/Sustainable-Economic-Growth-e.pdf](http://www.acdi-cida.gc.ca/INET/IMAGES.NSF/vLUIImages/EconomicGrowth/$file/Sustainable-Economic-Growth-e.pdf).

	Extractive Industries and Development		Enable local communities to maximise benefits from the extractive sector and promoting community empowerment	- Contributing to the sustainable development of indigenous peoples in the Latin American and Caribbean region through the Mining Sector Indigenous Capacity Building project	Financial and technical assistance	Governments (Latin America, Tanzania, Mozambique) Communities and local NGOs
			Increase the capacity of governments in developing countries / train specialists / carry out applied research on leading practices for managing natural resources	- Establishing the Canadian International Institute for Extractive Industries and Development housed by the University of British Columbia - Supporting the African Mineral Development Centre - Supporting the Extractive Industries Technical Advisory Facility - Managing the Secretariat of the Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development	Financial assistance Training Research	Governments (Latin America, Tanzania, Mozambique, etc.)
European Union	European Bank for Reconstruction and Development	EBRD Mining Strategy ¹⁰⁴	Foster value creation, local content and development	- Supporting private operators - Introducing technologies, standards and processes - Fostering transparency by encouraging its clients to implement principles and criteria of the EITI - Supporting the development of mining legislation and regulatory frameworks - Supporting upstream and downstream activities by financing mine services and support companies directly involved in engineering, procurement, construction and management roles at mines and by investing in mineral processing facilities, marketing outfits, etc. - Supporting local business development and promoting inclusiveness of local communities through Local Business Development	Financial and technical assistance Investment and loans	Governments (Eastern Europe, Egypt, Jordan, Morocco, and Tunisia) Companies Local communities

¹⁰⁴ European Bank for Reconstruction and Development, *Draft Mining Strategy, Supporting Responsible Mining*, <http://bankwatch.org/sites/default/files/EBRD-draft-mining-strategy.pdf> (accessed 18 November 2013).

				(LBD) programmes - Supporting infrastructure development		
	European Commission (DG Enterprise and Industry)	- Africa-EU Cooperation on Raw Materials ¹⁰⁵ - The 2008 Raw Materials Initiative ¹⁰⁶	Foster value creation and local content	- Investing in transport infrastructure development indispensable for the operation of sustainable mining - Promoting a sound investment climate by establishing a level playing field between companies and materials, increasing transparency of mining deals and revenues, promoting sound taxation systems.	Investment and loans, in particular through the EU-Africa Infrastructure Trust Fund Technical assistance and capacity building	Governments (Africa)
France	- Comité interministériel de la coopération internationale et du développement (CICID) - Agence française de développement (AFD)	Mineral Resources and Development in Africa (2008) ¹⁰⁷	Move from a primary economy to a shared growth economy	- Facilitating dialogue between stakeholders in environmental protection and mineral extraction - Supporting the development of local companies and corporate social responsibility (CSR) - Professionalising smallscale mining (clarification of legal framework for land tenure, provision of basic services, support to professional organisations and administrations, participation in the World Bank's Communities and Small-Scale Mining (CASM))	Consultations Research and studies Financial and technical assistance On-site training and technology transfer, capacity building in vocational training	Governments (13 African countries) Companies Civil society
Germany	- Federal Ministry for Economic Cooperation and Development (BMZ) - DEG (German Development Bank) - GIZ (German	BMZ Mineral and Energy Resources as a Factor of Development (2010) ¹⁰⁸	Harness the economic dynamism generated by the mining sector to promote broader growth	- Investing in infrastructure and in supply and processing industries - Supporting the adoption of sustainable technologies	Financial and technical assistance FDI promotion Training and education / knowledge transfer Partnership building	Governments (West and Central Africa, Central Asia, in particular Laos, Mongolia, Kazakhstan, Mozambique,

¹⁰⁵ DG Enterprise and Industry, Africa-EU Cooperation on Raw Materials, http://ec.europa.eu/enterprise/magazine/articles/industrial-policy/article_11029_en.htm (accessed November 13, 2012).

¹⁰⁶ European Commission, *The Raw Materials Initiative – Meeting Our Critical Needs for Growth and Jobs in Europe, 2008*, <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2008:0699:FIN:en:PDF> (accessed 18 November 2013).

¹⁰⁷ Interministerial Committee for International Cooperation and Development (CICID), *Mineral Resources and Development in Africa*, Strategic Guidelines Document, May 2008, http://www.diplomatie.gouv.fr/fr/IMG/pdf/mineral_resources_DOS_2010.pdf.

¹⁰⁸ Federal Ministry of Economic Cooperation and Development (BMZ), *Mineral and Energy Resources as a Factor of Development*, Strategy Policy Paper 04E-2010, February 2010, Bonn, http://www.bmz.de/en/publications/type_of_publication/strategies/StrategyPaper301_04_2010_en.pdf.

	Development Agency)				(e.g. the Integrated Mineral resources Initiative in Mongolia, declaration of intent with Chile, etc.)	Namibia, Ghana, etc.)
Italy	Ministry of Economic Development		Support the development of the mining sector	- Supporting the development of the mining sector in Afghanistan	Partnership building with Afghanistan and signing of a framework agreement with Mongolia FDI promotion Training Technology transfer and technical assistance	
Japan	<ul style="list-style-type: none"> - Ministry of Economy, Trade and Industry (METI) - Japan International Cooperation Agency (JICA) - Japan Oil, Gas and Metals National Corporation (JOGMEC) - Japan Bank for International Cooperation (JBIC) - Japan Mining Engineering Center 	<ul style="list-style-type: none"> - 4 METI Resource Supply Strategies including: <ul style="list-style-type: none"> i) Guidelines for Securing Natural Resources¹⁰⁹ ii) METI Strategy for Ensuring Stable Supply of Rare Metals¹¹⁰ iii) METI Priority Measures to Ensure Stable Supply of Natural Resources and Fuel¹¹¹ iv) Japanese Cabinet's 	Create a mining-investment-friendly climate	- Conducting Development Studies on master plan creation to identify bottlenecks	Signing of Memoranda of Understanding for joint exploration Research and feasibility studies Local skill formation	Governments (Central and Southeast Asia, Latin America and Africa)
			Introduce modern and ecologically compatible mining technology	- Fostering technology transfer by the private sector - Organising expert dispatch and trainings	FDI promotion Training and technical assistance	Governments (Central and Southeast Asia, Latin America and Africa)

¹⁰⁹ Ministry for Economy, Trade and Industry (METI), *Guidelines for Securing Natural Resources* (provisional translation), <http://www.meti.go.jp/english/newtopics/data/pdf/080328Guidelines.pdf> (accessed 18 November 2013).

¹¹⁰ German Institute for International and Security Affairs (SWP) and the Federal Institute for Geosciences and Natural Resources (BGR), *Fragmentation or Cooperation in Global Resource Governance? A Comparative Analysis of the Raw Materials Strategies of the G20*, Hanns Günther Hilpert and Stormy-Annika Mildner (Eds.), March 2013, Berlin, http://www.swp-berlin.org/fileadmin/contents/products/research_papers/2013_RP01_hlp_mdn.pdf (accessed 18 November 2013).

¹¹¹ METI, *Priority Measures to Ensure Stable Supply of Natural Resources and Fuel* (Tokyo, 2011) http://www.meti.go.jp/english/press/2011/pdf/1220_02b.pdf (accessed 18 November 2013).

	for International Cooperation (JMEC)	Strategy to Secure Resource Supply ¹¹² - JICA Thematic Guidelines on Mining (2005) ¹¹³	Implement countermeasures against social and environmental disruptions caused by mining activities	- Supporting institutional reforms and technical co-operation to improve cleaner mining and production processes - Promoting recycling systems to prevent pollution and secure stable supply	Training Financial and technical co-operation	Governments (Central and Southeast Asia, Latin America and Africa)
Netherlands	- Ministry of Foreign Affairs - Delft University of Technology	Declaration of intent	Develop industrial production of lithium batteries in Bolivia	- Setting up a company that will produce lithium-ion batteries - Creating a state-of-the-art research centre	Knowledge sharing Training Partnership building	Government of Bolivia Bolivian Mining Corporation (COMIBOL) Universities in La Paz, Potosi, Oruru and Cochabamba
Norway	NORAD	Oil for Development (2005) ¹¹⁴	Improve resource management	- Building regulatory and institutional capacity (e.g. develop legal frameworks, frameworks for exploration and production, administration and supervision mechanisms, licensing and tendering processes, systems for fiscal metering and tax reference pricing, etc.) - Fostering local value creation (e.g. develop framework conditions and policies to attract international oil companies, and stimulate technology development, education and vocational training and the involvement of local industry) - advising on data management (e.g. advice on establishment of a National	Technical assistance and training	Governments (core countries: Angola, Bolivia, Ghana, Mozambique, Sudan, South-Sudan, Timor-Leste, Uganda); other countries (Cuba, Iraq, Ivory Coast, Lebanon, Liberia, Nicaragua, Nigeria, São Tomé and Príncipe, Sierra Leone and Tanzania)

¹¹² German Institute for International and Security Affairs (SWP) and the Federal Institute for Geosciences and Natural Resources (BGR), *Fragmentation or Cooperation in Global Resource Governance? A Comparative Analysis of the Raw Materials Strategies of the G20*, Hanns Günther Hilpert and Stormy-Annika Mildner (Eds.), March 2013, Berlin, http://www.swp-berlin.org/fileadmin/contents/products/research_papers/2013_RP01_hlp_mdn.pdf (accessed 18 November 2013).

¹¹³ Japan International Cooperation Agency (JICA), *JICA Thematic Guidelines on Mining, 2005*, Tokyo, [http://gwwweb.jica.go.jp/km/FSubject0901.nsf/50e70e491615c34a492571c7002a982d/7229ff3298e0989d492570a7000d02bc/\\$FILE/JICA%20Thematic%20Guidelines%20on%20Mining.pdf](http://gwwweb.jica.go.jp/km/FSubject0901.nsf/50e70e491615c34a492571c7002a982d/7229ff3298e0989d492570a7000d02bc/$FILE/JICA%20Thematic%20Guidelines%20on%20Mining.pdf) (accessed 18 November 2013).

¹¹⁴ NORAD, *Oil for Development Programme*, Annual Report 2011, May 2011.

				Data Bank for petroleum-related information in Ghana)		
			Improve environmental management	<ul style="list-style-type: none"> - Developing regulatory and legal framework covering environmental dimensions of petroleum sector management - Developing systems for monitoring the domestic and international oil industry - Carrying out environmental and social impact assessments, risk reduction measures and action plans to reduce accidental pollution 	Technical and legal assistance and training	Governments (core countries: Angola, Bolivia, Ghana, Mozambique, Sudan, South-Sudan, Timor-Leste, Uganda); other countries (Cuba, Iraq, Ivory Coast, Lebanon, Liberia, Nicaragua, Nigeria, São Tomé and Príncipe, Sierra Leone and Tanzania)
South Korea	<ul style="list-style-type: none"> - Ministry of Trade, Industry and Energy - State-owned - Korea Resource Corporation (KORES) 	Basic Plan for the Development of Foreign Resources ¹¹⁵	Foster value creation, local content and development	<ul style="list-style-type: none"> - Employing only workers from the host country and providing training - Supplying benefits to local communities, constructing hospitals and a sustainable, environmentally friendly energy and transport infrastructure - Transferring South Korean industrial development knowledge through courses and on-the-job 	Donations, new school buildings and community centres Investment in infrastructure Training and capacity building	Governments (Chile, Peru, Indonesia, the Philippines and Viet Nam) Companies NGOs and local communities

¹¹⁵ German Institute for International and Security Affairs (SWP) and the Federal Institute for Geosciences and Natural Resources (BGR), *Fragmentation or Cooperation in Global Resource Governance? A Comparative Analysis of the Raw Materials Strategies of the G20*, Hanns Günther Hilpert and Stormy-Annika Mildner (Eds.), March 2013, Berlin, http://www.swp-berlin.org/fileadmin/contents/products/research_papers/2013_RP01_hlp_mdn.pdf (accessed 18 November 2013).

				training of local managers - Advising on industrial diversification		
United Kingdom	UK Trade and Investment	Supply Chain Engagement Programmes	Foster value creation and local content	- Supporting initiatives to develop supply chain in the oil and gas sector	Partnership building Supply Chain Engagement Programmes	Governments (Kazakhstan, Brazil, Nigeria)
	Department for International Development (DFID)	Departmental Business Plan (part of coalition priority 1: boost economic development) ¹¹⁶	Ensure that the benefits of natural resources (oil, gas and mining) are used to improve the lives of the poor			Governments (Africa)
United States	US Agency for International Development (USAID)	Public-Private Alliance for Responsible Minerals Trade (PPA) ¹¹⁷	Foster value creation and local content	- Bringing together companies and NGOs to develop supply chain systems enabling them to use conflict-free validated, certified, and traceable minerals in the African Great Lakes region	Development of pilot supply chain systems Development of a platform for co-ordination amongst government, industry, and civil society actors Creation of a website designed to serve as a resource for companies seeking information	Governments Companies (Motorola Solutions, BlackBerry, Nokia, Sony, H.C. Stark) NGOs trade associations the International Conference on the Great Lakes Region (ICGLR)
	The Transatlantic Economic Council	TEC Work Plan for Cooperation on Raw Materials ¹¹⁸	Enhance data availability and sharing	- Improving data on mineral supply chains concentrating on the initial stages of production including mining - Improving mineral end use data in order to better understand mineral supply chains and potential sources		

¹¹⁶ Department for International Development (DFID), Departmental Business Plan, <http://transparency.number10.gov.uk/business-plan-pdf/12>

¹¹⁷ <http://www.resolve.org/site-ppa/> (accessed 18 November 2013)

¹¹⁸ US Department of State, Bureau of European and Eurasian Affairs, *TEC Work Plan for Cooperation on Raw Materials: Progress Report, 3* April 2012, <http://www.state.gov/p/eur/rt/eu/tec/190817.htm> (accessed 18 November 2013).

				of recycled materials - Supporting OECD to develop a database of export restrictions affecting industrial raw materials		
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Multilateral initiatives

Initiative	Secretariat / Leading institution	Official document / Strategy	Objectives	Description	Methodologies / Outputs	Beneficiaries / Partners
African Mining Vision African Mineral Development Centre	- AfDB - African Union (AU) - UN Economic Commission for Africa (UNECA)	- The African Mining Vision (AMV) (2008) - Action Plan for implementing the AMV (2011) - Minerals and Africa's Development: the International Study Group Report on Africa's Mineral Regimes (2013 - endorsed by AU and UNECA) ¹¹⁹	- Leverage resources from mining for local development - Reinforce countries' capacity for contract negotiation - Integrate mining into industrial and trade policy - Open out mining's enclave status	9 programme clusters: - Enhancing revenues and mineral rents management - Developing geological and mining information systems - Building human and institutional capacities - Fostering the development of viable artisanal and small scale mining - Improving mineral sector governance - Supporting research and development - Tackling environmental and social issues - Promoting linkages and diversification - Mobilising mining and infrastructure investment	Technical assistance Capacity building	African Governments
Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development (IGF)	Canada	Mining Policy Framework ¹²⁰	Reinforce governance all along the value chain in the mining sector	Exchanging and promoting good governance practices in the following areas: legal and policy environment; financial benefit optimisation; socio-economic benefit optimisation; environmental management; post-mining transition; artisanal and small-scale mining	Annual meetings	45 member countries

¹¹⁹ UNECA and AU, *International Study Group Report on Africa's Mineral Regime*, United Nations Economic Commission for Africa and African Union, November 2011, Addis Ababa.

¹²⁰ Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development, *A Mining Policy Framework - Mining and Sustainable Development: Managing one to advance the other*, revised October 2013, <http://www.globaldialogue.info/MPFOct2013.pdf>

WEF Responsible Mineral Development Initiative	World Economic Forum (WEF)		Foster mutual understanding at the country level of the different dimensions and drivers of value creation from mining	- Organising national consultations focusing on seven areas: Fiscal and regulatory environment; Employment and skills; Environment and biodiversity implications; Social cohesion, cultural and socio-economic implications; Procurement and local supply chain; Beneficiation and downstream industry; Infrastructure	National multi-stakeholder roundtables Mineral Value Management (MVM) tool	Governments Companies Local communities
International Finance Corporation (IFC) programmes	IFC	- Business Linkages Practice Notes (2007) - A guide to getting started in local procurement	Enhance and promote local procurement by oil, gas and mining companies	- Training local businesses to produce goods and services that meet standards and requirements of multinational operators - Helping project site operators in companies create a policy and strategy for local procurement	Training Production of good practice manuals and methodologies	Local businesses

C. GAPS IDENTIFIED AND PROPOSED OUTPUT RESULTS FOR THE POLICY DIALOGUE ON NATURAL RESOURCE-BASED DEVELOPMENT

<p>Gap identified: While a number of case studies by the World Bank and anecdotal evidence on local content policies have been carried out, a systematic stock-taking and impact analysis is not yet available. Identifying key drivers of success and failure, taking into account resource endowment and country contexts, would be an important step towards establishing a reliable evidence base for natural resource-based structural transformation policies. The development of an analytical tool for a feasibility assessment of linkage development to and from the extractive industries would help policy makers to decide on how to add value and promote resource-based diversification most efficiently. Supported by systematic analysis of evidence from participating countries, a user-friendly framework to assess the feasibility of promoting forward and backward linkages based on country conditions can be developed. This will consist of key issues that need to be investigated to contrast the industries' requirements and their availability in each country. After performing the assessment, policy makers will have a sound understanding of the gaps that need to be filled in order to set up new activities, and about the costs and benefits of doing so. In a further step, this generic tool can be complemented with country-specific, multidimensional reviews that investigate particular challenges and opportunities to harness development based on natural resource sectors. These can add value over and above the tool for feasibility assessment by providing concrete advice and recommendations on how to promote the activities identified with the tool for feasibility assessment in a particular country's setting and sector structure.</p>		
Objective	Proposed Intermediate Output Results	Proposed Final Output Result
<i>Enabling the creation of a value-added economy along the life cycle of mining and oil and gas development projects.</i>	<p>Stock-taking and comparative analysis of country experiences</p> <p>Identification of the enabling factors for local value addition through linkage development</p>	Framework for assessment of linkage development
<i>Designing successful local content strategies</i>	<p>Comparative analysis of local content provisions in national legislations/contracts</p> <p>Interaction between local content provisions and Bilateral Investment Treaties (BITs), Regional Trade Agreements, and WTO regime</p> <p>Cost –benefit analysis of different approaches</p>	Framework for enabling local content development
<p>Methodology: Thematic Sub-Group on "Shared value creation and local development" involving interested participating countries, with input from interested multinationals and experts. Comparative analysis of country experiences by the Secretariat with possible involvement of experts from participating countries. This work could be carried out by the OECD Development Centre, ideally in collaboration with the Trade and Agriculture Directorate, the World Bank and UNECA.</p>		

SECTION IV

HOW TO SPEND NATURAL RESOURCE REVENUES FOR INCLUSIVE AND BROAD-BASED DEVELOPMENT

A. FRAMING THE ISSUES

Why spend natural resource revenues for inclusive and broad-based development?

The revenues from natural resources present governments with a unique opportunity to further inclusive and broad-based development. As highlighted in Section I, the share of government revenue that stems from natural resource sectors can be as high as 50% in petroleum-rich countries, and rise above 20% in countries with other extractive industries. In advanced economies endowed with natural resources resource revenues are largely invested abroad to ensure future revenue streams from interest and minimise inflationary impact. Most developing countries, however, face a range of pressing needs which resource revenues can help address if spent effectively while challenges related to absorption capacity and inflation-related issues still loom large. Options range from investing into domestic productive and human capacity to direct distribution of revenues to reduce poverty. Where such investments are properly selected, sequenced and implemented, both incomes and consumption are likely to rise as development progresses, leaving future generations better off than the present one.

The enabling framework for setting in motion a process of structural transformation towards broad-based development is insufficient in most developing countries. Many of the necessary conditions for strong, shared and sustainable growth are still to be fulfilled. These include high quality education and health services, effective infrastructure, especially for transport, electricity and communications, access to capital for firms of all sizes and a capable civil service. Removing the most pressing bottlenecks through targeted and efficient public investments can carry large multipliers and trigger a dynamic process of development.

However, spending natural resource revenues effectively requires a strong public finance management (PFM) framework to handle revenue volatility. Resource prices are notoriously volatile and difficult to predict. In resource-dependent countries price volatility translates more or less directly into revenue volatility. Countercyclical expenditure and stabilisation tools are therefore necessary to prevent this volatility from translating into macroeconomic instability and harming the non-resource sectors of the economy. Transparency and a government capable of identifying and implementing high-return projects are crucial for successful resource revenue management. No one-size fits all strategy is advisable: an assessment of the country's situation and capacity needs to precede the formulation of feasible strategies. Proper sequencing is key and specific bottlenecks should be tackled with targeted investments.

How to spend natural resource revenues for inclusive and broad-based development?

For spending of resource revenues to effectively drive development three conditions must be fulfilled: First, strong budget management and stable expenditures are crucial to prevent volatility. A second and related aspect has to do with the management of the spending process. Among the range of

instruments available to manage revenue volatility and spending, Sovereign Wealth Funds (SWFs) deserve particular attention and will be discussed in further detail. Finally, investments must target high developmental returns. The most pressing bottlenecks must guide spending and projects must be subject to a rigorous selection process. To make good spending decisions, governments must be able to reject projects with low returns or overly high long-term cost implications. Where capacity for efficient investment is low, alternative spending solutions such as direct distribution or barter contracts might offer an alternative in terms of inclusivity or development effectiveness.

Managing volatility

Resource revenues can fluctuate dramatically depending on the development of new discoveries, fiscal provisions and price changes. Managing volatility of commodity prices and revenue flows constitutes therefore an essential characteristic of revenue management. Revenue volatility generally results from three factors: *i*) overtime variations in extraction rates; *ii*) fluctuations of the market value of the resources; and *iii*) variability in the payments to governments.¹²¹ Resource revenue volatility in the extractive sector can translate into volatility in public consumption and investment spending. High revenues encourage many governments to step up spending based on the wrong anticipation of the persistence of revenue windfall, or even on a politically-driven wilful disregard of an expected decline in future revenues. This can lead to unsustainable spending practices with painful adjustments when revenues fall. Effective use of revenues therefore requires putting in place solid expenditure schemes and gradually building up over time investments and outlays.¹²²

Governments are usually faced with the challenges of reconciling divergent timeframes related to the long-term approach required for resource revenue management on the one hand and the constraints imposed by annual budget processes on the other hand. Solid institutions are needed to help guide fiscal decisions and factor in issues related to revenue volatility and resource depletion.¹²³

Governments have put in place diverse strategies to reduce volatility ranging from intentional slowdown in the rate of production so as to reduce revenue streams or a smoothing of tax and rent payments. Exchange rate policies as well as economic diversification are also possible alternative strategies.¹²⁴ Another option consists in hedging through futures contracts, options, and other financial instruments designed to ‘lock-in’ prices on future production. This approach can be used in petroleum-rich and/or mineral-rich states, in order to reduce the risk of future adverse commodity price movements. Contrary to other measures targeted at mitigating the negative effects of a volatile and unpredictable revenue stream, hedging aims to tackle the root causes of revenue volatility by guarding against commodity price fluctuations.¹²⁵ Export restrictions offer an alternative solution to increase revenue, decrease domestic prices, promote the development of downstream processing industries or preserve natural resources. The risks and downsides associated with such measures have been exposed

¹²¹ Humphreys, M., J. Sachs and J. Stiglitz, “What is the Problem with Natural Resource Wealth?” In: Humphreys/ Sachs/ Stiglitz (Eds.): *Escaping the Resource Curse*. New York 2007.

¹²² Natural Resource Charter (NRC) 2010, p. 13 http://naturalresourcecharter.org/sites/default/files/NRC%20Eng_2011.pdf. (accessed on 27 November 2013).

¹²³ Matthias L., “Stabilization and Savings Funds to Manage Natural Resource Revenues: Kazakhstan and Azerbaijan versus Norway”. In: *Comparative Economic Studies*, 2011, 53 p. 36.

¹²⁴ Overseas Development Institute (ODI), *Meeting the Challenge of the ‘resource Curse’. International Experiences in Managing the Risks and Realising the Opportunities of Non-Renewable Natural Resource revenues*. Prepared for the Bureau for resources and Strategic Partnerships – United Nations Development Programme. London 2006, p. 37.

¹²⁵ http://www.eisourcebook.org/697_85AlternativeMeansofAddressingVolatility.html (accessed on July 16th 2013).

in Section III. Finally, measures aimed at limiting the rate of resource extraction can provide useful instruments to control revenue fluctuations and reduce risks of misappropriation.¹²⁶

Managing spending

Once resource-related revenues are collected, the challenge is to manage them appropriately. Resource rents can provide the revenue needed to meet the conditions required for structural transformation. However, revenues can also potentially destabilise the economy due to their volatility, result in wasteful rent-seeking and distract from more politically onerous efforts to boost productivity. A stable and solid public expenditure framework is crucial to buffer the economy from the volatility of resource-based revenues and to prevent key economic actors from engaging in rent-seeking. Meeting this challenge requires a commitment towards transparency and striking a good balance between savings, consumption and investment.

In resource-abundant countries, pro-cyclical spending is typically driven by the pro-cyclicality of resource-related taxes and royalties in the face of pressing short-term needs and political pressure. Usually, increases in public revenues are spent on a combination of a rise in the public wage bill and of capital spending. While strategic investments do have positive long-term effects, the expansion of public wage bills is difficult to reverse once the boom period is over. Institutional arrangements which guarantee that the earnings from resource booms are put aside for counter-cyclical spending are important to rule in profligate spending.¹²⁷

Transparent budget mechanisms are an important means to ensure truly counter-cyclical revenue management and constrain wasteful government expenditure. In this respect, Chile has established a successful, innovative system. The country has a target for its budget surplus as well as a constraint on its budget deficit. To allow for some flexibility to react to unforeseen circumstances, the government may run a deficit larger than the established target if: *i*) output falls short of potential, or in the event of a recession; or *ii*) if the price of copper is lower than its ten-year equilibrium price. Two expert panels assess whether these conditions are fulfilled, which ensures the necessary flexibility to increase spending in times of crises, but reins in attempts to argue for profligate expenses by formally establishing whether growth has actually been slower than expected. The Chilean model could potentially be applied by other resource-rich countries provided it is adapted where institutions are weaker. Furthermore, to ensure the independence of the experts on the panel from the decision-making powers, provisions similar to those safeguarding independence for central bankers could be applied.¹²⁸

Box 5. Country experiences in revenue management: the case of Botswana, Indonesia, Chile, Malaysia, Mexico and Timor-Leste

A number of good practices can be drawn from country experiences. As always, these have to be

¹²⁶ Natural Resource Charter (NRC) 2010, p. 14 http://naturalresourcecharter.org/sites/default/files/NRC%20Eng_2011.pdf. (accessed on 27 November 2013).

¹²⁷ Frankel, J.A. (2010), "The natural resource curse: A survey", *HKS Faculty Research Working Paper Series*, RWP10-005, John F. Kennedy School of Government, Harvard University, Cambridge, MA.

¹²⁸ *ibid.*

understood in a contextual manner. Where they may appear relevant, they need to be adapted to fit the particular circumstances of the country. These include: the level of development; the nature of the resources and the size of the sector; the level of fiscal dependence on resource revenues; institutional capacity; the governance structure (fiscal federalism, etc.); budget rigidities; transparency levels and capital scarcity.

With regard to revenue smoothing, the example of Botswana's strategy towards De Beers' investments in diamond exploitation as well as the case of BP's Tangguh gas development in Indonesia provide interesting insights on responsibility sharing of volatility management between investing companies and the government. The anticipation of short-term revenue peaks prompted the government to agree with the companies to smooth payments of taxes and other rents over a large time span. Chile and Malaysia were also able to successfully implement policies to counter exchange rate appreciation caused by Dutch disease and by foreign borrowing through devaluation or by fixed, but adjustable, exchange rates.¹²⁹

Another good example of managing volatility is provided by Malaysia, whose per capita income rose 78% during the 1974-89 oil slump. In this context, political leadership proved essential in implementing carefully designed industrial policies and establishing a reasonably-sized oil endowment which contributed to set the basis for a well-diversified economy with a strong manufacturing base. Furthermore, Malaysia was able to compensate for the collapse in oil prices between 1980 and 1986 by increasing its production. This success was also partly due to newly discovered oil reserves that allowed to boost production while prices were falling.¹³⁰

In Mexico, the government was able to avoid a drastic drop in public revenue by buying a put option in early 2008. This option provided for the sale of the totality of the 2009 oil production at USD 70 per barrel at a time when the price of oil was higher than USD 100 per barrel. When the price in oil collapsed, the Mexican government exercised its option in order to avoid a drastic drop in public revenue and ensure continuity in public spending.¹³¹

The proposal to delay the development of the *Greater Sunrise Oil Field* in Timor-Leste might prove successful in responding to the challenge of revenue management. The argument brought forward is that the existing Baya-Undan project already generates sufficient revenue to fill government deficits until 2021 and that the government still needs time to develop institutional capacities and regulations to avoid the risk of mismanagement and corruption.¹³²

Zoom-in on Sovereign Wealth Funds

Interest in Sovereign Wealth Funds has grown significantly over the past few years. This is partly due to the recent discovery of new resource deposits as well as the dramatic increase in resource prices. Several resource-rich countries have set up at national or sub-national levels funds fed by specific streams of resource-related revenue separated from the annual public budget. These inflows are invested as capital assets. A large share of investment outflows is usually placed into foreign assets

¹²⁹ Overseas Development Institute (ODI) (2006): Meeting the Challenge of the 'resource Curse'. International Experiences in Managing the Risks and Realizing the Opportunities of Non-Renewable Natural Resource Revenues. Prepared for the Bureau for Resources and Strategic Partnerships – United Nations Development Programme. London 2006.

¹³⁰ *Ibid.*

¹³¹ UNDP – Regional Bureau for Africa: Managing Natural Resources for Human Development in Low-Income Countries. Working Paper 2011-2012, December 2011.

¹³² Overseas Development Institute (ODI) (2006): Meeting the Challenge of the 'resource Curse'. International Experiences in Managing the Risks and Realizing the Opportunities of Non-Renewable Natural Resource Revenues. Prepared for the Bureau for Resources and Strategic Partnerships – United Nations Development Programme. London 2006.

so as to dampen the potential negative effects of “Dutch disease”. The capital income from the fund’s assets can in return be reinvested or transferred to the annual budget.¹³³

Role and key features

There were more than 48 oil and mining funds in existence by 2009 and the setup of a growing number of mineral funds are currently in the project stage. At least five strategic reasons can drive a government’s decision to create a fund: *i)* financial savings for inter-generational equality; *ii)* smoothing government expenditure in the face of volatile revenues (macroeconomic stabilisation); *iii)* earmarking resource funds for future development or specific purposes such as poverty reduction or debt servicing; *iv)* sterilisation to avoid overheating of the economy in the face of constrained absorptive capacity; and *v)* ring-fencing resource revenues. Furthermore, funds may be created to guard against major negative resource shocks or generate financial revenues in the future when the resource is eventually depleted. Finally, it is sometimes argued that by their very existence and provided careful design, resource funds can act as a model for broader fiscal discipline.¹³⁴

Both types of funds – savings and stabilisation – share common generic features. First, governments need to define the **legal framework** that will govern the establishment and management of the fund. Here, a variety of situations exists. These funds may either have a ‘virtual’ legal existence, i.e. they are embedded in the normal budget process and require no specific approval for their establishment and maintenance, or have a ‘real’ legal existence if the accumulated funds are held in a separate account, requiring a legal framework. The preference for one or the other may depend on the overall transparency of fiscal reporting to both the legislature and the public. On the one hand, where resource revenue dependency is high and spending the subject of public scrutiny, the creation of a legal entity may be desirable for transparency purposes. On the other hand, virtual funds might be preferable where all national funds need to remain fully integrated with the regular budget.

Procedures for payments into and withdrawals from funds may differ depending on the type of funds. Savings funds will tend to focus on long-term sustainability of resource revenue spending. As a consequence, the size of the capital in the fund will be determined so as to ensure it is kept constant over time. In this case, expenditure will ideally be limited and parliamentary or presidential approval may be required to authorise transfers to and from the fund. With regard to stabilisation funds, the size of the fund will depend on assumptions about revenue volatility and average expenditure planned by the government. Good practice will link these transfers to and from the fund to the annual budget process and near-term revenue forecasting since the main purpose is to allow for expenditure smoothing.

Financial management of resource funds requires decisions on the classes of assets in which to invest. Such decisions will depend on attitudes towards risk and an identified timeline. The financial management of the fund will be in most cases assigned to the central bank, a natural candidate for asset management.

Past experience in the management of resource funds has underscored the critical importance of **oversight and governance features**. Funds usually lie outside established budget systems and are frequently accountable to only a few assigned political officials. Abuse of responsibility and risk of

¹³³ Overseas Development Institute (ODI) (2006): Meeting the Challenge of the ‘resource Curse’. International Experiences in Managing the Risks and Realizing the Opportunities of Non-Renewable Natural Resource Revenues. Prepared for the Bureau for Resources and Strategic Partnerships – United Nations Development Programme. London 2006.

¹³⁴ http://www.eisourcebook.org/694_82FiscalRulesSavingsFunds.html (accessed on 16 July 2013).

political interference are common challenges faced by governments. Spelling out constraints and accountability rules in legislation can help hedge against such risks. Independent regular audits are also essential, but in practice have often been too loose. The choice to set up a fund over various alternative revenue and spending management options will depend on several economic and political factors. Similarly the characteristics of the fund will depend on the objectives pursued. Carefully-designed financial management rules will be critical in achieving the objectives. Experience has shown that poorly managed funds can generate social problems and inequalities that may outlast the resource fund's activities while a well-designed and managed fund may enhance overall public governance and generate significant benefits for the country as a whole.

Norway's Government Pension Fund

Norway's resource fund, the *Government Pension Fund – Global* (GPFG) was established when oil output reached its peak in the mid-1990s and witnessed rapid expansion when oil prices increased again rapidly in the 2000s. Today, the GPFG is one of the largest and fastest-growing SWFs in the world with total assets amounting to approximately USD 400 billion, the equivalent of 111% of Norway's GDP in 2009. Allocations to the fund are fully integrated in the annual budget of the central government. The fund targets a 4% real rate return in the long run and is based on a strategy of financial return maximisation associated with risk diversification. Norway's central bank is in charge of managing the fund and resorts to external fund managers for a small share of the portfolio. All assets are invested abroad to avoid awakening Dutch disease symptoms from which the Norwegian economy has already suffered in the past. The Finance Ministry sets benchmarks for the composition of total assets by classes and geographical areas and defines an overall performance benchmark for the fund. The notion of restraining current consumption in order to save for the future - and more particularly to finance the country's pension system - enjoys enough popular support for decision makers to resist the temptation of increasing current expenditures or lowering taxes.

A unique feature of the fund is the application of ethical principles based on the assumption that in the long run high returns can only be achieved in a context of sustainable social, environmental and financial development. The ethical guidelines specify the fund manager's obligations in the areas of corporate governance, environmental and social responsibility. The GPFG presents a number of other exemplary features which in many ways are considered good practices by international standards. These are: *i*) The Fund's stated aim to support government savings and promote inter-generational transfer of resources; *ii*) its function as a fiscal policy tool, which together with the fiscal guideline serves to limit government spending; *iii*) its full integration into government budget; *iv*) its pursuit of a highly transparent investment strategy; *v*) its exclusive investment of assets abroad ensuring risk diversification and good financial returns; and *vi*) its high- return, moderate-risk investment strategy. In addition, the underlying economic rationale for the existence of this fund makes it easy to secure popular support.¹³⁵

Chile's Pension Reserve Fund and Economic and Social Stabilization Fund

In September 2006, the Chilean Congress approved a new Fiscal Responsibility Law (FRL) which in addition to strengthening the country's fiscal framework set the basis for the establishment of the *Pension Reserve Fund* (PRF) and the expansion of the Copper Stabilization Fund that became the *Economic and Social Stabilization Fund* (ESSF). The PRF serves as a supplementary source for the

¹³⁵ Luecke, M., "Stabilization and Savings Funds to Manage Natural Resource Revenues: Kazakhstan and Azerbaijan versus Norway" in *Comparative Economic Studies*, 2011, 53.

funding of future pension contingencies. No withdrawals of principal assets are allowed from the PRF before 2016 when capital accumulation should have reached sufficient levels.

The ESSF is designed to provide the government with a stable financial basis through the partial saving of fiscal surpluses in times of strong growth and high commodity price levels. This is supposed to support budget finance in times of lower than average growth and low commodity price levels. The fund therefore isolates social spending from the swings of the economic cycle and commodity prices while strengthening Chile's public saving capacity. Withdrawals from the ESSF to cover budget deficits in times of lower government revenue require approval from the Chilean Congress while investments are managed by the Central Bank. Established in 2007 with an initial contribution of USD 2.58 billion, the market value of the ESSF was USD 15 billion by December 2012. At the end of 2009 the two sovereign wealth funds (SWFs) already represented around 48% of the total financial assets held by the central government and were equivalent to about 125% of the country's public debt.

Several lessons can be learnt from Chile's revenue management strategy. It managed to stabilise government expenditure, saving in prosperous times and spending excess tax revenues when income drops. This has ensured stable and predictable government expenditures over the medium term. The stabilisation fund proved useful in 2009 when the Chilean government leveraged the ESSF's assets to cover its expenditures following a sudden drop in tax income due the global financial crisis. The fund has ensured the financial sustainability of social policies, facilitating long-term planning and tying public spending to structural rather than effective income. Furthermore, the SWFs' assets are denominated in foreign currencies, thereby partially offsetting the upward pressure on the peso and thus avoiding "crowding out" other industries and exports and hampering Chile's competitiveness.¹³⁶

Colombia's General Royalty System

Colombia is Latin America's fourth largest economy, as measured by 2011 GDP, and is endowed with abundant natural resources. The share of commodities in exports and in the economy has risen rapidly. In 2011, oil and mining represented 8% of GDP and accounted for 70% of exports. The resource boom is opening new opportunities but also poses social, economic and environmental policy challenges. The boom has boosted foreign investment, economic growth and government revenues. However, the rising terms of trade and related capital inflows have contributed to a sharp appreciation of the exchange rate, undermining the competitiveness of other sectors. In addition, mining activities put pressure on the environment. They are also often highly capital intensive and do not create many jobs, and thus may harm income distribution. To ensure balanced growth, the Colombian economy needs to adjust to the higher terms of trade and to increase the savings rate.¹³⁷

To address these issues, Colombia put in place a new fiscal framework to help shield the economy from swings in commodity revenues. The main reforms include: the approval of a new fiscal rule in June 2011, the creation of a Savings and Stabilisation Fund (SSF) and the enforcement of a Royalty reform. The structural budget balance rule for the central government will help guard against the unsound use of volatile commodity resources and enhance fiscal discipline by setting clear targets up to 2022. It shall also mitigate the pro-cyclical bias of fiscal policy observed in the past. The SSF will accumulate revenue windfalls to finance counter-cyclical fiscal policies during downturns and the costs associated with natural disasters. The fund shall play an important role in a country where the automatic stabilisers are limited by the small size of the government and by the spending and revenue

¹³⁶ Korinek J., *Mineral Resource Trade in Chile. Contribution to Development and Policy Implications*. OECD Trade Policy Paper no 145, pp 33, March 2013, Paris.

¹³⁷ OECD (2013), *OECD Economic Surveys: Colombia 2013: Economic Assessment*, OECD Publishing. doi: [10.1787/eco_surveys-col-2013-en](https://doi.org/10.1787/eco_surveys-col-2013-en)

mix – in particular unemployment benefits are low and consumption taxes account for the bulk of the tax take.¹³⁸

The third measure, the reform of royalties implemented in 2012, aims at better distributing the resource revenues and promoting productivity growth in the non-commodity economy. This is another way to aid positive adjustment to the higher exchange rate and ensure that gains from the resource boom are more fairly shared. In the past, commodity-producing regions have received most of the royalties (almost 1.4% of GDP in 2011). As a result of the reform, the share allocated directly to commodity-producing regions will be reduced from 80% over the period 1994-2010 to 25% in 2012 and 10% after 2014. The royalties not allocated to producing regions will largely be spent on infrastructure and innovation. Royalties funds will be allocated across sub-national governments (departments and municipalities) according to objective criteria, which include population size, poverty and unmet basic needs. Projects are selected by councils called OCADs (Órgano Colegiado de Administración y Decisión), which consist of both sub-national (i.e. mayors, governors) and national authorities (e.g. Minister of Finance, Minister of Mining, National Planning Department Director). Congress has granted the central government veto power in approving projects.¹³⁹

Under the new General Royalty System, royalties are allocated across six main mechanisms¹⁴⁰:

- 10% finance the territorial pension saving fund (*Fonpef*), managed by the Ministry of Finance, which covers pensions for sub-national public employees.
- 10% are allocated to the science, innovation and technology fund managed by *Colciencias* (the Department of Science, Technology and Innovation).
- Up to 30% are allocated to the sub-national Savings and Stabilisation Fund, managed by the Central Bank.
- Direct allocations will be reduced from 25% in 2012 to 10% after 2014.
- The Regional Development Fund will receive 16% of the resources after 2014 that shall not be earmarked to any specific type of expenditures.
- The Regional Compensation Fund, created for a period of 30 years, will get 24% of the royalties after 2014, and will invest in local projects in the poorest regions and municipalities. At the end of the 30th year, the resources will migrate to the Regional Development Fund.

Fundo Soberano de Angola

After the civil war, Angola emerged as the second largest oil producer in Africa. One of its major assets appears to be the *Fundo Soberano de Angola* (FSDEA). It was created upon IMF recommendation to protect government revenues against oil price volatility and build a more resilient and diversified economy. The fund was officially established in 2012. It holds USD 5 billion-worth of assets and is mandated to support Angola's socio-economic development through economic stabilisation, job creation as well as inter-generational wealth transfer. Funded by oil revenues, it has

¹³⁸ *Ibid.*

¹³⁹ *Ibid.*

¹⁴⁰ *Ibid.*

experienced an annual increase of USD 3.5 billion and aims to reach USD 20 billion by 2020 which would make it one of the 30 largest SWFs worldwide.

While complying with the national macroeconomic government plan, it is managed independently from the national oil company *Sonangol*. FSDEA shall be managed by an independent board of directors. It will most likely focus on Angola's domestic market in areas such as real estate, infrastructure, hospitality, water, agriculture, transportation and power generation. The FSDEA is inspired by the Government Pension Fund of Norway, especially with respect to social accountability and ethical guidelines. It has established a Social Charter which states that investments shall be evaluated based on their potential social impact and targeted at the most economically deprived segments of Angolan society.

The FSDEA should play a key role in: *i)* fostering economic stabilisation and reducing fiscal pressure while standing as a last resort option in times of financial turmoil; *ii)* supporting national economic diversification and global economic integration and increasing capacity to attract Foreign Direct Investments (FDIs); *iii)* improving Angola's credit rating; *iv)* supporting poverty reduction and improving human development; *v)* improving national infrastructure; *vi)* fostering transparency and fighting against corruption; as well as *vii)* transferring wealth to future generations.¹⁴¹

The Nigerian Sovereign Investment Authority

In Nigeria, resource revenues were previously held in the Excess Crude Account (ECA) to help stabilise the budget. The ECA was created in 2004 as an essentially administrative tool without any legal recognition. The rationale behind the ECA was to close budget deficits due to oil price volatility and to potentially fund domestic infrastructure investments. However, serious concerns were raised regarding transparency and accountability in the management of excess liquidity from crude oil sales held in the ECA. To address this, the Nigerian Senate passed the Nigeria Sovereign Investment Authority Bill on 11 May 2011 which provided for the establishment of a SWF to manage excess profits from crude oil sales. The Excess Crude Account (ECA) has now been replaced by three sovereign wealth funds: the Future Generations Fund, the Nigerian Infrastructure Fund and a Stabilization Fund. These funds will be managed by the *Nigerian Sovereign Investment Authority* (NSIA).

According to the Nigerian Sovereign Wealth Investment Act 2011, the establishment of the funds aims at increasing Nigeria's economic competitiveness by improving foreign investment attraction whilst creating a yardstick to measure the government's commitment to global standards of transparency and accountability. The funds shall also ensure counter-cyclical economic stabilisation and contribute to smoothing variations in government income.

Identifying what to spend on

The main targets of investment for resource revenues should be addressing the bottlenecks to attract further investment. Improving the policy framework can benefit not only the resource sector but also contribute towards structural transformation. By enabling capability gains and productivity increases throughout the economy these investments are also a good way to enable growth in the face

¹⁴¹ Lo Turco, C., *The upcoming Sovereign Wealth Funds: The Fundo Soberano de Angola - FSDEA*. Sovereign Wealth Funds Law Centre. Bi- Annual Legal Report. 2013/1-April, 39.

of loss of competitiveness in non-resource sectors resulting from “Dutch disease” effects.¹⁴² Furthermore, public investment can be designed to boost private investment either directly, by increasing access to finance through development banks, or indirectly, by refraining from sovereign domestic borrowing, thereby reducing interest rates for the private sector.¹⁴³

Investing resource revenues presents several challenges: efficient investment opportunities suitable for the economy’s absorptive capacity need to be identified and the maintenance costs associated with public investments must be accounted for. Even though the advantage of efficient up-front investment over saving has received theoretical backing,¹⁴⁴ the experience of many resource-rich countries shows that these investments do not necessarily have growth-enhancing effects, but on the contrary can place a massive burden on a country.¹⁴⁵ The lack of investment efficiency stems from ill-chosen investment projects that are lobbied for by special interest groups in defiance of public welfare. Bottlenecks in absorptive capacity need to be accounted for when making investment decisions. Furthermore, recurrent costs for operation and current expenditures are frequently not factored into the decision on investment projects, which can lead to a rapid decline in their productivity in the medium term.¹⁴⁶

Whenever revenues cannot be invested efficiently, they should be saved away in a stabilisation fund as discussed in the previous section, on top of the portion of revenues that was otherwise targeted for to be saved for inter-temporal expenditure management purposes. Basing investment decisions on project efficiency contributes to decoupling government expenditure from revenue inflows and thereby reduces the distortive effects of volatile revenue flows.¹⁴⁷ However, evaluating an investment project’s efficiency and economic sustainability, while factoring maintenance costs into the investment decision, requires substantial capacity. Initial investments could therefore be targeted at increasing the capacity of governments to select, implement and evaluate future investment projects and handle the challenges constituted by sudden revenue inflows.¹⁴⁸

Upgrading human capital and national R&D capabilities

Upgrading human capital: The relationship between skills and economic development has been amply demonstrated in the literature. Wood and Mayer (2001)¹⁴⁹ show that skill per worker measured in average years of schooling is a strong predictor of the ratio of processed to unprocessed primary products in a country’s exports. In many successful resource economies the supply of skilled engineers

¹⁴² Venables, A.J. (2012), “Notes on revenue management”, input to the AEO experts’ meeting held 23 November, OECD Conference Centre, Paris and Sachs, J. (2007), “How to handle the macroeconomics of oil wealth”, in M. Humphreys, J.D. Sachs and J.E. Stiglitz (eds.) (2007), *Escaping The Resource Curse*, Columbia University Press, New York.

¹⁴³ Venables, A.J. (2012), “Notes on revenue management”, input to the AEO experts’ meeting held 23 November, OECD Conference Centre, Paris.

¹⁴⁴ e.g. Takizawa, H., E.H. Gardner and K. Ueda (2004), “Are developing countries better off spending their oil wealth upfront?” *IMF Working Paper* WP/04/14, IMF, Washington, DC.; Venables, A.J. (2010), “Resource rents: When to spend and how to save,” *International Tax and Public Finance*, Vol. 17, pp. 340-356; Van der Ploeg, F. (2010), “Why do many resource-rich countries have negative genuine savings? Anticipation of better times or rapacious rent seeking”, *Resource and Energy Economics*, Vol. 32, pp. 28-44 ; and Araujo, J. et al. (2012), “Current account norms in natural resource rich and capital scarce economies”, Manuscript, IMF, Washington, DC. as cited in Berg, A. et al. (2012), “Public investment in resource-abundant developing countries”, *IMF Working Paper*, Research Department, International Monetary Fund, Washington, DC.

¹⁴⁵ Gelb, A. (1988), *Oil Windfalls: Blessing or Curse?*, World Bank Research Publication, Oxford University Press, New York and Auty, R. (1990), *Resource-Based Industrialization: Sowing the Oil in Eight Developing Countries*, Oxford University Press, New York.

¹⁴⁶ Berg, A. et al. (2012), “Public investment in resource-abundant developing countries”, *IMF Working Paper*, Research Department, International Monetary Fund, Washington, DC.

¹⁴⁷ *Ibid.*

¹⁴⁸ Venables, A.J. (2012), “Notes on revenue management”, input to the AEO experts’ meeting held 23 November, OECD Conference Centre, Paris.

¹⁴⁹ Wood, A. and J. Mayer (2001), “Africa’s export structure in a comparative perspective”, *Cambridge Journal of Economics*, Vol. 25/3, pp. 369-94.

has proved crucial. In the United States and Sweden technical universities were established to support the resource sector. Later these institutes became the backbone of a range of research-intensive industries, Stanford University and the University of California at Berkeley being the most famous examples. In Chile the state provided support for engineers to study abroad. Today Chile is a major supplier of engineering services. The country also invested in research, training and extension services that led to the creation of highly profitable agricultural production. Australia's poor performance in the late 1800s and early 1900s was largely due to the lack of engineers and the lack of exposure to modern technology that would have made more deposits exploitable.¹⁵⁰

Innovation clusters: Upgrading technology through national innovation clusters can promote targeted build-up of national capabilities. As local enterprises themselves do not usually have the means for R&D on the required scale, it is often expedient to establish centralised institutions to conduct innovative technology research.¹⁵¹ Around these, clusters for research, education and training institutions can be built, in which domestic suppliers, processors and lead firms participate. These clusters can serve as repositories of technical information and provide technical training and technological services to SMEs and processors. Whereas general information and educational services could be provided for free to SMEs, testing, calibration and repair of equipment as well as tailored services would typically be charged. In specific cases, these services could be subsidised by government for limited periods of time.¹⁵² Examples include South Africa's mineral research institution Mintek, which has developed into one of the world's leading R&D institutions for mineral processing, extractive metallurgy and mineral-related services.¹⁵³ The Chilean's mining cluster in the northern region of Antofagasta, further developed in Box 6, also provides a good case in point.

Box 6. The case of Chile: Antofagasta's mining cluster

Chile has been remarkably successful in turning its natural resource endowments into a generator of growth and modernisation via strong exports and fiscal discipline. However, specific challenges remain for its mining regions, which often bear the environmental and other costs associated with resource extraction, while reaping only a portion of the benefits. Chile's northern region of Antofagasta is an example. Half of Chile's total mining activity comes from copper extraction in the region which represents over 65% of the region's GDP, the vast majority of which is exported.

In this context, one of the main challenges facing the region is to diversify economically both within and outside of the mining industry which requires an environment conducive to entrepreneurial and innovation activity. In an effort to strengthen the region's entrepreneurial and innovation capacities, the Chilean government both at national and local level has defined and pursued an ambitious entrepreneurship and innovation agenda since 2005.

The Region of Antofagasta is well placed to take advantage of the National Innovation Strategy launched in 2007 which includes the Programme for Enhancing Competitiveness (*Programma de Mejoramiento de Competitividad*, PMC), designed to integrate support activities including training, tender preparation and innovation and research capacity into three sectors: mining services, fishing and aquaculture, and tourism. The National Innovation Council also launched a new national strategy for developing more competitive clusters, prioritising eight, among which is mining, especially in the country's north. This has contributed to increasing

¹⁵⁰ Wright, G. and J. Czelusta (2004), "The myth of the resource curse", *Challenge*, Vol. 47/2, pp. 6-38.

¹⁵¹ Lydall, M. (2009), "Backward linkage development in the South African PGM industry: A case study", *Resources Policy*, No. 34, pp. 112-120.

¹⁵² Battat, J., I. Frank and X. Shen (1996), "Suppliers to multinationals: Linkage programs to strengthen local companies in developing countries", *Occasional Paper* No. 6., Foreign Investment Advisory Service, World Bank, Washington, DC.

¹⁵³ UNECA and AU (2011), *International Study Group Report on Africa's Mineral Regime*, United Nations Economic Commission for Africa and African Union, Addis Ababa.

cluster visibility in the region of Antofagasta.

One of the most significant components of Chile's approach to innovation policy was the 2006 introduction of a specific tax on mining activities (*Impuesto específico a la actividad minera, Ley 20.097*), which supports the Innovation Fund for Competitiveness (*Fondo de Innovación para la Competitividad, FIC*) and the National Innovation Strategy. The FIC is part of the National Fund for Regional Development (*Fondo Nacional para Desarrollo Regional, FNDR*), and it is destined to fund projects in science, technology and innovation on a regional basis. The regional assignment of FIC is 25%, and mining regions receive 60% of it. Antofagasta receives 14% of the funds dedicated to the mining regions.

Additional central level support and co-ordination has come from regional productive development agencies. In 2006, Antofagasta's Regional Development Agency (*Agencia Regional de Desarrollo Productivo, ARDP*) and the Regional Government (*GORE*) were tasked with articulating and funding regional development activities. The ARDP identified a series of emerging sectors with potential – astronomy, aquaculture and academia (attracting students) – and developed an Agenda for Productive Development (*Agenda de Desarrollo Productivo, ADP*). This Agenda also fed into Antofagasta's Regional Development Strategy (*Estrategia Regional de Desarrollo, ERD*). The aim of the Agenda was to ensure that each of the Region's municipal territories (*comunas*) were self-sufficient in terms of productive development. The ARDP took an active role in working with regional and local stakeholders to identify and address economic development challenges and opportunities throughout the region.

Source: OECD (2013), OECD Territorial Reviews: Antofagasta, Chile 2013, OECD Publishing. doi: [10.1787/9789264203914-en](https://doi.org/10.1787/9789264203914-en)

Upgrading infrastructure

Infrastructure is crucial for resource and non-resource sectors and a particular challenge for land-abundant countries. In particular, transport and energy infrastructure is an essential ingredient for the development of competitive mining and agricultural sectors. Both sectors need reliable roads, often railways, and power, the lack of which also happens to be the major bottleneck to the growth of firms in many developing countries. For example, insufficient infrastructure is seen as a major cause of poor past performance in over 40% of African countries. Non-renewable resource extraction can be leveraged to build long-term assets, such as infrastructure, that will support sustainable and inclusive growth. This can for instance be achieved by capitalising on the resource taxation potential and reinvesting the tax revenues in all-weather roads, but it can also be done by designing multi-purpose infrastructure projects.

Mining as well as oil and gas operations typically have enormous infrastructure needs and addressing these can boost the productivity and offer opportunities in other sectors. In Australia, the provision of water pipelines to gold mines in the interior of the country enabled land irrigation and the development of significant wheat production.¹⁵⁴ Roads and railways to large mining sites can bring much-needed transport infrastructure to remote areas. Where the power needs for ore processing require the construction of new generating capacity, such capacity can also potentially serve the wider economy in the area. For example, at about 28 megawatts the energy required to refine 10 000 tonnes of copper roughly represents 2% of Zambia's annual production, and is roughly equivalent to twice Benin's current electricity generating capacity. Entering a partnership with resource-extraction firms to generate marginally more energy than is needed for processing alone could have a large impact on the electricity supply in many developing countries.

¹⁵⁴ Doepel, D. and G. Bolton (2013), "Extracting the value from the extractive industries: Insights from the Australian experience", GREAT Insights, Vol. 2/2, pp. 13-14.

Energy is particularly important for natural resource-based structural transformation: The importance of electricity for business development has been widely demonstrated.¹⁵⁵ Electricity is crucial for structural transformation as it is a necessary requirement for most productivity-enhancing technology. For starters, electric light can enable people to use more hours of the day for productive activity. Simple machines can empower agriculture-based households to branch off into economic activities such as sewing. As energy is among the most important inputs to the processing of any type of resource, hard, soft or energy, it can also be the key to diversify economic activities based on a resource economy. For many processing operations the cost of energy is among the most important determinants of economic feasibility. World production of materials requires about a third of total worldwide primary energy use per year.¹⁵⁶ Refining Africa's ore output of the four main base metals – aluminium (bauxite), copper, iron and nickel – would absorb more than Africa's total electricity supply in 2009. Improving Africa's energy supply would thus be a necessary pre-condition for adding more value to resources.

Multi-purpose infrastructure development. Natural resource concessionaires have traditionally adopted an enclave approach to infrastructure development, providing extractive companies with their own power and transportation services to ensure that the basic infrastructure needed for their operations is reliably available. Hence, these large targeted infrastructure investment projects are often unco-ordinated with national infrastructure development plans fostering the emergence of what could be described as “captive infrastructure”. Integrating the needs of lead firms and suppliers could particularly promote cross-linkages between mining and agriculture. Indeed, the deployment of multi-use infrastructure could provide new opportunities for agricultural producers to supply firms in the mining sector. In addition to potential cross-sectoral synergies, it could contribute to substantially reducing transportation costs therefore increasing the potential for agricultural producers to pursue viable commercial agricultural activities¹⁵⁷ and enter into export markets. In Mozambique, the Beira Agricultural Growth Corridor (BAGC) has been established in partnership between the government, the private sector, local farmers and the international community. The initiative is meant to increase agricultural productivity and enhance the incomes of local farmers through commercialising subsistence farming and channelling private investment to the region, which is home to rich coal reserves. It will thereby address low labour productivity, which is one of the reasons why most products are still sourced from Maputo and are primarily imported.¹⁵⁸

The potential to leverage infrastructure investments in extractive industries for broader national and regional development is gradually gaining prominence among policy makers. The World Bank, the African Development Bank and the African Union, along with various other development agencies, have endorsed the concept, highlighting the fact that private-sector involvement is required to bridge the vast infrastructure funding gap in developing countries.¹⁵⁹

Alternative spending options

¹⁵⁵ Harrison, A., J.Y. Lin and L.C. Xu (2013), “Explaining Africa's (dis)advantage”, *NBER Working Paper* No. 18683, National Bureau of Economic Research, Cambridge, MA, <http://nber.org/papers/w18683> and Ramachandran, V., A. Gelb and M. K. Shah (2009), *Africa's Private Sector: What's Wrong with the Business Environment and What to Do About It*, Center for Global Development, Washington, DC.

¹⁵⁶ Allwood, J.M. et al., “The energy required to produce materials: Constraints on energy intensity improvements, parameters of demand”, *Philosophical Transactions of the Royal Society*, <http://dx.doi.org/10.1098/rsta.2012.0496>

¹⁵⁷ Vale Columbia Center for Sustainable International Investment: *Zambezi Valley Development Study*, June 2011. <http://www.vcc.columbia.edu/content/zambezi-valley-development-study>

¹⁵⁸ Doepel, D. and G. Bolton (2013), “Extracting the value from the extractive industries: Insights from the Australian experience”, *GREAT Insights*, Vol. 2/2, pp. 13-14

¹⁵⁹ Vale Columbia Center for Sustainable International Investment: *leveraging Extractive Industry Infrastructure Investments for broad Economic development. Regulatory, Commercial and Operational Models for Railways and Ports*. Working Paper, May 2012, pp. 1.

Direct distribution of resource revenues to citizens in the form of cash. The idea is based on the hypothesis that citizens “know how to spend their money better than does their government”¹⁶⁰. Currently, a direct distribution system is in place in Alaska, where oil earnings are invested in the Alaska Permanent Fund. Half of the investment earnings from the fund are then distributed on a per capita basis. In addition to providing income support, direct distribution gives citizens a powerful incentive to hold government accountable and monitor revenue management. While the system is generally considered a success in Alaska, it needs to be handled with caution in countries with lower average incomes, weaker government systems and lower absorption capacity. Potential challenges are that, first, there is no guarantee that distribution funds will be any safer from misuse than other types of revenue management, and second, distributive allocation potentially causes difficulties, as communities which are adversely affected by resource extraction might demand larger payments, which, if granted, could spark extensive migration of dividend seekers.¹⁶¹

Distribution in the form of subsidies: Instead of distributing cash directly to citizens several countries have opted for consumption subsidies, mostly for food and energy subsidies. The idea is to provide income support by making products of daily necessity cheaper. Oil revenues are often linked to energy subsidies. These are readily available mechanisms that do not require much administrative capacity and provide an opportunity to avoid the transmission of price volatility. However, most experiences show that using subsidies to share the resource wealth is a dangerous route to take because they create strong expectations on the part of citizens, which makes them very difficult to adjust. By distorting prices, energy subsidies can disrupt the economy enduringly, undermine investment in energy infrastructure, and effectively limit a government’s scope of action to rectify the imbalance. In sub-Saharan Africa, energy subsidies amounted to 1.4% of GDP in 2012, thus absorbing a large part of public resources. Also, as demonstrated by the IMF, energy subsidies are often not well targeted and in developing countries tend to benefit the middle-class disproportionately.¹⁶² This is due to the fact that those with higher income consume more energy. Where electricity is concerned, the situation is exacerbated since the poor are much less likely to be connected to the grid than higher-income groups. However, the share of energy in total household consumption is similar for both groups, i.e. the poor would be hurt by a removal of subsidies. Furthermore, energy subsidies tend to incentivise overconsumption, and tie government funds which could otherwise potentially be invested more effectively. Moreover, subsidies and under-pricing can lead to poor maintenance, which increases the gap between prices and cost-recovery.¹⁶³ Box 7 provides an example of consumption subsidies in Mexico.

Oil revenues can also be redistributed in the form of subsidies to support production of fossil fuels or intermediate stages of the supply chain (i.e. transportation, refining and processing). Many fossil fuel-producing countries provide corporate tax expenditures that encourage the extraction or production of fossil fuels. Other, less visible, tax expenditures include provisions that accelerate the amortisation of capital equipment for tax purposes or special tax treatment benefiting particular types of income (e.g. royalties benefiting private resource owners and “passive losses”). The objective of these tax concessions is to lower production costs and encourage investments that in turn enhance

¹⁶⁰ Frankel, J.A. (2010), “The natural resource curse: A survey”, *HKS Faculty Research Working Paper Series*, RWP10-005, John F. Kennedy School of Government, Harvard University, Cambridge, MA.

¹⁶¹ Ross, M. (2012), *How Petroleum Wealth Shapes the Development Of Nations*, Princeton University Press, Princeton and Oxford.

¹⁶² IMF (2013), “Energy subsidy Reform in sub-Saharan Africa: Experiences and lessons”, International Monetary Fund, Washington, DC. <http://www.imf.org/external/pubs/ft/dp/2013/afr1302.pdf>.

¹⁶³ *Ibid.*

economic output. A third category of fossil fuel subsidies are those related to the use of fossil fuels as inputs to production.¹⁶⁴

Despite the arguments in favour of reforming or eliminating special tax exemptions or outright fossil-fuel subsidies, it is in practice politically challenging to do so. This is in part due to the strong lobbying capacity of large companies benefitting from such exceptions, but also because of the potentially negative impacts reform can have on vulnerable households. Several international initiatives have been launched to provide political and financial support to countries in the reform and phasing out of fossil fuel subsidies. For example, the OECD 2009 Declaration on Green Growth encourages domestic policy reform, with the aim of avoiding or removing environmentally harmful policies that might thwart green growth, such as subsidies to fossil fuel consumption or production that increases greenhouse gas emissions. During the G20 Summit in 2009 and the Rio+20 Summit, leaders reaffirmed their commitment to phase out and rationalise over the medium term inefficient and harmful fossil-fuel subsidies while providing targeted support for the poorest.¹⁶⁵

Box 7. Consumption subsidies in Mexico

Consumption support in Mexico is provided through a floating excise tax on transport fuels. The tax rate is designed to respond to changes in international benchmark prices, so that when international prices increase, the tax rates for diesel and gasoline decrease, and even become negative (i.e. a subsidy) when oil prices are particularly high. For example, when the cost of crude oil in 2008 averaged USD 100 per barrel, the total value of consumer support amounted to MXN 223 billion (USD 20 billion) or around 1.8% of GDP. In response to the government's strategy to cut greenhouse gases by 50% by 2050 compared to the 2000 baseline, efforts are underway to better target energy subsidies and bring prices in line with costs. A new cash-transfer scheme was introduced to help poor households cover their energy needs, which is considered less distortionary than the floating excise tax. The 2013 Fiscal Reform proposed by the Mexican President includes the phase-out of gasoline subsidies, and electricity subsidies are being examined closely through the Energy Reform proposals.

Source: OECD (2013), *Inventory of Estimated Budgetary Support and Tax Expenditures for Fossil Fuels 2013*, OECD Publishing. doi: [10.1787/9789264187610-en](https://doi.org/10.1787/9789264187610-en)

Barter contracts. Where governments lack the capacity to implement fiscal regimes to optimise revenues and spend them efficiently, barter contracts might offer a possibility of acquiring desired public goods in exchange for access to resources. Angola, Nigeria, Zambia and Zimbabwe have already experimented barter-type agreements with Chinese consortia. Although many problems with the actual implementation of such deals are apparent, theoretically they offer several advantages.¹⁶⁶ Low-capacity governments could bypass revenue collection, redistribution among government entities and the allocation to different projects, in the process of which significant shares of revenue are often lost. Other than that, these agreements could shift the burden of smoothing revenue fluctuations from governments to investors, channel foreign infrastructure into developing countries and facilitate government commitment to long-term projects which might otherwise be difficult to complete. The best offer would then be relatively easy to identify for governments in a competitive bidding

¹⁶⁴ OECD (2013), "Climate and Carbon: Aligning Prices and Policies", *OECD Environment Policy Papers*, No. 1, OECD Publishing. doi: [10.1787/5k3z11h1hg6r7-en](https://doi.org/10.1787/5k3z11h1hg6r7-en)

¹⁶⁵ *Ibid.*

¹⁶⁶ Dahman Saidi, M. and C. Wolf (2011), "Recalibrating Development Co-operation: How Can African Countries Benefit from Emerging Partners?", *OECD Development Centre Working Papers*, No. 302, OECD Publishing. doi: [10.1787/5kg83kvgnz0v-en](https://doi.org/10.1787/5kg83kvgnz0v-en)

process.¹⁶⁷ In the absence of such competition and clear investment priorities on the part of the government, barter contracts risk fractioning the budget process through supply-driven projects.

B. GAPS IDENTIFIED AND PROPOSED OUTPUT RESULTS FOR THE POLICY DIALOGUE ON NATURAL RESOURCE-BASED DEVELOPMENT

Gap identified: While a large range of papers and case studies on revenue management and stabilisation are available, very little comprehensive support exists to help producing countries to identify critical bottlenecks and to address them by spending resource revenues.		
Objective	Proposed Intermediate Output Results	Proposed Final Output Result
<i>Enabling natural resource-based structural transformation through targeted spending of resource revenues</i>	Stock-taking and comparative analysis of country experiences	Framework for identifying bottlenecks to structural transformation and spending options to address these
Gap identified: Lack of guidance to design successful shared infrastructure projects		
Objective	Proposed Intermediate Output Results	Proposed Final Output Result
<i>Leveraging infrastructure as a catalyst for broad-based development</i>	Stock-taking and comparative analysis of experiences, building on on-going work carried out by the Vale Columbia Center	Enabling Framework for shared infrastructure
Methodology: Thematic Sub-Group on Revenue Spending with willing participating countries. Comparative analysis of country experiences by the Secretariat with possible involvement of experts from interested countries and in possible collaboration with the World Economic Forum as far as multi-purpose infrastructure development is concerned.		

¹⁶⁷ Ross, M. (2012), *How Petroleum Wealth Shapes the Development Of Nations*, Princeton University Press, Princeton and Oxford.

ANNEX A¹⁶⁸

Table: Tax regimes for the oil sector by country

	Angola		Cameroon	Equatorial Guinea	Ghana	Madagascar	
	offshore	onshore				onshore	offshore
Royalty	—	—	—	Min 13%, Max 16%	12.50%	Min 8%, Max 20%	Min 8%, Max 20%
Basis	—	—	—	daily production rate	flat	daily production rate	daily production rate
Cost recovery limit	50%-65% (with uplift)	50%-65% (with uplift)	60%	70%	—	60%	65%
Profit share	Min 30%, Max 90%	Min 35%, Max 90%	Min 20%, Max 70%	Min 10%, Max 60%	Min 12%, Max 28%	Min 20%, Max 70%	Min 20%, Max 70%
Basis	ROR	cumulative production	R-factor	cumulative production	ROR	daily production rate	daily production rate
CIT	50%	50%	40%	35%	30%	—	—
ROR taxes	—	—	—	—	—	—	—
State participation	15%	15%	25%	15%	10% and 3.75% (optional)	—	—
	State interest carried during exploration (exploration costs repayable)	State interest carried during exploration (exploration costs repayable)	State interest carried during exploration (exploration costs repayable)	State interest carried during exploration (exploration costs repayable)	10% state interest is carried during exploration and development (neither costs are repayable) 3.75% state interest is carried during exploration only (exploration costs are not repayable)	—	—

Source: Daniel, P., Goldsworthy, B., Maliszewski W., Puyo, D. and A. Watson (2010), "Evaluating fiscal regimes for resource projects: an example from oil development" in *The Taxation of Petroleum and Minerals: Principles, Problems and Practice*, Daniel, P., Keen, M. and C. McPherson (eds), New York: Routledge / International Monetary Fund.

¹⁶⁸ This annex presents fiscal regimes of petroleum and mineral sectors as shown in Daniel, P. et al. (2010) which provides the latest comparable cross-country data on the topic.

Table: Tax regimes for the oil sector by country (continued)

	Mauritania	Mozambique	Namibia	Nigeria			Sierra Leone
				onshore	offshore	deep water	
Royalty Basis	—	10% flat	5% flat	10% flat	10% flat	—	10% flat
Cost recovery limit	70%	65%	—	100% (with uplift)	100% (with uplift)	100% (with uplift)	—
Profit share	Min 20% Max 50%	Min 10% Max 50%	—	Min 52% Max 60%	Min 60% Max 65%	Min 20% Max 50%	—
Basis	daily production rate 30%	R-factor 32%	— 35%	daily production rate 50% (tax allowance on development costs)	daily production rate 50% (tax allowance on development costs)	cumulative production 50% (tax allowance on development costs)	— 37.50%
CIT							
ROR taxes	—	—	3 tiers Min 30% Max 50%	—	—	—	—
State participation	18%	10%	—	—	—	—	—
	State interest carried during exploration (exploration costs repayable)	State interest carried during exploration (exploration costs repayable at Libor +1%)	—				

Source: Daniel, P., Goldsworthy, B., Maliszewski W., Puyo, D. and A. Watson (2010), "Evaluating fiscal regimes for resource projects: an example from oil development" in *The Taxation of Petroleum and Minerals: Principles, Problems and Practice*, Daniel, P., Keen, M. and C. McPherson (eds), New York: Routledge / International Monetary Fund.

Table: Tax regimes for the oil sector by country (end)

	Australia	Timor-Leste	Colombia	Peru	Norway	UK
Royalty	—	5%	Min 8% Max 25%	Min 5% Max 20%	—	—
Basis	—	flat	daily production rate	daily production rate	—	—
Cost recovery limit	—	100% (with uplift)	—	—	—	—
Profit share	—	40%	—	—	—	—
Basis	—	fixed	—	—	—	—
CIT	30%	30%	33%	30%	CIT 28%, ST 50% Special Tax (ST) is same as for CIT plus 30% uplift on investment	CIT 30%, SC 20% Supplementary Charge is additional charge of 20% on company's ring fence profits excluding financing costs
ROR taxes	1 tier 40%	1 tier 22.50	—	—	—	—
State participation	—	20%	—	—	—	—
		State interest carried during exploration (exploration costs repayable)				

Note: *Colombia has a high price duty (up to 30% rate), which is triggered once cumulative production reaches 5 mmbbl and when prices are above USD 34.77/bbl. There is also an exploitation duty of USD 0.1068 per bbl.

Source : Daniel, P., Goldsworthy, B., Maliszewski W., Puyo, D. and A. Watson (2010), "Evaluating fiscal regimes for resource projects: an example from oil development" in The Taxation of Petroleum and Minerals: Principles, Problems and Practice, Daniel, P., Keen, M. and C. McPherson (eds), New York: Routledge / International Monetary Fund.

ANNEX B¹⁶⁹

Table: Tax regimes for the minerals sector by country

Fiscal regime	Royalties	Corporate income tax	Additional minerals tax	Import duties	VAT	Withholding taxes on interest	Withholding taxes on dividends	State participation
Australia		Federal tax rate: 30%	nil	nil	The standard rate is 10%; exported minerals are GST free.	10% or as specified by tax treaty.	30% on unfranked dividends; varies (usually 15%) if there is a tax treaty.	nil
Western Australia	<ul style="list-style-type: none"> • Ores: 7.5% • Concentrates: 5.0% • Metals: 2.5% • Gold: 1.25-2.5% based on price • Export coal: 7.5% • Coal not exported: Specific royalty 	No separate state income tax.						
Queensland	<ul style="list-style-type: none"> • Coal: 7% • Other minerals: Fixed rate option: 2.7% • Variable rate option: 1.5-4.5% based on price 							
New South Wales	<ul style="list-style-type: none"> • Aluminium: AUD 0.35 per ton of bauxite • Industrial minerals: AUD 0.4 or 0.7 per ton • Coal: 4.7% <i>ad valorem</i> • Phosphate: AUD 0.7 per ton • Copper, Gold, Iron, Zinc: 4% of ex-mine value 							

Note : * If dividends paid out of profits have already been taxed at corporate tax rate, the company gets franking credits for the tax paid and may choose to use them.

Source: Hogan, L., and B. Goldsworthy (2010), "International Mineral Taxation: Experience and Issues" in *The Taxation of Petroleum and Minerals: Principles, Problems and Practice*, Daniel, P., Keen, M. and C. McPherson (eds), New York: Routledge / International Monetary Fund.

¹⁶⁹ This annex presents fiscal regimes of petroleum and mineral sectors as shown in Hogan, L., and B. Goldsworthy (2010) which provides the latest comparable cross-country data on the topic.

Table: Tax regimes for the minerals sector by country (continued)

Fiscal regime	Royalties	Corporate income tax	Additional minerals tax	Import duties	VAT	Withholding taxes on interest on dividends	State participation
Canada		Federal 22.12%, which includes the 28% statutory rate, 4% surtax and 7% resource rate reduction. Provincial royalty and mining taxes are not deductible from federal taxes.*	nil	Most minerals are exempt.	The standard rate is 7%; exported minerals are GST free.	25% is withheld on payments made to non-residents ditto	
British Columbia	<ul style="list-style-type: none"> • Minimum tax is 2% <i>ad valorem</i>, (deductible against profit royalty) • 13% profit royalty • Losses can be carried forward under profit royalty 	British Columbia 14.36% on net resource income; the 2% royalty on net proceeds can be deducted.					
Northwest Territories	<ul style="list-style-type: none"> • 5-14% profit royalty (sliding scale) • No tax if income below CAD 10 000 						
Ontario	<ul style="list-style-type: none"> • 10% profit royalty • No tax if income above CAD 500 000 • Tax reductions for mines in remote regions 						

Note : * Allowable deductions are costs directly related to operations, loss carry forwards, development and exploration costs, asset depreciation and accelerated depreciation allowance, resource allowance, reclamation contributions, and depletion allowance.

Source: Hogan, L., and B. Goldworthy (2010), "International Mineral Taxation: Experience and Issues" in The Taxation of Petroleum and Minerals: Principles, Problems and Practice, Daniel, P., Keen, M. and C. McPherson (eds), New York: Routledge / International Monetary Fund.

Table: Tax regimes for the minerals sector by country (continued)

Fiscal regime	Royalties	Corporate income tax	Additional minerals tax	Import duties	VAT	Withholding taxes on interest	Withholding taxes on dividends	State participation
United States		Federal 15-35% rates. Foreign countries taxed on gross withholding basis. An additional branch profits tax of 30% (or as stated by tax treaty) applies on income of foreign companies from US sources.	nil	Vary by country and commodity.	nil	30% to non-treaty countries; 0-15% to treaty countries.	ditto	n/a
Arizona	<ul style="list-style-type: none"> • At least 2% <i>ad valorem</i> • Rate set by commissioner 	Arizona 6.968%. Applies to taxable income that is assessed similarly to federal taxable income and adjusted for Arizona tax.						
Michigan	<ul style="list-style-type: none"> • 2.7% <i>ad valorem</i> (sliding scale) 	Michigan 4.95%*						
Nevada	<ul style="list-style-type: none"> • 2-5% profit royalty (sliding scale) • 5% if net proceeds above USD 4 million 	Nevada nil						

Note: * The New Michigan Business Tax. First USD 45 000 of tax base exempt. Plus, 0.8% of modified gross receipts (receipts less purchases from other firms) on receipts of USD 350 000 or more. A surcharge of 21.99% applies.

Source: Hogan, L., and B. Goldsworthy (2010), "International Mineral Taxation: Experience and Issues" in The Taxation of Petroleum and Minerals: Principles, Problems and Practice, Daniel, P., Keen, M. and C. McPherson (eds), Routledge / International Monetary Fund, New York.

Table: Tax regimes for the minerals sector by country (continued)

Fiscal regime	Royalties	Corporate income tax	Additional minerals tax	Import duties	Withholding taxes		State participation
					on interest	on dividends	
Africa							
Botswana	<ul style="list-style-type: none"> • Most minerals: 3% • Metals: 5% • Precious stones: 10% 	Variable rate formula: $70 - 1500/Y$ where Y is the ratio of taxable income to gross income. 25% minimum tax.	nil	nil	15%	15%	nil
Ghana	<ul style="list-style-type: none"> • All minerals: 3-6% rate graduated on operating profit • Coal and other minerals: 3% 	25%	nil	nil	8%	8%	nil
Mozambique	<ul style="list-style-type: none"> • Basic minerals: 5% • Semiprecious stones: 6% • Precious metals: 10% • Diamonds: 10-12% 	32%	nil	5 year exemption	20%	20%	nil
Zambia	<ul style="list-style-type: none"> • Base metals, industrial minerals, and energy minerals, including copper: 3% • Precious stones and gemstones: 5% 	variable according to the following formula: $30\% + 15\% \times (1 - 8\%/Y)$ when Y is the ratio of taxable income to gross income	nil (windfall tax introduced in 2008 was repealed in 2009)	nil	15%	Exempt	Varies: 10% is an indicative rate

Source: Hogan, L., and B. Goldsworthy (2010), "International Mineral Taxation: Experience and Issues" in The Taxation of Petroleum and Minerals: Principles, Problems and Practice, Daniel, P., Keen, M. and C. McPherson (eds), New York: Routledge / International Monetary Fund.

Table: Tax regimes for the minerals sector by country (continued)

Fiscal regime	Royalties	Corporate income tax	Additional minerals tax	Import duties	Withholding taxes on interest	Withholding taxes on dividends	State participation
Africa (continued)							
South Africa	<ul style="list-style-type: none"> • Variable rate depending on EBIT • Max rate for refined minerals 5%, for unrefined 7% 	28% normal CIT Gold mining companies subject to variable income tax:	nil	nil	nil	10% STC to be withdrawn in 2010	nil
Latin America							
Bolivia	<ul style="list-style-type: none"> • Gold: 4-7% depending on price • Gold from deposits: 3-5% depending on price • Silver: 3-6% depending on price • Lead, tin and copper: 1-5% depending on price 	25%	nil	nil	Residents exempt, 12.5% for non-residents	Residents exempt, 12.5% for non-residents	nil
Brazil	<ul style="list-style-type: none"> • Aluminium and phosphate: 3% • Copper, iron, zinc: 2% • Gold: 1% • Industrial minerals: 2% 		34%	nil	nil	15% on interest paid to non-residents	nil
Chile	<ul style="list-style-type: none"> • Copper: 0.5-5% based on sales 	35%	nil	10% (deductible)	4% if loan granted by foreign bank, 35% otherwise	35%	nil
Mexico	nil	28%	nil	nil	nil	nil	n/a
Peru	<ul style="list-style-type: none"> • Most minerals: 1-3% 	30% +0.5% tax on total assets above DEN 1 million	nil	12%	30% non-treaty rate	4.1%	8% workers profit share based on net income before tax.

Source: Hogan, L., and B. Goldworthy (2010), "International Mineral Taxation: Experience and Issues" in The Taxation of Petroleum and Minerals: Principles, Problems and Practice, Daniel, P., Keen, M. and C. McPherson (eds), New York: Routledge / International Monetary Fund.

Table: Tax regimes for the minerals sector by country (continued)

Fiscal regime	Royalties	Corporate income tax	Additional minerals tax	VAT	Import duties	Withholding taxes		State participation
						on interest	on dividends	
Asia and Pacific	<ul style="list-style-type: none"> Aluminium, iron and zinc: <i>Ad valorem</i> + per unit charge Copper: 2% + 0.4-30 Gold: 4% + 0.4-30 Industrial minerals: 2% + 0.5-20 CNY/tonne Aluminum, iron and phosphate: Unit based Copper: 45-55 USD / tonne Gold: 7.5% from placer, 2.5% otherwise Industrial minerals: 0.14-0.16 USD / tonne 	25% ¹	nil	nil	Exports are zero rated; imports of mining equipment are exempt.	10%	nil	nil
China								
Indonesia		10 % on first IDR 50m, 15% on next IDR 50m and 30% on balance.	nil	nil	Pre-production purchases of machinery and equipment are exempt; exports are zero rated	Residents exempt; non-residents 20%.	15% residents, 20% non-residents.	nil
Mongolia	<ul style="list-style-type: none"> Most minerals: 5% Domestically sold coal and other minerals: 2.5%. 	10% on taxable income up to MNT 3 billion, 25% on excess	68% ²	5%	10%; exports are zero rated; goods supplied to mining companies are exempt.	20%	20%	Up to 50%

Notes : 1. Companies operating in special economic zones benefit from a reduced tax ratio of 15%. 2. This tax was suppressed in 2011.

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