Government Fiscal Take

1. Executive Summary

Government's share from development of natural resources can include many components. It is not limited to the taxes and e.g. royalties applicable to the extractive industry (EI), but includes other requirements placed upon investors, such as making infrastructure investment, employing and/or training residents, and purchasing services and supplies from local businesses. It is this Total Contribution to a developing country's economy that should be considered. Fiscal terms and corporate tax take are only a part of that Total Contribution.

Both business and government objectives should be clear, to create a framework for decisions in the design of a sustainable total contribution and tax policy. Ideally, the government should also form an idea of its potential resource revenues, what kind of return it expects, and how it wants to manage and use the funds generated by its resources.

Great variation in fiscal instruments is available and each one has differing implications for both governments and investors. Many combinations of such instruments exist on the road towards good fiscal policy for the extractive industry, and given the long term nature and scope of these projects, long term government objectives should drive the choice of instruments. Ideally, governments and investors should work together such that the ultimate government share framework promotes government objectives while attracting the investment required to develop the country's natural resources.

Implementation issues for any particular fiscal regime (including monitoring, auditing and revenue collection) should also be considered at an early stage. Upfront and ongoing coordination between various impacted governmental departments is crucial. Consideration should be given upfront on (fiscal) allocation of profits/ tax revenues between parts of the national government and between various subnational entities in order to enhance the long term sustainability of natural resource developments.

2. Purpose

The purpose of this note is to provide context for stakeholders as to how value is shared from the extractive industry and to elaborate on what building blocks are available to share that value. Besides the overview of the types of government take available, the note elaborates on how the various fiscal instruments can influence investment and revenue. In addition to sharing knowledge about the specific instruments, a number of potential interactions between these instruments and the existing, general tax regime in a country, including its international aspects, are covered.

This is intended to assist policy makers and administrators in developing countries to participate effectively in extractive industries tax policy development and tax implementation as well as to provide information to other stakeholders. It should allow policy makers and tax administrators to

understand implications of the choices they make when formulating tax policy and when applying existing legislation. As fiscal policy and decisions around government take are at times made outside the Ministry of Finance (e.g. by the Ministry of Energy or Mines), the guidance note underscores the importance of tax authorities' participation with their counterparts in other departments to ensure government take decisions can be applied consistently and in alignment with the existing constitutional and fiscal framework.

Background contained in this note provides a broader context for viewing the overall issue of natural resource taxation and relates to other guidance notes, such as the taxation of indirect asset transfers, value added tax issues and the tax treatment of decommissioning. Some of the other notes give more detail on these significant issues.

3. Status

This note is for guidance only. It is intended to identify issues of taxation of the extractive industries, address several of the most significant ones in short form, help build awareness, and ultimately, along with the additional specific issue guidance notes, help those faced with these issues to make policy and administrative decisions in relation to them.

4. Terms Used

[DEFINITIONS TO BE UPGRADED AND TO BE ALIGNED WITH OVERVIEW NOTE]

Bonuses Lump sum (or sometimes staged) payments made to a government upon award of a natural resource license or some other project event.

Concession Regimes Structures involving government grants to an entity of the rights and/or licence for exploration, development, and extraction of natural resources at the grantee's sole risk. Grants generally cover a fixed area and impose certain time limits for the activities; sometimes also known as "tax and royalty" regimes; common in both petroleum and mining industries.

Consortium or Joint Venture An arrangement between several investors who may pool the capital and expertise to jointly exploit and share the risks connected with exploiting a particular extractive project.

Contract Regimes Structures involving government appointment of an entity as a contractor who agrees to bear exploration, development and other costs at its own risk in return for a share of production in the case of a success. It is more common in the petroleum industry and can be structured as a Production Sharing Contract/ Arrangement (PSC or PSA) or a Risk Service Contract.

Extractive Industries Those engaged in finding, developing, producing, and selling non-renewable resources such as crude oil, natural gas, and hard minerals (such as gold, copper) and their products.

Fiscal Systems The general framework governing natural resource activities, generally falling into two broader categories: concession regimes or contract regimes.

Fiscal Terms Specific economic elements relating to extractive industry activities within a particular country including taxation, other payments such as bonuses and royalties, legal framework and state participation.

License holder A person obtaining the licence to explore and extract the natural resource from its owner, usually the country.

Operator/Contractor The entity in charge of performing the actual extractive industry activities with respect to a particular project. It can be the licence holder or one of the licence holders, if the licence was granted to a consortium or joint venture.

Royalty In the extractive industries, the term 'royalty' refers to the obligatory payment made by the operator of the extraction project to the state as compensation for the extraction rights. Royalties are generally calculated with reference to the type, quantity, quality and/or value of the extracted mineral resource as a percentage of the gross volume or value of the production (i.e., costs generally do not reduce the base), and are due once production commences. The term 'royalties' as defined under article 12 of the UN Model has a different meaning and refers to the payment for the right to use property (in case of the UN Model both tangible and intangible).

Service Provider or Subcontractor A company or individual providing various types of services and other supplies to the Operator/Contractor in the framework of the extractive industries.

State Participation Direct government ownership or shareholding in a portion of a project and or extractives company (beyond its ownership of the underlying resource reserves); also known as "Equity Participation".

5. Background and scope

Extractive industry investment is different from regular investment: it deals with finite resources, the extraction and development of which is risky and very capital intensive. The business often requires specific expertise and generally involves a long lead time into profitability[1].

Resource holders should set up clear rules on how to secure an appropriate government share from these finite resources. Whilst it is difficult to provide guidance that applies equally in all circumstances, there are a number of general considerations that are relevant when designing and implementing extractive fiscal systems around the world.

Risk/Reward

One of the most important considerations is the risk and how various risks are allocated between the resource holder and the investing company. Risks include many items - geologic, political, development risks, influencing the operating costs, and the inherent and high risk in the pricing (or

1

value) of the revenue stream over long periods of time. Commodity prices influence the reward for the resource holder, the cost recovery for the investing company and the ultimate price of the final product. These commodity prices are not controlled by the investing company e.g. oil is traded in a liquid market and global supply and demand fluctuations impact price levels. How the risk of price volatility is allocated will influence what fiscal terms will be acceptable. The presence of fiscal stability will also influence the risk/reward balance.

When allocating risks, the funds needed to develop natural resources should be taken into account. EI typically carries higher levels of risk than other business sectors e.g. typical success rates for oil and gas 'green field' exploration activity globally varies from 1 in 3 to 1 in 4. This is fundamentally a risky, capital intensive business which can take decades to provide an economic return to the investing company.

The risk/reward ratio can change over the life cycle of the development of resources. Consideration should be given how to compensate initial investing companies that were prepared to take on the "high risk/ high reward" activity, while others were not.

No "One size fits all"

The interaction between costs and fiscal terms is critical in fiscal system design. Terms need to be sensitive to the cost intensity of the resource being developed and extracted. E.g. in the oil and gas industry, the old adage "cheap oil and tough terms come together" has been well demonstrated by resource holding countries around the world, that typically command a high level of 'Government Take' for low cost / low risk developments onshore. The opposite is also true – high cost / high risk exploration e.g. in frontier deep water acreage typically requires appropriate lower levels of 'Government Take' to incentivise companies to take on these risks.

Different perspectives on the geological attractiveness of the acreage, the long term commodity price outlook, risk appetite, and internal profitability screening criteria lead to a range of bids from interested companies. These risks and criteria are not assessed in the same way by all actors. E.g. in the oil and gas industry, very often national oil companies will have different drivers and internal criteria to determine an "economic return" than international oil companies.

Throughout the lifecycle of a project the host government may want to increase jobs or develop domestic competencies. Developing countries need to consider if local content or other infrastructure requirements will meet these objectives better than an increased fiscal take. Whichever way the objective is achieved, specific requirements will generally change the overall risk profile and therefore fiscal terms considered.

As access to conventional oil and gas opportunities has declined, investing companies have pursued 'unconventional' opportunities, which tend to be more difficult or more expensive or both. Unconventional oil and gas may require a deviation from the conventional way fiscal systems are designed and the terms that are on offer.

Predictability

Investing companies are in the risk taking business. They are generally prepared to take the technical sub-surface uncertainty, the cost uncertainty and the oil/gas price uncertainty over the life of the venture, but they are very uncomfortable about shouldering fiscal uncertainty as well. Requiring companies to manage the risk around an unstable (tax) environment impacts their risk profile and therefore the reward required. The more a government can reduce investor risks, the higher the amount the investor will be willing to pay in terms of government take.

All things being equal stable and predictable features of a fiscal regime positively influence the risk/reward ratio by creating certainty which is more likely to attract investment. This is particularly true late in the life of a basin or license where the size of discoveries statistically becomes smaller and smaller and consideration of the cost of abandonment and decommissioning must be taken into account. Developing ever smaller discoveries may increase risk to the point where there is no longer an acceptable chance of making an economic return, especially if there is the risk of further adverse fiscal change. Often fiscal regimes are stabilized in the contract to ensure predictability.

The key is for the country to have flexibility in its fiscal system from the start to address the evolution in its objectives, to deal with a variety of technical risks and different types of opportunities (e.g. onshore, deep water and unconventionals). E.g. Russia has a tax system that proposes different terms depending on the type of opportunity. This deals with uncertainty by providing flexibility in a predictable manner.

If this flexibility cannot be addressed in the terms from the beginning, rather than unilateral modification of the fiscal terms, changes are better achieved by modifying the terms of the successive licensing rounds if available. Whilst there may be merit in competitively tendering exploration acreage, there may be other situations where it is not in the best interest of the Government to follow this approach e.g. where licenses are due to expire and it is mutually advantageous to enter into negotiations to extend the license. [See also the Guidance Note on Negotiation and Renegotiation of Contracts]

Predictability is also enhanced through simplicity of terms, which is an important driver and may need to be balanced with the other considerations. Especially when considering administrative implementation, the terms should be clear and simple enough to be administered with the resources and capacity at hand.

Long term perspective

The life cycle of many oil and gas fields (from exploration to abandonment) can easily be 30to 40 years. The life cycle for mining is generally even longer. Fiscal certainty over such long time horizons is therefore critical in investment decision making but will be challenging in view of what may be shorter political horizons.

In the taxation of EI, it is important to look at the profitability over the life cycle of projects, and not to judge the availability of revenues or company profits over the short-term or even on a single year basis e.g. when oil/gas/commodity prices are high or low. It is also important not to compare individual elements of a tax structure only to statutory tax rates, but instead to look at the overall government take. Especially in developing countries government take can also be indirect, and e.g. include infrastructure, employment, training, and local content requirements.

Integrating environmental considerations in fiscal system design has been lacking globally as environmental considerations may be dealt with by another part of Government. Including a framework to deal with that upfront should be considered, even if the environmental requirements like decommissioning are only expected to come in at the end of the project's lifecycle.

Scope

To facilitate Tax Authorities in developing countries to contribute in an effective manner to predictable tax revenues regarding the EI, the note:

- Elaborates on framework considerations both the resource holder and the investor may have when considering the fiscal terms
- Describes the most typical fiscal instruments used in the extractives industries
- Lists potential consequences of the interaction between the various instruments as well as with the regular tax regime; and
- Considers some specific issues regarding tax administration and their impact

This note does not deal with the determination of what an appropriate risk/reward and fiscal share allocation should be. This will vary from country to country and even from project to project within a country. As noted, the share of natural resource value a resource holder receives from their development is larger than the pure fiscal take. Therefore, the mandate to determine the appropriate return as well as the expertise to determine it, will generally lie outside the Tax Authorities. The content of the note should however allow the relevant Tax Authorities to challenge assumptions made regarding fiscal take determinations and contribute to fiscal term design to ensure policy makers include tax specific considerations in their allocation work and negotiations[2].

6. Stakeholder considerations

The overall framework determining government share will do more than allocate EI revenues between the resource holder and the investor. The choice of specific EI related instrument or combinations thereof is likely to have an impact on the business a country seeks to tax (and attract to make investments) rather

[2] Economic modelling is very relevant and tax experts should be involved in the economic modelling done by a country on EI fiscal take. They should be in a position to challenge what tax assumptions have been made for the modelling and whether the pre-existing fiscal rules have been considered in the overall economic modelling. Modelling support is e.g. available with the IMF (FARI model) and various institutions (e.g. Columbia University with economic modelling on e.g. gas).

than just have a revenue raising capacity. This is more so the case for extractive industry taxation as for general profit taxation.

There are EI specific drivers that need to be considered in order to fully understand government share and its potential consequences on government and investor behaviour. The more clarity various stakeholders have on each other's drivers, the more they can be aligned, which in itself will improve the sustainability of the development.

Resource holder considerations

Overall fiscal take: A country's natural resources should contribute to the general development of an economy. The way the government take is set up and applied will influence the ability of the EI to do so. When assessing the government share to be had from developing the country's resources, resource holders and administrators should consider the total contribution this development could and should make. This may include infrastructure development requirements, eventual transfer of infrastructure, local content requirements, contribution to training funds and community projects, as well as what it receives as a result of the fiscal terms.

Timing: The resource holder government often needs to manage expectations from its citizens with respect to ongoing exploration activities, especially as they are announced as proving to be successful. Due to the long term characteristic of EI, the timing of revenue generation or overall contribution to the local economy needs to be managed. Different instruments through which the government can obtain a government share have different timing – some are more "front loaded" than others. Frontloading generally negatively effects the risk/reward assessment by investors, hence a country's expectations on timing need to be balanced with the competitiveness considerations on its regime.

Funding concern: In areas without existing fields/mines, removing high risk exploration activity from the scope of the investing company can introduce new challenges for Governments, and is influenced by their ability to bear risk, e.g. drilling exploration wells is very costly. Not all Governments / NOCs have the funds or the technology to do so. Funding requirements for a government's equity participation in a project must also be considered if a country considers taking on an equity stake as part of the fiscal take.

Development objectives: Resource rich countries may seek to achieve very different objectives, depending on the level of political and social development:

- In the early years of opening up acreage for exploration, the government may be focusing on incentivizing high risk exploration activity e.g. to 'prove' that the acreage has oil and gas resources or to assess the grade of the minerals. Terms need to be tailored accordingly to achieve this objective.
- Once the acreage has been 'de-risked' and the geological play has been 'proven' the focus may switch to maximising early revenues to the Government e.g. to fund social development programs.

- In mature EI provinces, Governments may shift their focus to maximising ultimate (economic) recovery from a basin, particularly if there are limited "windows of opportunity" from an infrastructure or resource perspective.

Competitiveness: Upfront clarity on overall objectives as well as on the future use of (expected) revenues is very relevant to assess whether the resource holder can, should or wants to provide incentives to attract foreign direct investment in or related to the development of its extractives sector. Overall, countries that are perceived to have lower levels of risk (technical, political, or economic) will be able to command higher levels of 'Government Take' i.e. higher rent taxes. Countries perceived to have higher levels of risk will need to make the fiscal regime more attractive to incentivize companies to put capital at risk.

Internal allocation – funding subnational entities: Projects and investments tend to be more sustainable if the overall sharing of risks and benefits within a country, amongst various subnational entities, is clear. This is especially the case in larger countries or in cases where the extractives are centralised in certain areas of the country. This clarity is important for policy makers as well as investors. If the allocation of funds is not clear, this could have a negative impact on the stability of the terms agreed.

Interaction with pre-existing legislation: The specific fiscal instruments for the extractive industry will interact amongst themselves but also with the corporate and other tax systems that are applicable in the national or subnational sphere of the country.. This interaction is not always addressed timely or appropriately, not in the least due to the fact that the upstream fiscal instruments are often regulated by a government department (e.g. Ministry of Energy, or of Mining) other than the one dealing with the general tax system (generally the Ministry of Finance or Treasury department).

Investor considerations

Risk/reward: In the global competition for limited capital and human resources, investing companies will seek investment opportunities which offer the best risk / reward balance. Attempts to introduce higher rent taxes after investment has been made can also lead to 'resource flight', which in turn may require the introduction of incentives to try to bring capital back. By encouraging free market fundamentals i.e. competition for the right to explore for and develop natural resources, Governments should secure an appropriate level of 'Government Take' that matches the perceived underlying risk and reward profile of these resources.

This free market fundamental can be achieved through the use of competitive bid rounds and through direct negotiations when the technical scope or economics of an area are difficult or require expertise that is limited. Considering EI's life cycle, the terms required to incentivise investment in the early stages of exploration of a frontier resource may evolve for future licensing rounds when EI activities becomes less risky. To ensure investing companies remain prepared to take on the "high risk"/ high reward" activity, investors expect terms for future licensing rounds to only reflect the lower risk for such new projects.

Stability: Requiring companies to manage the risk around an unstable tax and operating environment impacts the risk profile and therefore the reward required. Since the risk of adverse fiscal change is included in the investment decision making, the return required by an investor will increase, resulting in much less attractive bids for Governments as investors factor in potential future changes. Fiscal uncertainty can also stifle the transfer of oil and gas properties among different companies which in turn can lead to less than optimal development of the resources.

Competitiveness: Many types of fiscal regime can work if they are competitive and predictable for investors. However, it is important to understand the allocation of risks and rewards under both the royalty/tax and the contractual arrangements. Any fiscal system can be designed to give a level of economic return at a specific commodity price, but how the underlying risk and reward profile changes under different cost / revenue scenarios will determine the interest levels from investing companies. Often progressive systems are considered more competitive by investors as they move the timing of government share closer to the economical break-even point. More frontloaded systems are generally considered less competitive by investors.

Predictability: Changes to the tax law in general will impact the return to investors from an exploration and production venture. Treasury officials and tax authorities should be aware of these interactions and engage with their counterparts in other governmental departments if EI is an important sector in the country before making general changes to tax law. Similarly other departments should engage with Treasury and the tax authorities before finalising fiscal take. Often the interaction between fiscal terms and general taxation comes to a head when actually applying the fiscal regulations, e.g. at the moment of filing returns, tax assessment or tax collection. Even a perfect fiscal policy will not yield the sought after results in government revenues if and when the responsible government department is not in a position to consistently and predictably assess and collect.

Ownership of underlying reserves: One of the performance metrics relevant to international oil and gas companies is the Reserves Replacement Ratio (RRR). The RRR indicates to what extent companies are able at finding and booking hydrocarbon reserves to replace the amounts produced, one for one. A company would have an RRR of 100% if for every barrel of hydrocarbon produced, another barrel is found/discovered and booked via exploration. The ownership of the extractives will be determined by the contractual arrangements. Generally, concessionary systems and contract systems contribute to RRR, but acreage covered by service contracts will not.

7. Building blocks for government share

A whole range of EI specific instruments is available to allow resource rich countries to allocate the revenue from their natural resource wealth and to tax the extractives industries sector. There are a

number of excellent sources available to describe in detail most of the fiscal instruments that have typically formed a part of fiscal regimes for the extractives sector[3].

The share a government will receive or retain regarding development and production of its natural resources can take many shapes and forms. The government take is certainly not limited to the taxation of the revenues generated by the EI.

There are various aspects to determining the government share of natural resources. Who owns the resources throughout the development? Who is responsible for the costs? Who is entitled to the revenue? Who decides? The eventual tax take will be influenced by different allocations of risks and revenues and by the resulting rules that are not always drafted for and by tax officials.

Determining who owns the resources and the revenues is largely determined by the local legal framework, statutory rules or contractual arrangements between the resource owner and the entity exploring and developing the resources. Therefore, understanding these arrangements is critically important to understand the government's fiscal take. The effective fiscal terms to determine the fiscal take will eventually determine who bears the costs, who determines the revenues and collects the fiscal take.

Which contractual arrangement and fiscal terms would be best for the specific development, will be influenced by the risk/reward balance, which cannot always be standardised and certainly needs a long term perspective in order to be sustainable.

Contractual arrangements

It is up to the resource holder to set the legal framework within which to work or agree with the investor. Sometimes the details of the legal arrangements are set by law or even by the constitution, sometimes only the framework is set. In certain countries the terms are negotiated and set contractually.

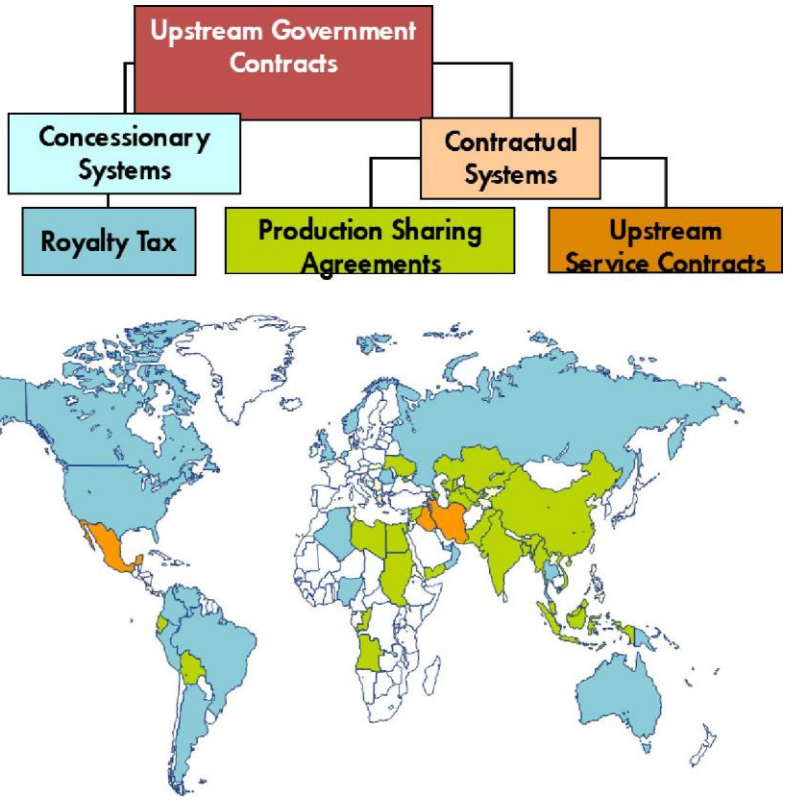
Regardless of the legal instrument that determined the arrangements, there are largely three different types of arrangements:

- Concessionary systems
- Production Sharing Contracts
- Service contracts

[3] See overview Chapter 11

Top 50 Country Ranking for Total Hydrocarbon Resources		
Production Sharing Agreements		
Russia	Qatar	Iraq
Nigeria	China	Kazakhstan
Libya	Indonesia	Algeria
Azerbaijan	Turkmenistan	Malaysia
Angola	Oman	Egypt
Uzbekistan	India	Bolivia
Ukraine	Trinidad	Vietnam
Pakistan	Ecuador	Syria
Yemen	Sudan	Equatorial
Royalty Tax		
Russia	Venezuela	UAE (Abu Dhabi)
Nigeria	USA	Kazakhstan
Algeria	Australia	Norway
Brazil	Canada	United Kingdom
Oman	Netherlands	Argentina
Upstream Service Contracts		
Iran, Mexico, Iraq, Kuwait		

Source: IHS & Wood McKenzie March 2010



The different systems tend to differ in the level of risk and ownership that is granted to the investor, with the concessionary systems generally transferring most away from the resource holder and service contracts transferring least.

Any fiscal system can be designed to give a level of economic return at a specific commodity price, but how the underlying risk and reward profile changes under different cost / revenue scenarios will determine the government share as well as the interest levels from investing companies. The main fiscal instruments are not limited to specific contractual arrangements.

Concessionary systems

A concession is an agreement regarding a fixed area where government grants a company the exclusive right to explore for, develop and produce resources at its own risk and expenses, generally for a specific amount of time. The company is entitled to ownership of the resources it produces from the concession, when extracted at the wellhead (or at another agreed point of transfer of title).

A concession is sometimes called an exploration license or production lease. These systems apply to both the Oil and Gas as for the Mining sector. In the mining sector, such concessionary systems are generally implemented by way of leases which cover a specific area for the purpose of underground or surface mining.

Unlike the contractual systems, where the production allocation under the contract itself is part of the fiscal take, the concession agreement contains little specific fiscal features. The production of natural resources under a concession system is generally subject to a variety of fiscal instruments. More commonly, the concession holder will be taxed on the profits generated, often under the general corporate income tax regime. In addition the concession holder may also be required to compensate the resource holder country for the resources developed with a resource rent, often in the form of a royalty. Concession systems are therefore often referred to as tax/royalty systems. It is not uncommon for resource holders to add elements of government take on top of the tax and royalty.

Contracts

Various types of contract systems are possible and under the more typical ones, a company is designated as a contractor on a certain area. The title to the resources (in this case generally Oil and Gas) will remain with the state and the resources produced will belong to the government until and to the extent it is explicitly shared. The company operates in accordance with the terms of the contract, at its own risk and expense under the control of government. The government agrees with the company that the company contract partner meets and finances the exploration and development costs in return for a share of production in kind or in cash.

Contract arrangements are generally called Production Sharing Agreements (PSA) or Contracts (PSC). A PSA is an agreement between the parties to a well and a host country regarding the percentage of production each party will receive after the participating parties have recovered a specified amount of costs and expenses. They tend to only be used in the Oil and Gas sector. A PSA is worked by a designated Operator. Often various international oil companies and national oil companies are partners under the same PSA, worked by the one designated operator. The operator is not entitled to remuneration for the work that exceeds the recovery of the costs, which are shared as such between the agreed partners.

In the oil and gas industry, PSAs are used in case there is production sharing between parties. Unlike concession agreements, the production sharing under the PSA in itself is often part of the fiscal take. The contract is specific about how the contract partners share the production and use specific terminology to describe how they "split the barrel" of oil. The split can be done in cash or in kind. To understand the fiscal take under a PSA, it is important to understand certain of the terminology:

- The barrel will first and foremost contain "*cost oil*". Cost oil is the portion of produced oil that the operator applies on an annual basis to recover defined costs specified by a production sharing contract.
- The amount of costs recoverable is sometimes limited to an amount called "*cost stop*". If the costs incurred by the company exceed the cost stop, the company is entitled to recover only the costs limited to the cost stop. If the recoverable costs exceed the cost stop the contract is defined as saturated. The cost stop guarantees to the government the recover part of the production (as long the price of the crude produced is higher than the cost stop), especially

during the first years of production when the costs are higher. The cost stop can be a fixed amount, but in most case it is a percentage of the cost of the crude oil. If a cost stop is in place, it is often important to specify what that will mean to the determination of the taxable result. There is often disagreement whether the cost stop also means some costs are nondeductible for tax purposes, making certain costs non-recoverable.

- When the costs incurred are less than the cost stop, the difference between the costs and the cost stop is called "*excess oil*". Usually, but not necessarily, the excess oil is shared between the government and the company according to the same rules of the profit oil. Again, it is important to specify what this means for the determination of the taxable base.
- "*Profit oil*" is the amount of production, after deducting cost oil production allocated to costs and expenses that will be divided between the participating parties and the host government under the production sharing contract. The "profit oil" after allocation is generally the portion of production which will be the basis for profit taxation related to PSAs. As mentioned, it is important to determine whether costs limited by the cost stop will be deducted from the profit oil and in general how the general tax rules of a country will interact with the determination of a taxable result.
- Certain contracts refer to "*tax oil*", which is part of the profit oil that is used to actually pay for taxes on the profit oil. In case the contract is a "tax paid PSC" the government pays the income tax for and on behalf of the investors. In this case, there is no "tax oil" as the tax would be paid out of the host government's share of the profit oil. In effect, a "tax paid PSC" provides greater stability to the investor on its income tax as any changes in the tax rules would affect only the allocation of the government's share into profit and tax oil. Tax paid PSCs act like stability clauses. They can be set up on a simple basis, where the income tax is calculated normally on the profit oil. Alternatively, they can be set up on a gross up basis.

Unlike the concessionary systems, various aspects of a production sharing agreement give rise to government take. Part of the government take will come from the production sharing, with the cost reimbursement – as defined in the cost oil under the PSA an important part. Any ringfencing, cost stop or other restrictions of cost compensation will increase the government take and influence the risk/reward balance. The profit oil, which generally is represented by the profit but is increased by any restrictions in cost compensation, will then be subject to income tax rules – income tax, which constitutes a further part of the government take. The determination of the taxable profit may however be different under general tax rules compared to the PSA determination of costs. Clarity needs to be provided in the rule on how the various rules interact and it is highly recommendable to include these clarifications in the PSA, the income tax code or both.

In the mining sector, agreements on production sharing tend to include:

- Lease rental payments
- Hard minerals in lieu of royalty payments or dividends

Service contracts

Service contracts are sometimes referred to as Technical Assistance Contracts or Technical Service Agreements because they are generally contracted regarding existing fields. Service contracts tend to be typical for countries where the country only seeks to attract additional expertise. The contractor

tends to hold less risk in these situations. As the marginal costs are more relevant in these types of contracts, cost and timing estimates as well as fiscal terms are critical. Very often it is a State company or NOC that manages the actual resources and contracts in the service provider. The Service Provider has no right to the underlying resources at all.

In the mining sector, operators/contractors who are the lease holders may choose to mine the lease area themselves (known as owner mining) or subcontract the mining operators to a sub-contractor based on clear production and cost criteria (known as contract mining). In addition, service providers (generally known as mine support service companies) may be awarded contracts to perform specific services (such as drilling, blasting or hiring of mining fleet).

The service provider is generally subject to the regular corporate income tax system, potentially at an increased tax rate. In addition, certain fiscal instruments will be added.

Fiscal arrangements

A multitude of fiscal arrangements[4] exist that can tax EI and can generate revenue for the resource holding company.

Mechanism	Description	Prevalence Number of countries	
		Mining	Petroleum
Signature bonus	Up-front payment for acquiring exploration rights. Commonly used as a bid parameter (Notably for petroleum in the US offshore continental shelf)	1	16
Production Bonus	Fixed payment on achieving certain cumulative production or production rate	None	10
Royalties	Specific (amount per unit of volume produced)	2	1
	Ad-valorem (percentage of product value)	17	31
	Ad-valorem progressive with price	1	9
	Ad-valorem progressive with production		8
	Ad-valorem progressive with operating ratio/profit	3	1
	Royalty applied to operating margin (net profits royalty)	2	0
State, provincial, and/or local CIT'	Rate of corporate income tax at the state, provincial, or local level in addition to federal level. Common in Canada and the U.S. as a province/state resource charge in addition to federally imposed CIT.	2	5
Variable income tax	CIT where the tax rates increase with the ratio of taxable income to revenue, between an upper and lower bound	3[2]	None
Resource rent taxes	Cash flow with accumulation rate/uplift. Can be assessed before or after CIT.	5	5
	Cash flow with limited uplift on losses (UK). (surcharge tax on cash flow)	None	2
	Allowance for Corporate Capital	None	1[3]
	Allowance for Corporate Equity	None	1[4]
Other additional income taxes	Other profit taxation mechanisms that do not fall under any of the categories above	1	3
Production sharing	Fixed production share	None	5
	Cumulative production	None	None
	R-Factor: ratio of cumulative revenues to cumulative costs	None	13
	Rate of return, pm- or post-tax	None	3
	Production Level	None	13
State participation	Free equity: government receives percentage of dividends without payment of any costs	2	None
	Carried equity: government contributions met by investor and recovered from dividends with interest	3	8
	Paid equity: government pays its sham of costs	None	19
Social investments/infrastructure	Resource companies build infrastructure or make other social investments (hospitals, schools, etc).	1	6

[4] IMF, Fiscal Regimes for Extractives Industries: Design and Implementation, August 2012

Some of them are profit related, others volume related, they can be specifically for EI or specific for certain types of extractives or EI can be subject to general taxation. There is an increasing variety of fiscal instruments and they are often used in combination. The indirect taxation of the EI also forms part of the fiscal take[5].

Profit based

Profit based fiscal instruments include:

- *Corporate profits tax* – which is applied to Mining as well as for Oil and Gas. It can be a flat rate of tax on profit or a variable rate to capture more revenues when profits are above a given threshold (generally called an R factor). The corporate tax used can be the corporate profit tax generally applicable to business in a country, either at the same rate or a special rate. E.g. Italy and the UK apply a supplementary tax for oil and gas - the corporate tax base of oil and gas companies is subject to an additional percentage of profits tax. It can also be a specific corporate profits tax applicable only to EI.
- *Special petroleum – hydrocarbon tax* – which is strictly for Oil and Gas. It is often based on a country's corporate profit tax but with special features that can significantly deviate from the general regime. Whereas the general corporate profit tax on EI is generally covered under double tax treaties, special petroleum taxation is not always covered.
- *Resource rent taxation* – which can be applied to Mining as well as Oil and Gas. It is generally a profit related tax but not on the basis of normal corporate profits. It is based on gross revenue, generally restricted to the revenue from the resource development and allows for certain allowances or deductions. Often, interest costs are not considered deductible and restrictions are in place for cost deduction regarding overhead services. It shares similar features with hydrocarbon taxation.
- *Windfall profits tax* – excess profits tax or cashflow taxes – windfall taxes can be profit related. A windfall profits tax imposes a higher tax rate on profits from a sudden windfall gain of a particular company or industry. Often the windfall or the increase in rate to deal with the windfall is not profit related but is linked to commodity price hikes.
  [consider mining input Senegal]

Special features on profit based taxation:

- Depreciation rates – considering appropriate rates for capital expenditure deduction that provide an optimal level for both tax revenue and investment. For instance assets that require high capital expenditure may have a high depreciation rate to encourage investment. In both Mining and Oil and Gas taxation, accelerated depreciation is often available, sometimes limited or focused on the early years of production.
- Uplift – contrary to accelerated depreciation where depreciation rates are increased, the uplift increases the depreciation base. E.g. Denmark and Norway apply an uplift in their hydrocarbon taxation. For every 100EUR spend, with an uplift of 25%, depreciation on 125EUR is allowed.
- Ringfencing – ringfencing occurs when certain costs or revenues are considered separate from other costs and revenues, creating separate bases for taxation within a single taxable entity. The ringfence can occur per type of activity. E.g. in the United Kingdom the upstream taxable basis is

[5] Specific VAT issues are elaborated on in a separate note. Oil and gas tend to be excisable products – therefore customs and excises come to mind here.

ringfenced and subject to a higher rate compared to other business activities. The ringfence can go further into detail, e.g. requiring a taxable base be determined per mine, field or well.

Production related

Royalty: The main example of production related taxation is the royalty. Royalties are paid, by the holder of the right to extract natural resources, to the resource holder to compensate for natural resources that are extracted. Royalties are generally determined:

- on the gross production
- on the basis of volume. They can also be linked to the value of the extracted commodities.
- at a certain rate, which can be fixed or at a sliding scale.

[examples to be added in editing – including calculation sheet]

In jurisdictions where most resource extraction occurs on privately owned land or where sub-surface minerals are privately owned (for example, the United States), the main production related taxes are called "*Severance taxes*". Severance taxes are defined as volume or value related payments due when non-renewable natural resources are extracted (or severed) within a taxing jurisdiction. Resources that typically incur severance taxes when extracted are oil, natural gas, coal, uranium, and timber. Some jurisdictions use other terms like gross production tax. Where the resources are publicly owned to begin with (for example, in most Commonwealth and European Union countries), it is not a tax but rather a resource royalty that is paid.

Specific arrangements

Other arrangements often used to "tax" EI or for resource holders to obtain income or payments directly related to EI include:

- State participation (mainly for Oil and Gas)
- Bonus payments – often related to the signature of the contract or the transfer of the lease.
- Carry (mainly for Oil and Gas and generally involving PSAs)
- Land rentals (mainly for Mining)
- Other non-revenue/cash based systems like:
    - Infrastructure requirements – building roads, hospitals, schools, water projects, housing communities. E.g. in Ghana, Gold Fields has committed to building a 15km road, taking over this responsibility from Government.
    - Infrastructure transfer/IP transfers
    - Training levy/support for study costs
    - Sponsorship of specialist courses at universities

State participation can be another effective route to ensuring Governments secure an appropriate share of the upside in times of high prices or lower costs, whilst maintaining progressivity. This may have other advantages as well, e.g. risk sharing, development ownership and ensure support for development. Participating partners are however expected to equally share in the costs of the venture – government will have to consider how to fund

this. In new oil & gas provinces, particularly in emerging economies, it may be advantageous to design fiscal systems that provide for some level of early 'Government Take'.

Bonus payments are most regressive, often least transparent and least favoured by investors as they are upfront payments, unrelated to actual production. Whichever form this early 'Government Take' has, it will be important to consider which part of government receives the payment, how transparent the payment is and whether it goes to the national budget or to the budget of the administrative entity where actual exploration and extraction will take place.

A "*Carry*" is a situation whereby a party pays for an agreed part of another party's participating interest share of the cost in a jointly owned exploration license / venture in the hope of recovering costs incurred from a share of future production. As it generally relates to situations covered by PSAs, it is more often applicable in Oil and Gas. The carry can occur towards another IOC as well as towards the Government or NOC. In the former case, a carry is not considered as part of the government take. In any case, it is important to determine the tax treatment of carried costs.

Some special EI taxation consists of once off levies targeting specific sectors, e.g. National reconstruction levy/National Fiscal Stabilisation Levy (NFSL) in Ghana. In 2013, the government of Ghana announced a number of tax initiatives passed by Parliament. The initiatives included reinstatement of the National Fiscal Stabilisation Levy Act. Under the Act, a 5 per cent National Fiscal Stabilisation Levy was re-imposed on profits before tax for specific companies and institutions operating in the country. The list included companies providing mining support services.

[additional editing required to include examples]

Indirect tax

Indirect taxation is taxation not of profits but of certain transactions. Often a general indirect tax exists which is specified for certain products or transactions. It is generally considered part of the fiscal take, at least by the investor.

- VAT – focus on EI related issues and impact on government take/fiscal terms[6]
- Import/export related
- Excise – for mining for import on e.g. fuel, pre-curser chemicals, which are key components in mining processes

8. How to evaluate Fiscal Instruments

To enhance the sustainability of the investment as well as the achievement of government revenue from EI, resource holder and investor considerations should be balanced when evaluating and applying EI fiscal instruments. In order to do so, it is important to understand their effects.

[6] See Guidance Note on VAT matters

Most fiscal instruments have various effects – e.g. on timing of the revenue, on how they achieve overall objectives and how they impact the risk/reward balance.

Timing of revenue

Certain fiscal instruments focus on achieving government share from ventures early on, often regardless of whether the venture is generating profits or even income. These instruments accelerate the moment of taxation to a date before the venture achieves profitability. In these cases, the taxation of the venture is considered to be "frontloaded".

Frontloading negatively affects the risk/reward balance for the investor, which often makes a system less competitive. Investors generally evaluate and compare projects on a discounted cash flow basis, thus the timing of investments or payments has a direct impact on the investor's perceived return from a project. From an investor point of view, terms that defer cash payouts or accelerate the value return of costs will be favoured.

From a government point of view, some frontloading may be required to manage the expectations of the country or to ensure government funding can be achieved to ensure participation in the venture. Generally frontloaded systems are more regressive whereas progressive systems tend to delay the moment of taxation beyond the point of profitability.

Signature bonuses generate revenue early in the venture. They command government take without the investor even generating revenue from the venture. If equity rights are acquired from investors, they certainly entail transfer of value and impact the risk/reward balance significantly. Equity rights generally do not require relinquishment of cash (unlike especially the signature bonus). This may be the case however in case the equity rights transferred to government include a carry arrangement.

Royalty systems come into play once production starts but do not require the venture to be profitable. As they are production related, their make-up may have an impact on the production profile.

Profit related fiscal instruments give rise to government share around the time the venture becomes profitable. There are aspects of profit related instruments that may frontload though. Ringfencing or other types of limitation of cost recovery tend to accelerate the moment of taxation.

Uplifts and increased depreciation on the other hand push the moment government share is achieved from profit related fiscal instruments further into the future. However, depending on how the depreciation regime is set up, these instruments generally have a positive impact on the quantum of investment. [editing to include schedule of EI lifecycle – see Overview note – with various instruments]

Overall objectives

To evaluate whether fiscal instruments achieve overall objectives, it is important for the host country to ensure clarity and transparency on its objectives. Various fiscal instruments in EI give rise to specific consequences besides the generation of revenue[7].

Progressivity vs regressivity

A potential proxy for assessing the risk/reward balance is the progressive versus regressive nature of a fiscal instrument.

Profit taxation is 'progressive' in nature if the tax burden increases if the taxable base increases i.e. it both incentivises incremental investment in small opportunities (which may be marginally economic) and provides a proportionally higher share of the Economic Rent to the Government at higher oil/gas prices or if large discoveries are made. This is particularly important in the later stages of the basin life where the size of discoveries statistically becomes smaller and smaller. It helps to manage the risk that discovered oil & gas is left in the ground. Progressive systems can also be designed to cater for differing water depths, production levels and discovery size.

Progressive fiscal attributes often make it easier to ensure that the interests of all parties remain aligned over the life of the venture, and under a wide range of macroeconomic conditions. Fiscal attributes that are progressive in nature are things like R-Factors[8] or IRR creaming mechanisms[9]. These value based creaming mechanisms can be tuned to ensure that the Government keeps an appropriate share of the economic rent from the oil and gas development interests regardless of the oil/gas prices. This avoids the need for arbitrary / unilateral increases in levels of taxation (which may not always be reduced when prices fall i.e. the 'ratchet' effect). They should respond automatically to changes in both cost and revenues.

Windfall profit taxes are not always progressive – due to the cyclical nature of the EI and in commodity pricing. It is difficult to determine what would constitute a windfall for EI. E.g. the assessment of whether or not extra-ordinary or windfall profits have been realized should not be done on a one-year comparison basis. It should consider the long term and cyclical nature of EI investment.

Ringfencing is not progressive – ringfencing occurs when a portion of a company's assets or profits are considered separate without necessarily taking place in a separate entity. Ring-fencing in the context of oil and gas generally moves the moment of taxation forward, often before profitability of a venture and it influences the risk/reward balance. E.g. in case of ringfencing well per well, the revenue generated by one well will not be able to be offset e.g. by the losses generated with respect to another well thus giving rise to tax payments irrespective of the fact that the overall venture is profitable. In the mining context ringfencing especially applies with regards to surface mining.

[7] IMF "Fiscal Regimes for Extractives Industries: Design and Implementation" August 2012 P19

[8] R factor is a ratio of revenues to expenses. R factors deal with various variables that affect project economics depending on how they are defined. E.g. some are defined considering gross revenues instead of net earnings. It can deal with accrued total expenditures or on a field by field basis. In general, the use of R factors contract potential upside from price increase, but also protects the downside.

[9] Creaming mechanisms are any aspects of a fiscal regime that increase government take in case of an increase in revenue. Some are more balanced than others. E.g. an increase in royalty rates related on price increase is considered less balanced by investors than a sliding royalty rate based on IRR (internal rate of return). An increase in commodity price will generally induce an increase in cost which is not considered in a slide rate based on price alone.

Whilst royalties can be very attractive to host Governments (by providing early revenues), they are by their nature 'regressive' and they may result in resources being left in the ground, either by:

- Early termination of economic cash flows i.e. early abandonment, or
- By making small discoveries uneconomic to develop i.e. they result in Governments taking a proportionally larger share of small discoveries and a smaller share of large discoveries.

E.g. over the life of oil and gas basins, many royalty systems have had to be changed frequently by Governments wishing to remain competitive. Effectively, the changes have been made to give a royalty system features of a profit-based system, thereby making it more progressive.

Whilst many Governments around the world have chosen to abolish royalties e.g. UK and Norway, for the reasons outlined above, it remains a popular choice of some Governments that seek to guarantee early cash flow in the life of an oil or gas field development. However, royalty levels need to be carefully considered so as not to lead to the regressive attributes described above.
This desire to tax on revenue rather than on profit is generally disfavored by investors, since in times of low commodity prices; companies may be making a financial loss possibly for a considerable period of time. Nevertheless, they will still be required to make royalty payments to the Government. Thus, taxes on profit, rather than on revenue, remains the preferred fiscal model of investing companies.

9. Issues of interaction

Fiscal systems for EI have and continue to increase in complexity and variety. This increased complexity is giving rise to more combinations of fiscal instruments. This is in part driven by host Governments' concern that investing companies might take too large a share of the economic rent, and multiple creaming mechanisms are often introduced to safeguard Government revenues. Consideration needs to be given on an economical level regarding the interaction between various instruments and on a tax/legal level regarding the interaction between EI related fiscal arrangements and general taxation.

Risks of interaction between various fiscal instruments

The various instruments serve specific objectives and can lead to intended behavior[10]. However, once various instruments are combined, the intended objective can be counteracted by other considerations. E.g. subjecting EI to a royalty system can provide governments with revenue faster. It is however a regressive system and when combined with other regressive instruments e.g. a signing bonus or a ring fenced system, a tax system can become so frontloaded it becomes uncompetitive. This may delay exploration or production, leading to reduced or no revenue.

[10] The IMF overview (p19) provides a good summary of various instruments and what key objectives they serve.

Delineation issues

In case various systems or rates are combined, the delineation of costs and revenue will require special attention in the legislative process.

It needs to be precisely stated which costs and which revenue belong in which system. If not, the tax regime becomes unclear in its results. E.g. in case of ringfencing between activities, special care needs to be taken to determine in which area which costs should be deducted. It is not always clear which activities are covered and an accurate separation of costs is not always possible. As the costs involved in EI are very high, the risk of not being able to deduct appropriately is as problematic as the risk of overcharging.

The same applies on the income side. E.g. especially in times of high commodity prices, the revenues in EI ventures often constitute large amounts which cannot or is not always be repatriated. Whilst not otherwise paid out or invested, these amounts generate interest income. It may be unclear whether the interest income is taxable as EI income at a higher rate or whether it is subject to general corporate income tax rates.

Enforcement equally poses additional concerns and may become cost prohibitive. It should be considered to include examples of tax base calculation into the legislation. Delineation issues are especially relevant in profit based taxation as well as in capital gains taxation[11].

Interdependency

When using multiple taxation instruments, it is important to determine how the various taxes relate to each other. Some taxes are deductible costs in other taxes. E.g. pipeline fees or royalties are often considered tax deductible costs for profit based taxes. In other cases, the various taxes may be credited against each other.

Especially in case the various instruments give rise to revenue for various government institutions, (e.g., some revenues to the Minerals Ministry and others to the Finance Ministry) it is important to ensure full understanding and agreement of the matter by all of the different government entities to ensure a sustainable enforcement.

The interdependency with subnational taxation also needs to be addressed and clarified. It is important to know whether the taxation at various levels can be credited or deducted, one way or for both.

Interaction between EI taxation and general taxation

It is not always clear how to deal with the shared production under a PSA in conjunction with general corporate income taxation. Production can be shared in cash or in kind. There are various aspects that can have interactions with general corporate income taxation. E.g. it is important to understand how production sharing is done, how and where the volume of the production and the sharing is determined. Timing, responsibility of measurement, reporting and verification are important as is the allocation of risks. The commodity price risk (who bears it until when) is important to understand, as is the exchange rate risk in case of sharing in cash. If the PSA and the corporate income tax are mute on these points or if the arrangements under the PSA are not in line with the corporate income tax, it will be unclear as to how these issues will be dealt with under the general taxation regime.

[11] See Guidance note on Indirect transfers and capital gains taxation

When sharing production, the composition of the group of investors and their legal arrangements should also be considered from a tax point of view. Apart from the potential direct tax consequences, the indirect tax consequences should be considered. E.g. under PSAs the production tends to be transferred from the government to the operator and from the operator to the Joint Venture (JV) or the JV partners. Especially in case of transfers in kind, each of these transfers could be subject to indirect tax at federal or subnational level. It may not be economically intended to levy tax at each of these transfers but arrangements need to be made to ensure the applicable laws are complied with and expectations are managed.

International tax aspects

It is important to define whether and which part of the fiscal take is considered for foreign tax credit[9]. This is influenced by the provisions of the relevant double tax treaty as well as by the definition of the tax or levy in the relevant law or contract. Even if the tax or levy is clearly profit related, special attention needs to be given to the description and features, especially if agreed in a PSA. [example to be included under editing]

The existence as well as the wording of a double tax treaty and of national taxation in the home country of the investor is relevant for the eventual tax burden on a project. The interaction between the tax system of the home country of the investor and that of the host country of the investment influences the eventual economics of a project. In other words, the existence of a negotiated tax treaty can allow an investor to enter a higher bid.

Relevance of sub-national taxation and allocation of revenues

It is important to consider how the revenue from EI is to be allocated amongst the subnational levels of government of the host country. The imposition of taxes and their allocation depend on the country's constitutional and administrative structure.

In certain countries, subnational levels of government have a mandate to introduce their own fiscal instruments. In other countries, only the federal government imposes taxes and subsequently appropriates the revenue.

Without clarity on allocation, the fiscal terms may not be stable as local entities may become dissatisfied with the revenues they are receiving.[reference to recent studies to include as editing]

10. Issues of enforcement

To ensure effective enforcement, good practice should already be considered when designing or negotiating fiscal systems. There are a number of ways to structure and design implementation and administration of the regime: 'Keep it simple' in design, avoid multiple creaming mechanisms, ensure flexibility in the system. 'Simplicity' should be the guiding principle, not in the least to ensure effective and efficient enforcement.

Good practice should also ensure:

- that a tax administrator should form part of the team to test administrative ease and feasibility of execution
- that examples be included of how to calculate the taxable base as well as taxes due in the relevant legislation or contracts. This should provide clarity to tax administrators and taxpayers on how to implement EI taxation.
- that alignment exists in enforcement between various taxes, both federal as subnational.

The administrative capability of the Government can be a limiting factor in the options for fiscal regimes. Using multiple systems can cover multiple policy objectives in revenue raising but often put additional strain on limited resources. Coordination and exchange of information between departments and parts of government can assist in improving efficiency and reduce costs of information gathering and audits.

Improving administrative capability could be addressed by creating a dedicated office/unit within the Tax Administration that focuses on the EI. Sustainable and appropriate resourcing should be ensured when setting up such administration. This would include:

- Appropriate training of staff – audit routines, understanding of EI (e.g. mining cycle, risk areas that can impact revenue)
- Appropriate audit tools and equipment
- Framework to access third party information on production (e.g. from ministry of mines ministry of energy or customs)
- Sharing of knowledge with other EI countries

For this resourcing and capacity building it is important to include other government departments from the start. Capacity building is offered by various international organisations and through exchanges with other country tax authorities. Multistakeholder capacity building – involving not only other government officials but also academics and expert business representatives – is not always readily available but can provide valuable information and perspectives. Exchanges with taxpayers that increase capacity can include work on cooperative compliance and other forms of dispute avoidance[12].

11. More information

- Calder, Jack - "Administering fiscal regimes for extractive industries"
- Daniels, Philip edited book "The taxation of Petroleum and Minerals: principles, problems and problems" — Routledge, 2010
- [Follow up book — 2016]
- Hogal, Lindsey and Goldsworthy, Brenton "International mineral taxation: experience and issues" IMF paper "Fiscal Regimes for Extractives Industries: Design and Implementation" — August 2012
- Le Leuch, Honore "Recent Trends in Upstream Petroleum Agreements: Policy, Contractual, Fiscal, and Legal Issues" — Handbook of Global Energy Policy 2013
- Nakhle, Carol "Petroleum Fiscal Regimes: evolution and challenges"
- Open Oil " Oil Contracts — How to read and understand them"
- World Bank Working Paper No 123 "Fiscal Systems for Hydrocarbons" — S Tordo

[12] E.g. participation in Advance Pricing Agreements and arbitration processes can support capacity development.