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PRODUCTION SHARING AGREEMENTS
WHAT CONSTITUTES A GOOD PSA? SHOULD THEY BE PURSUED?

Energy Security Project (ESP)

March 24, 2021
Rev B

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This document is submitted to fulfill the Contract Section C.3 Task 1.2. Developing Enabling Legislative and Policy Environment & Task 2.5. Performance Improvement Projects

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RECORD OF DOCUMENT REVISION

REVISION	DATE	SUMMARY OF CHANGES
Rev A	2020-12-29	Created
Rev B	2021-03-24	Revised

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CONTENTS

ACRONYMS

CAPEX	Capital Expenditures
ESP	Energy Security Project
EU	European Union
FARI	Fiscal Analysis of Resource Industries
IMF	International Monetary Fund
Mcm	million cubic meters
Mcm/d	million cubic meters per day
OPEX	Operational Expenditures
PSA	Production Sharing Agreement
SPV	Special Purpose Vehicle
TT	Tetra Tech
US	United States
US$	United States Dollar

EXECUTIVE SUMMARY

PSAs are a type of contract which is concluded between a State or National Oil & Gas Company (for the purpose of this report – both are considered the "State") and a private company – usually called "contractor".

PSAs are widely used across the world, usually in countries whereby investors require additional levels of legal security due to limited recourse in local jurisdictions, or whereby the hosting countries are seeking large investments and thus offer necessary improved legal framework, as well as increased size to make the prospects more attractive to the investor.

The map of PSAs application is shown below:

Figure 1: Map of PSA application

PSAs are usually used for a large known field or a large exploration area. A field may contain multiple reservoirs in a geological structure. Such large fields will tend to accommodate significant work programs and thus require substantial capital for exploration/development works. As such, the investor will seek to secure their rights legally.

A PSA is a complex agreement that includes the rights and obligations of the parties, legal, financial, fiscal terms and a protection mechanism for its validity and supremacy against future legislation. This is usually accomplished by a parliamentary or governmental adoption of the PSA.

Licenses or concessions is another form of agreement, whereby the State issues a license to a contractor to conduct exploration (and/or production) works on an area. Licenses are more commonly found in the western world, such as Europe and the US whereas PSAs are more often used in the Middle East, Africa and Central Asia (though PSAs are also used in some parts of the EU).

The difference is usually related to the level of perceived legal and fiscal risk from the contractor in the target country. PSAs seek to address that risk by providing incentives and stability. As such, there are many differences between licenses and PSAs.

An exploration license agreement is typically for exploration of smaller fields for a specific period of time (usually 2-5 years) and often convertible to a production license after a discovery. A primary law

may describe the rights and obligation of the parties and the process of license issuance itself may be less bureaucratic than a PSA, as is the tendering process, which more recently tends to follow a simplified auction process.

The majority of Western countries have the license system, whereby all onshore and offshore areas are divided in reasonable size blocks, attractive enough for companies, with offshore block sizes larger. This is true for oil and gas producing countries like the U.S., UK, Norway, etc. Government take can include two parts: royalties (classical number is 1/8 and can be distributed to local communities) and corporate income taxes.

The key differences between the PSAs and licenses that make PSA mechanism unique are shown in the table below:

Table 1: Key features of different contracting mechanisms applied in developing markets

FEATURE	APPLICABLE TO PSAS	APPLICABLE TO LICENSES
Include the State or National Oil & Gas Company as a party to the agreement	YES	NO
Often applied in the large fields with "difficult" formations to utilize modern international expertise, technology and resources	YES	NO
Provide greater legal and fiscal stability for contractors in the absence of strong legal framework	YES	NO
Cover larger areas of exploration and tend to have longer contractual periods.	YES	NO
Require assets acquired during the contract period to be assigned to the State once the costs area recovered	YES	NO
Allow the State to have a more active role in management of the contractor	YES	NO

Economically, under a license, licensee is entitled to 100% of produced production, however all applicable taxes of the host country apply to the whole amount of production (i.e., income tax, royalty payments, customs duties, various land taxes, etc. While PSAs offer a structure unlike licenses, whereby the contractor engaged under the PSA can recover costs accumulated as part of their investment from when production occurs, hence "production sharing". The production sharing mechanism is usually replacing majority of applicable taxes in the host country and is divided into two parts; the cost recovery component (as mentioned above) and the profit-sharing component. It is worth noting that cost recovery component often accounts to more than 50% of production and usually is not subject to any additional taxes (except for royalty if applicable).

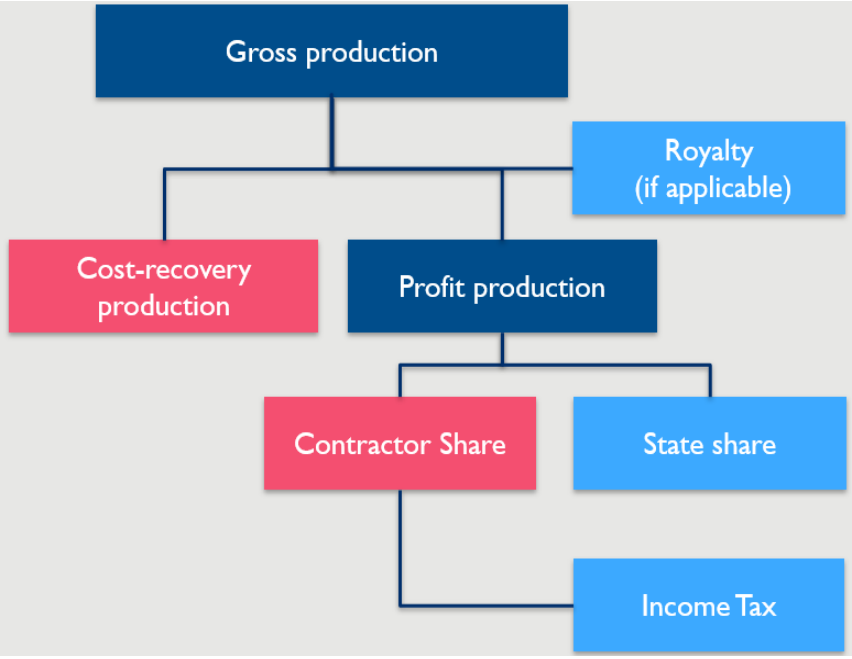

Figure 2: PSA mechanism

Cost recovery component can often be negotiated as high as 70% or more. From produced production volumes, the cost recovery comes out first, with the remained being considered "profit production". This profit production is then split between State and contractor.

This mechanism can be abused if the State negotiating the PSAs do not fully understand the economic mechanisms and more importantly, the variables that impact the contractor (and State's) net returns/economics. Furthermore, abuse of the cost recovery can take place, whereby contractors inflate costs while delivering very little value to develop/explore assets.

Other examples include contractors negotiating PSA in the absence of ring fencing of fields and their associated costs (i.e., separate accounting for producing areas vs. exploration areas under the same agreement/block) , whereby one producing area revenues are allowed to compensate other areas of exploration which would otherwise have been under the contractor's risk, i.e., contractor would be reimbursed even for exploration of fields that are not prolific. As such, it is paramount the State negotiating the PSAs not only introduce clauses which manage and protect against such abuse (such clauses commonly applied and internationally acceptable), but also are kept well informed and have an approval mechanism between contractor and State to work together (also commonly acceptable international practice).

As outlined in Table 1, PSAs often have larger areas, requiring extensive exploration programs and associated production programs if successful. However, international best practice, developed through lessons learned of other nations who have sought PSAs, has demonstrated the need for "relinquishment" clauses, whereby despite 30 year agreement terms, the contractor is obliged to conduct an agreed exploration program within a fixed period of time, usually relinquishing parts of the contract area along the way. Typically, this will depend on size and often ranges between 5-7 years, with initial relinquishments being as early as 2 years. The reason for this is to mitigate against the risk of contractors holding contract areas with minimal investment and exploration/development, seeking to speculatively gain through sale of participating interest. As such, the State will lose the opportunity of developing resources which in turn equates to lost revenue and lost opportunity for energy security of the country.

As with many commercial agreements, risks will be present. Hence, the inclusion of termination clauses and mechanisms for dispute resolution to allow the contractor (and State) to abide by the contract. However, such clauses should be enforceable. Parties to an agreement will seek "loopholes" and/or other ways to avoid enforceability of contracts. Given the often complex nature of relationships between parties to a PSA, it is commonly known for PSAs to include dispute resolution through the advice of an independent expert, or if escalated, to international arbitration. This has been commonly accepted practice to include such provisions in a PSA in order to protect the interests of all parties who do not have confidence in national jurisdictions and complicated laws, or worry of the influence on the justice system preventing the correct enforcement of the PSA. Without such clauses, PSAs legal proceedings can potentially be lengthy – harming the contractor and the State.

Outlining these few key provisions, the table below summarizes the key categories of risks with associated trippers and consequences.

Table 2: Key risks of poorly constructed PSAs

RISK	TRIGGER AND CONSEQUENCES
NON-DELIVERY OF WORKS AND INVESTMENTS	No relinquishment obligations → locked land → no investments
	Not enforced termination clause → sleeping asset → no works
	Lack of steering committee and monitoring → delayed works
	Lack of change of control approval → losing control over the asset
POOR ECONOMICS AND INSUFFICIENT COST CONTROL	Lack of oversight → Unreasonably high cost-recovery poll and/or biased terms of petroleum sale
	Indexation applies to cost recovery pool → less profit for the state
	No ring-fencing provision → possible erosion of profits
INABILITY TO ENFORCE	Lack of arbitration as a dispute resolution body → enforcement risk

Some of the key risks mentioned above can be mitigated with the following key clauses:

- Relinquishment obligations need to be clearly defined
  - As does the ring fencing of areas and associated costs should be clearly determined (exploration, discovery, commercial discovery) within the PSA contract area

- Steering Committee (the Committee that represents the States interests) needs to be created
  - Steering Committee should approve key procurements and material decisions such as budget and work plans (control costs and delivery of work program)
- Recoverable costs should be aligned with work plans and budgets
  - And no indexation of recoverable costs should be applied
- Any change of control and participating interest should receive prior approval
- States generally have a preemptive right to any sale of participating interests in the PSA
- Termination process and grounds should be clearly outlined
- Arbitration should be a dispute resolution body
- Expert involvement for disputes should be applicable

The risks outlined above makes one wonder – **is it worth a State to pursue PSAs?**

In short, PSAs and licenses have their pros and cons. Both can be acceptable and beneficial to a country – and both will carry risks. However, these risks can be mitigated through effective negotiation and examples provided by international best practice.

International examples, developed over decades of lessons learned, has demonstrated a theme of key clauses that should be included in PSAs to protect all parties' interests. Such clauses have been considered as commonly acceptable by reputable investors (contractors) and States alike. These include (not exhaustive):

- relinquishment obligations
- termination
- indexation
- change of control approval
- assignment approval
- change of operator approval
- preemptive right
- Steering Committee
- approval of sub-contracts(ors) by Steering Committee
- recoverable costs
- petroleum sale mechanism
- ring -fencing of costs
- dispute resolution provision
- expert involvement

Figure 3: Typical PSA Construct

Despite the tighter clauses on PSAs, the economic benefit of PSAs vs. licenses can often be attractive to prospective exploration/production companies, given the mechanism that allows the contractor to recover costs early on from production. The attraction of international investment, new technologies and knowledge for developing assets is a goal of many countries who hold possible assets, but not the resources or risk appetite to explore and develop themselves.

As mentioned, the PSA can certainly incentivize international investors to enter into and invest in countries which may not be within their risk appetite. However, there are many contractors/companies/investors who seek to exploit the lack of knowledge of the country and PSA mechanism itself to their advantage – at the cost of the people of the country. This is realized especially when the party is able to negotiate and leverage their position on the State.

PSAs as a construct to incentivize has had positive cases around the world, following good practice whereby fair agreements are reached. However, poorly structures PSAS also bring significant risk to countries whereby the State is unable to apply what has been learnt over decades of abusive practice by others – often costing the country significant amounts of much needed revenue and domestic production.

A PSA alone cannot effectively incentivize and attract investment. Licenses can be equally effective – especially if the right tools and framework is in place, such an effective marketing plan, a stronger, more robust legal system and a transparent upstream regulator, as illustrated in the below table.

Table 3: Other supporting tools for hydrocarbon exploration and production

SUPPORTING TOOL	POSITIIVE IMPACT
EFFECTIVE MARKETING CAMPAIGN	Attracted international investments
	Increased value of asset
	Attracting various investors allowing to select the best fit

TRANSPARENT AND ACCESSIBLE DATA	Simplified geological information flow and access to electronic data
	Engaged international companies into user-friendly geological data processing
	Removed entry barriers into the market
UPSTREAM REGULATOR	Increased State's capacity
	Effective management and oversight over the PSA
	All required functions united under the single body
MODEL PSA	Increased transparency & reduced favoritism
	Simplified negotiations process
	Balanced PSA that protects interests of both the State and investor

1. PRODUCTION SHARING AGREEMENTS (PSAS) ARE COMMON FOR SUBSOIL HYDROCARBON EXPLORATION AND PRODUCTION

Production sharing agreements (PSAs) are a type of contract which is concluded between a State or national (state-owned) oil company and a private company (or group of companies) – usually called "contractor".

PSAs history started in 1960s in Indonesia and continues up to now. Today they are mostly used in the Middle East, Africa and Central Asia; however, they also are actively used in some of the European countries (for example – Ukraine[1][2], Cyprus[3], Albania[4] and Croatia[5]). The Figure below shows the country where PSA mechanism is introduced:

Figure 4: Map of PSA utilization

PSAs are entered into to promote geological exploration and production of hydrocarbons. The contractor bears all the risks, and, if the exploration is successful and hydrocarbons are discovered –

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[1] https://www.kmu.gov.ua/npas/pro-viznachennya-peremozhciv-konkursiv-na-ukladennya-ugod-pro-rozpodil-vuglevodni-m-050719.

[2] https://zakon.rada.gov.ua/laws/show/484-2020-%D1%80#Text.

[3] https://www.offshore-energy.biz/exxonmobil-qatar-petroleum-ink-contract-for-block-off-cyprus/

[4] https://www.eni.com/en-IT/media/press-release/2019/12/eni-signs-a-production-sharing-contract-for-the-exploration-of-an-onshore-block-in-albania.html

[5] https://www.azu.hr/en/news/the-government-of-the-republic-of-croatia-approved-signing-of-6-onshore-production-sharing-agreements/.

the investment the contractor makes is recovered through a cost-recovery mechanism, as well as a share of the profits. The rates of cost recovery and profit production are defined in PSA.

1.1. PSAS ARE DIFFERENT TO LICENSES AND CAN INCENTIVIZE CONTRACTORS TO INVEST IN EXPLORATION/PRODUCTION IN AN OTHERWISE RISKY CLIMATE

Licenses or concessions is another form of agreement, whereby the State issues a license to a contractor to conduct exploration (and/or production) works on an area. Licenses are more commonly found in the western world, such as Europe and the US. The difference is usually related to the level of perceived legal and fiscal risk from the contractor in the target country. PSAs seek to address that risk by providing incentives and stability for a large exploration possibility in unexplored locations. As such there are many differences between licenses and PSAs.

The differences can also be economic, however can be structured in a way which could be economically the same.

PSAs are usually used for a large known field or a large exploration area. A field may contain multiple reservoirs in a geological structure. Such large fields will tend to accommodate significant work programs and thus require substantial capital for exploration/development works. As such, the investor will seek to secure their rights legally.

A PSA is a complex agreement that includes the rights and obligations of the parties, legal, financial, fiscal terms and a protection mechanism for its validity and supremacy against future legislation. This is usually accomplished by a parliamentary or governmental adoption of the PSA.

An exploration license agreement is for exploration of smaller fields for a specific period of time (usually five years) and convertible to a production license after a discovery. A primary law describes the rights and obligation of the parties and the process of license issuance itself is a very simple one, usually follows a simple auction process.

All Western countries have the license system, all onshore and offshore areas are divided in reasonable size blocks, attractive enough for companies, with offshore block sizes larger. This is true for oil and gas producing countries like the U.S., UK, Norway, etc. Government take can include two parts: royalties (classical number is 1/8 and can be distributed to local communities and corporate income taxes).

In summary, licenses can be applied successfully in countries with stronger legal frameworks in place, thus offering contractors better security and confidence in protecting their rights under the terms of the licenses. The majority of differences relate to the contractor's ability to protect their interests in the host country, be it through strengthening/stabilizing the legal framework, such as settlements of disputes, as well as navigating complex tax regimes in place (PSAs often offer tax incentives to promote investment).

PSAs include the State or National Oil & Gas Company as a party to the agreement

- Nature of the relationships in PSAs and licensing is different. In PSAs, State and contractor, are both parties to the agreement, having equal obligations to fulfill the agreement and liability for breach. Whereas, under a licensing regime, the licensee is buying a permit to conduct certain actions for the defined period of time. The State does not have further specific obligations towards the licensee. The licensee does not need further intervention from the State to facilitate its conduct of business, such as access to lands or obtaining necessary permits. The contracting party

to a PSA seeks to hold the State accountable by having them part of the agreement and grants the contracting party confidence in obtaining the necessary support of the State where necessary to conduct its works ("skin in the game").

PSAs are often applied in the large fields with "difficult" formations to utilize modern international expertise, technology and resources

- PSAs are often used to attract reputable international contractors with necessary financial resources to conduct big exploration programs and with modern expertise and technologies that may not be available domestically, or which are necessary to develop difficult formations (deep, unconventional, high-temperature/high-pressure formations, etc.) whereas licensing regimes provide for general rules for all possible subsoil users.

Usually, PSAs allow for contractors to recover their costs sooner

- Mechanism of production sharing (and cost recovery) is on the unique incentivizing mechanisms of PSAs. Under, a license/concession, all petroleum produced by the contractor belongs to the contractor, and the State only receives revenues in the form of applied taxes. The level of applied taxes does not depend on the stages of works, it is general for all licenses. Whereas under a PSA, a unique mechanism is applied that allows contractor to recover his costs prior to sharing profit with the State. It means that before contractor's costs are recovered, majority of produced production are going to contractor in form of cost-recovery production, and, when the contactor's costs are recovered, government's share increases significantly. Such mechanism allows to a) provide the contractor the ability to quickly recover their costs invested from production, and b) share additional production (profit production) between the Contractor and State. Taxes are paid, however often PSAs will have tax breaks applied for further incentive. Typical production sharing mechanisms is shown below.

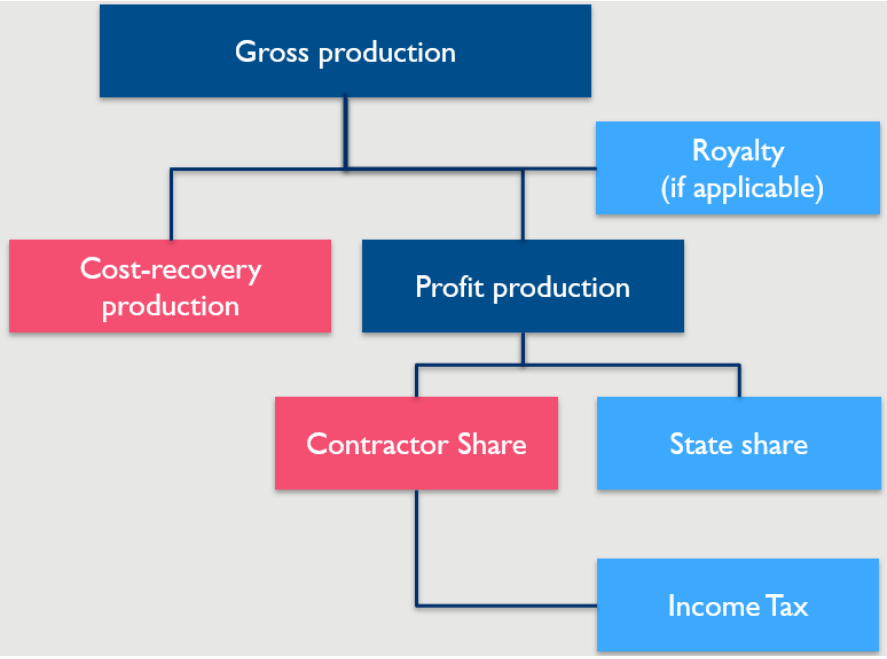

Figure 5: PSA Mechanism

PSAs provide greater legal and fiscal stability for contractors in the absence of strong legal framework

- Licenses are usually governed by the national law, or codes (such as subsoil code), which is subject to change. PSAs often have their own separate primary law applied, with terms contained within the PSA to provide for stability of clauses at the time of entry and thus improved confidence for contractors that the law is followed in the event of dispute. Disputes are under a PSA allow for international arbitration, whereas licenses are subject to the local law (and courts).

- International arbitration as a dispute resolution body and waiver of State's sovereign immunity to certain degree. So, if contractor's rights (or State's obligations) are breached the contractor will be able to defend his position and enforce the court decision afterwards. This gives confidence to contractor to deploy long term investments.

- PSA often replace difficult import duties, fees and taxes, and currency controls, where applicable, easing the financial and administrative burden of the contractor and improving the economics of exploration.

PSAs (mostly) cover larger areas of exploration and development and longer periods for the contract

- PSAs usually cover a) larger areas of subsoil and b) offer longer periods of contracted engagement (c.30 years is quite typical), whereas licenses are often no more than 20 years (with production) and can often be split between "exploration license" (2-5 years) and production licenses (10-20 years). PSAs will make provisions for such splits between exploration and production (with provision of relinquishment to act similar to "exploration license" periods within the agreement itself. .

PSAs require assets acquiring during the contract period to be assigned to the State one the costs are recovered

- All assets acquired by the contractor over the course of PSA implementation will become the property of the State when the costs to acquire them are recovered through the cost-recovery production. Whereas on the licensing regime it is not the case and all property belong to contractor (licensee).

PSAs allow the State to have a more active role in management of the contractor

- Under PSAs, the State often takes a more active participation in the agreement through the Steering Committee by providing support, providing approvals to certain actions (operator change, change of control, procurements, etc.), controlling and approving of costs subject to recovery. Under a license, the contractor may have a work program to fulfil as part of the license within a certain time frame, or the license is not renewed. The level of interaction and oversight from the State is less so than a PSA.

- State usually are participating in the agreement through the Steering Committee (or similar body) which provides support to the contractor where stipulated by the PSA. This usually includes assistance in provision of permits, in acquiring of the required land, in communication with different State authorities that may occur during the PSA implementation. As such, this provides confidence to the contractor that the necessary access to lands, permits, etc. will be obtained with State support to prevent disruption to work.

- This also protects the States interests, by requiring regular reporting and approvals of certain actions – such as transfer of interests, large procurements which effect cost recovery, and work planning and budgets. Cost control is very important given the mechanism of cost recovery.

- On the other hand, it should be noted that active management, with all its benefits, has one downside – it requires a lot of recourses from State's side to conduct. Therefore, it may be not feasible for a State to spent resources for PSA management in case of small blocks.

2. HOWEVER, POORLY CONSTRUCTED PSAS CAN CREATE SIGNIFICANT RISKS FOR THE COUNTRY

2.1 NON-DELIVERY OF WORKS AND INVESTMENTS

If several PSA key clauses are not compliant with international best practices and are written in the corrupted way, – it can result into partially of full non-delivery of works and investment. Considering that PSAs are being concluded to explore and produce petroleum through the contractor's funding – non-delivery of works/investments ruins the whole idea of PSA conclusion.

These risks can be faced if clauses that define contractor's obligations are written vague or are unenforceable, if State lack ability to effectively monitor the implementation of PSA, or if the contractor faced financial or other issues that result into his inability to deploy the required investments and works. For the latter case, if relinquishment and termination clauses are also written poorly, the State can face even more risks.

2.1.1 SLEEPING ASSETS/LAND LOCK

NO RELINQUISHMENT OBLIGATION – LOCKED LAND

A long relinquishment period, especially if it is coupled with minimal work obligations and poor enforcement of the PSAs, can lead to non-delivery of the work programs with limited recourse for the State to retender and/or maximize the upside from the assets.

Risks for the State include non-delivery of work programs, reduced economic return should discovery be made (if ever).

Furthermore, relinquishment and ineffective delivery have a financial impact in the form of opportunity cost, i.e., if the PSA holder does not deliver and the areas are relinquished, then the areas can be retendered and potentially leading to production that was missed by the original holder due to the ineffective deployment of investment during the exploration period.

The risks of sleeping assets and non-delivery are very high and likely lead to significant losses for the State in the form of present value of future share, energy security following domestic production, and opportunity cost of the possibility to have had more credible contractors.

NOT ENFORCED TERMINATION CLAUSE – SLEEPING ASSET

Not clearly outlined termination clause can result into the case when contractor has breached investment/work obligations i.e. deployed no or minimal investments and, on the meetings with the State, he haven't provided a warranties that works and investments will be resumed as soon as reasons for delays will be eliminated and the State is unable to terminate the PSA and seek for new contractor.

Contractor likely won't agree to terminate the PSA in this case because: he already committed some investments and want them to be recovered and because of majority of PSA have penalties for non-fulfillment of obligations, especially if it is the reason for termination.

So, contractor will decrease significantly (or completely stop) deployment of investments and would start deking possibility to farm out.

Inability to terminate in this case will result into asset being frozen for:

- In the best case – the time required to farm out (which is not likely to happen, since it is not easy to sell encumbered asset).
- In the realistic case – the time to receive positive arbitration award (usually couple of years).
- In the worst case – the whole PSA duration.

The main losses of the State would be potential benefits in case investments were committed and opportunity costs – if the PSA would be terminated quickly – new contractor could have been found and investment/works began.

Another risks that poor termination clause carries – opportunist-entities (entities that seek to conclude the PSA on most favorable terms start exploration and then farm out when the first discovery is made), In case at the stage of tendering and winner selection the opportunist-entity was selected as a winner and PSA with it was concluded.

Theoretically this scenario is acceptable for the State as it is not important who is implementing the PSA if financial and technical abilities are in place.

However, there may be a case when opportunist-entity concluded PSA, started exploration, but its financial resources ended before it had possibility to farm out from PSA, and asset became frozen. And inability to terminate when such situation occurred will lead to the risks described above.

2.1.2 NON-DELIVERY OF WORK PLANS AND POOR MANAGEMENT CAPACITY

In some cases, work can be delayed due to the legitimate reasons. And, if the State was notified in advance and contractor presented necessary evidence – he shouldn't be penalized for delays in operation as it was justified.

However, delay in works can also be caused by not properly constructed PSA clauses that would allow contactor to find loopholes to not fulfill its obligations in full or in timely manner.

DELAYED WORKS ARE FIRST STEP TO NON-DELIVERY

For instance, there were cases when contractors during negotiations for PSA conclusion had a position that only deviation for more than 50% for 2 years in a row should be considered a breach, Obviously, if accepted, it that would allow to contactor to decide when it is more convenient time for him to invest and the works would start to delay and the state would not be able to influence, since contractor would meet the level for 50% once in 2 years and stayed untouchable, as formally he didn't committed a breach.

Delayed works would damage the future profits of the State because: delayed works → lesser or delayed exploration → lesser or delayed discovery of petroleum → lesser or delayed production → lesser or delayed incomes for the state both in form of profit oil and taxes.

LACK OF STEERING COMMITTEE AND POWERS FOR MONITORING

The absence of a steering committee, or similar, is a significant implementation risk as well as enforcement risk in the event a dispute is raised.

Without Steering Committee meetings, it will be challenging to enforce any potential disputes, and more difficult for experts to analyze whether both parties were acting with international best practice.

For example, if a PSA holder requests support on license on multiple occasion and no progress is made and it is recorded in the forum, then this provides the PSA holder support in future action with regards to receiving reasonable extensions.

Or, if the State determines that the PSA holder is not progressing works sufficiently and seeks to terminate the agreement, then the meetings serve the forum for discussion with regards to the challenges and allow the PSA holder to defend the progress made, or support the State during disputes.

One of the most important duties of the Steering Committee is control of costs incurred. Without proper control over the procurement and subcontractors the cost-recovery pool may be artificially increased which would result into direct losses of the State (by decreasing the future share of profit petroleum).

Additionally, there is the risk of cross company/affiliate, contracting, whereby the contractor will contract its own (affiliated) company at an inflated price.

The costs should also be in line with the budgeting associated with the work plan.

2.1.3 LOSING EFFECTIVE CONTROL OVER THE ASSET

Lack of clauses that clearly outline that any change of control over the asset or over the implementation of PSA requires State's approval may result into losing of control and influence on the asset or aggressor/opportunists acquiring control over the PSA.

No change of control/assignment approval can lead to aggressor country or shell company acquiring the PSA participating interest

The risks include an entity from the aggressor country acquiring a control over the PSA → over the strategic assets of the country, or a non-oil and gas company acquiring a majority interest in the parent company, looking to change direction, and, therefore, reducing the technical ability to deliver on the PSA.

In case of no approval/regulation of change of control, considering that majority of PSAs are concluded with SPV that are subsidiaries of big oil companies, contractor can, in case of non-delivery of works, sell the participating interest over the SPV which is party to the PSA to a "shell" company to avoid responsibility for non-fulfillment prescribed in the PSA. That would result into the huge losses of the State.

No change of operator approval can lead to enforceability issues

Without the requirement to request approval the operator may be changed in a way when the necessary carry over obligations may not be fully transferred to the new operator and therefore may be not enforceable. It is important that necessary agreements are in place (such as a joint operating agreement) which maintains that the liabilities are carried up to the contracting parties.

No preemptive right can allow to execute economically inefficient deals

Participating interest can potentially be farmed out at a deep discount, in particular if there is a strategic influence. That would result into State losing its amount due through taxes. Which can amount to the US$ millions given the size of certain PSAs. Furthermore, under certain circumstances it may be beneficial for State to acquire the asset and transfer it to national oil company.

2.2 POOR ECONOMICS AND INSUFFICIENT COST CONTROL

If economic aspects in the PSA are not well managed, incomes of the State are reduced significantly. Each dollar of inflated costs that were not detected is deducted from the future State's profits. The risks are not well managed cost recovery pool and option to apply indexation to cost recovery amounts (if any country is yet considering those).

To illustrate financial impacts, the IMF FARI model was run with example figures inserted on the following assumptions for each scenario:

$150/Mcm selling price of gas, $75/Mcm OPEX cost, $20 million drilling cost for production (2-3 wells to achieve 500Mcm/d, declining at 2% per annum, where applicable).

Note: Assumes small scale PSA and non-significant discoveries

Scenario 1: The contractor maintains the PSA, does not relinquish and is not terminated – with break, postponed:

- No relinquishment requirement.
- Contract does not enforce non-delivery of work programs.
- Limited exploration Y1-5, restart Y10-15 (presuming new financing is achieving).
- Production starts from Y16.

Scenario 2: The contractor maintains the PSA, does not relinquish and is not terminated – no break, delays:

- No relinquishment required.
- Farm out from Y5, work continues Y5-10.
- With production starting from year 11.

Scenario 3: The contractor maintains the PSA, does not relinquish and is not terminated – sleeping license:

- No relinquishment or termination.
- No investment, no production, no delivery of the work program.

Scenario 4: State terminates due to delivery, retendered:

– No delivery of minimum work programs identified early from Y2.

– Year 3 asset is retendered.

– Restart and produce from Y7.

Scenario 5: Work program fulfilled by investor and production from year 6.

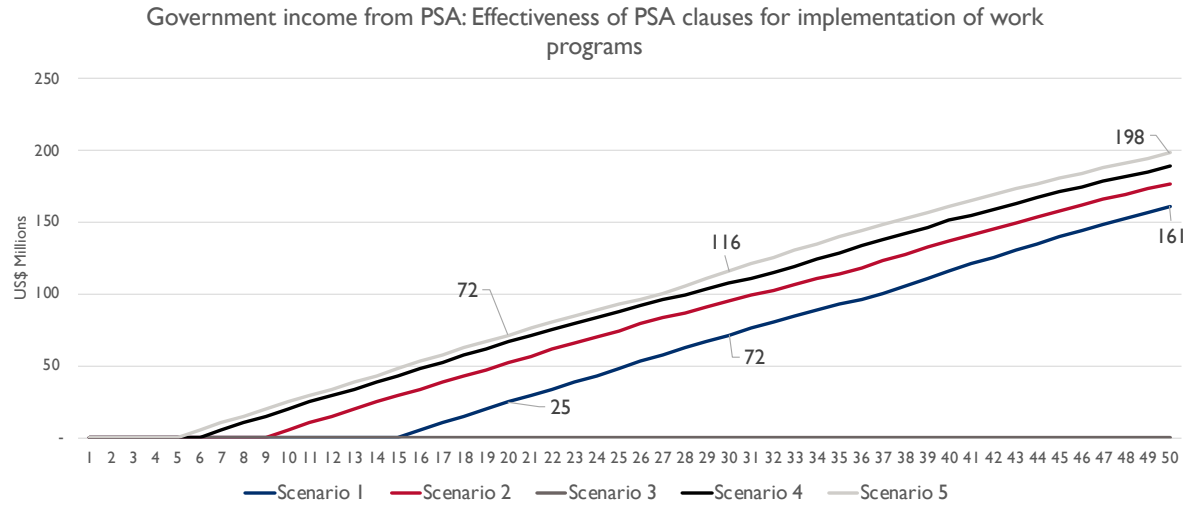

Figure 6: State fiscal income from PSA: Good PSAs vs. Bad PSAs – Scenarios

2.2.1 COST RECOVERY POOL AND INDEXATION

The cost recovery pool should be explicitly related to the reasonable costs associated with exploration and production activity under the PSA. Because the larger the cost recovery pool, the smaller the profit sharing potential.

Lack of proper management of the costs being incurred and recorded will lead to the increase of cost recovery pool which in turn will reduce the future profit of the State.

Additionally, risks include the inclusion of what is traditionally non-recoverable costs, to be included in the cost recovery pool.

With regards to indexation – it is usually only applied to amounts due such as payables, which is internationally acceptable.

Significant risks are present with indexation if it is applied to the cost-recovery pool. In this case economic impacts to the State's share and income are significant – as demonstrated below by modelling of an illustrative PSA scenario.

Assumptions:

	Best Practice Cost Planning/Management	Abused Cost Planning/Management
Exploration Capex	$25million – Y1-3	
Development Capex	$150million	$200 million
Operating Costs	$30/mcm	$27/mcm

Indexation on Cost Recovery	0%	10%
Revenue (Gas Sale Price)	$150/mcm	
Production	Peak 750mcm/d from Y5 then declining	
Cost Recovery (Contractor)	70%	
Profit Sharing (Contractor/State)	80%/20%	

The figures are for demonstration purposes only to illustrate the existence of impacts and significance of the application of indexation and cost management to the cost recovery pool. The assumption is based on a typical small sized field within a PSA. A PSA can contain multiple numbers of fields, further amplifying the effects outlined below

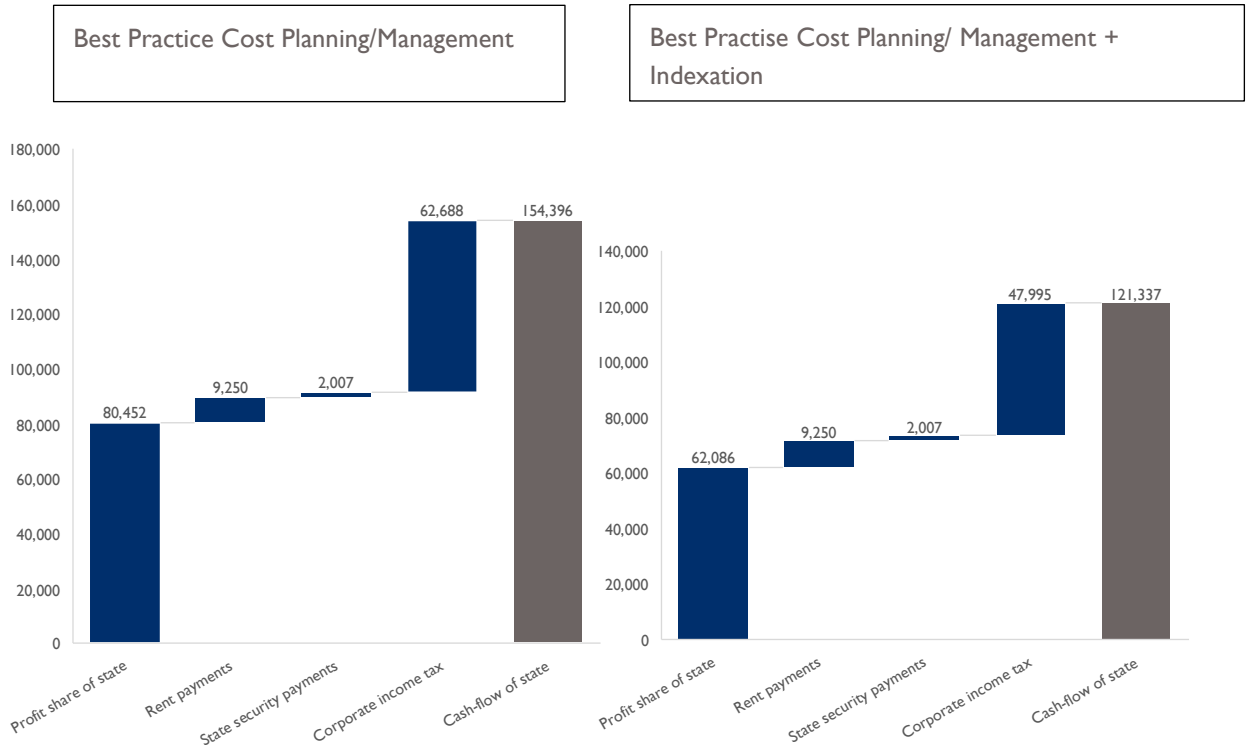

Figure 7: Illustrative example of Indexation on Government cashflow

With respect to indexation, the benefit to the PSA holder is in the form of recoverable costs being indexed even though they are in real term/nominal. Such indexation is covered with the produced gas before its being distributed to the State and contractor. Respectively the amount that the State loses is their portion in the amount of gas directed to the cover indexation, i.e. around 70%. Additionally, the State loses a potential tax income on the amounts paid as indexation to the contractor as such indexation cost is considered deductible.

In the scenarios modelled, using the "best practice" case, with the application of indexation only, the Government loses over $30 million over the 25 year period modelled. This is directly attributed to the Contractor as demonstrated below.

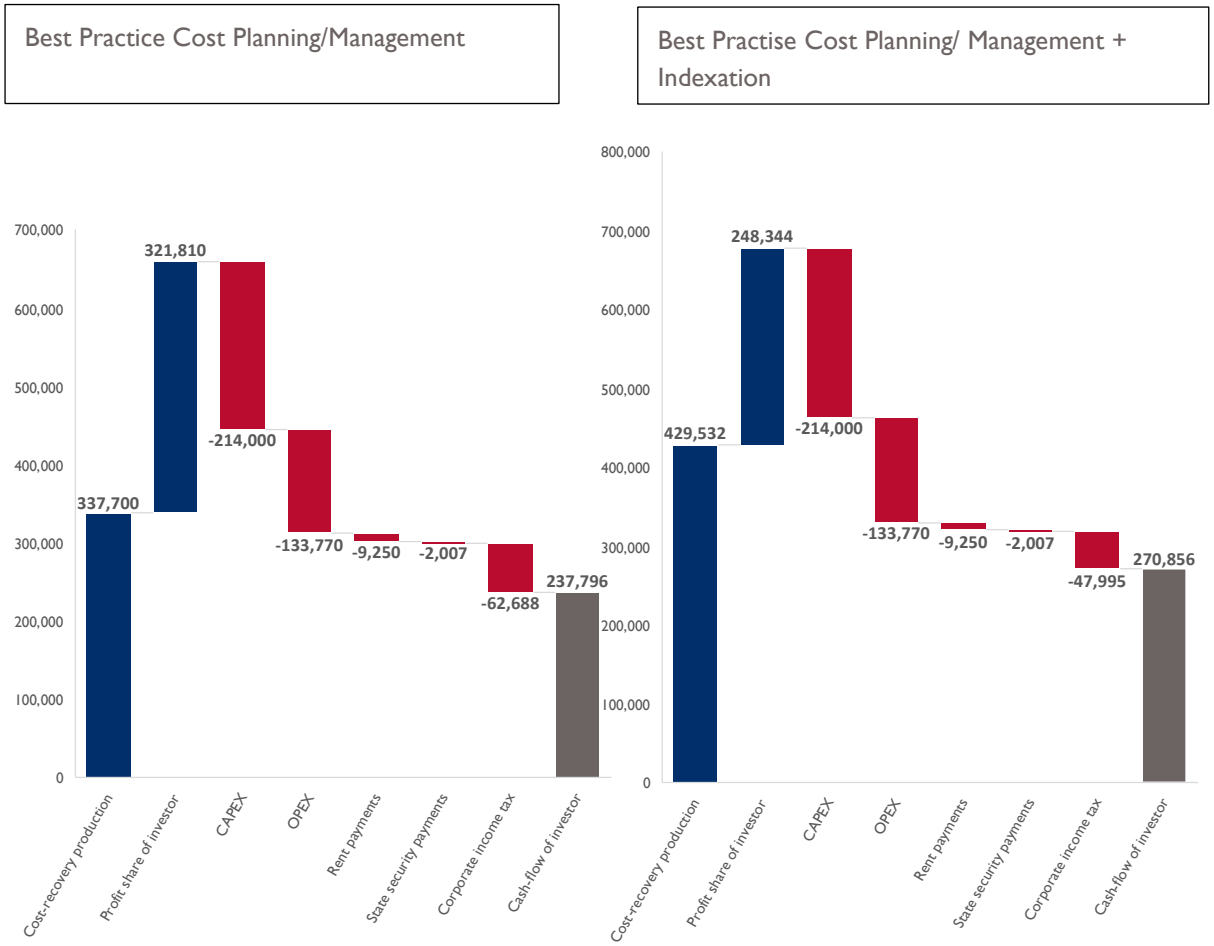

Figure 8 Illustrative example of Indexation on Contractor cashflow

Combining both the impact of indexation plus the abuse of cost control methods, the economics for the Government will deteriorate further. Technically, from economic modelling perspective, the economics for the contractor will also further deteriorate. However, the contractors' incentive to abuse costs is largely related to the contractor using affiliated companies at inflated prices. As such, though the economics look poor on the field accounting basis, the increased costs are actually incomes to other parts of the business.

Such practice is particularly true if no control mechanisms for procurement is in place. Figure below illustrates the government cashflows over the 25 year period with the assumption of cost abuse and indexation combined.

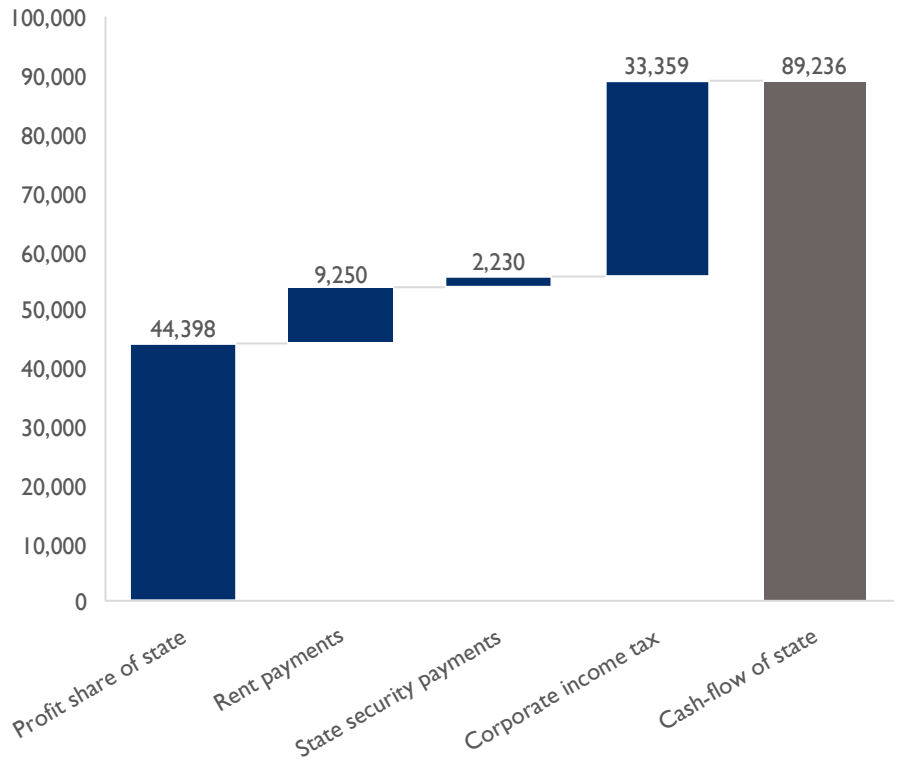

Figure 9 Illustrative example of Indexation and Cost Abuse on Government cashflow

As illustrated, the Government revenues over the period will have dropped $154 million (best practice case) down to $89 million (cost abuse and indexation).

Across the scenarios; Best Practice → Best Practice + Indexation → Cost Abuse + Indexation, the NPV (10% discounting factor) is reduced for the government from $45.8 million → $36.6 million → $31.5million respectively.

As such, Governments who do not negotiate and impose effective cost control mechanisms, or allow for indexation on costs, can significantly harm the future value of cash flows going forward for the country, and thus, "miss out" on fiscal revenues for the State fiscal budget.

Additionally, it is noted that this is based on limited development and production. As development and production increase, or cost controlling is further abused, the gap widens further and additional losses to the State are incurred.

2.2.2 POTENTIAL EROSION OF PROFITS UNDER PSA

If no ring-fencing provisions are in place – profits of State may be eroded – timing and amounts of profits will worsen.

If the Contractor has made a commercial discovery and started producing (and ring fencing is not applicable) they could potentially allocate other higher risk exploration capex from separate fields to be part of the cost recovery pool from the producing asset. Allocating new costs to the cost recovery pool of the producing assets will minimize the State's share of income from the producing asset and minimize the possibility of excess profit sharing beyond the cost recovery allocation.

2.2.3 COMMERCIAL TERMS OF PRODUCTION SHARING

Without specifying the mechanism for agreeing to the sale mechanism and pricing of petroleum, the risks include the selling of profit petroleum at under market prices to affiliated companies.

The risks with respect to state sale of the hydrocarbons are minimal. However, often there are issues with valuation and calculation of accurate sharing portion depending on the prevailing market value.

It is often cleaner and simpler for the contractor to sell the States portion in order to achieve best market rates, then providing the State the portion of revenues in kind. This limits the risks of price fluctuations and reduces the resources required from the State, which will likely need a trading entity to conduct the sale of petroleum.

2.3 INABILITY TO ENFORCE

Not all countries' justice systems are being trusted by the international community. Usually this is due to the fact that either courts are corrupted, or the legislative system is not perfect. Having to decide on the PSA related issues in the courts like that poses a great enforcement risks both for State and investor.

Therefore, poor legal system poses not only potential risks to the State of not only unjustified losing of millions but also, lack of arbitration as a dispute resolution body may prevent big international companies from participation in the PSA at the first place. Also, it may hinder the ability of the PSA holders to attract foreign partners in the future.

3. THESE RISKS CAN BE MITIGATED THROUGH CLAUSES IN THE PSA WHICH ARE ACCEPTABLE INTERNATIONALLY BY ALL PARTIES

3.1 PSA CLAUSES CAN SUPPORT TIMELY DELIVERY OF WORK PLANS

In order to ensure timely delivery of program of works and investments it is necessary to have relinquishment (incentive for quick exploration), steering committee (work program & budget approval and monitoring) and termination clause as protective measure.

3.1.1 RELINQUISHMENT

Relinquishment is obligation of the contractor to return certain percentage of the contract area after defined period of time or if the appraisal of discovery did not result into announcement of commercial discovery. Relinquishment clause is required to motivate contractors to conduct quick exploration works and give to the State the effective instrument of influence in case no or limited works are performed on the contract area.

A up to five-year period to conduct exploration is significant for any size block and is relative to the amount the winning bidder is willing to invest.

This is a critical clause and considered a material clause that when enforced, will incentivize and motivate the PSA holder to conduct the necessary works, as promised under the respective proposals, within the time frame stipulated.

Additionally, clauses should include the opportunity for PSA holders to continue an additional exploration work program by way of application and proposal at the end of initial exploration period to extend the exploration work program, should the first work program have been fulfilled in whole (or mostly).

It is reasonable for an extension to be granted for further exploration works if the PSA holder delivers on the proposed work program and proves to be credible in their intention to explore and develop the asset and deploy investment.

Without the limitation, there is no incentive for the PSA holder to deliver the work program in good time and contractors will likely not prioritize the asset with respect to their financial resources to deploy investment.

It is in the best interest of all parties for discoveries to be developed further as soon as possible, to begin generating revenues and economic returns.

- Croatia – 100% must be relinquished after six years.
- Kenya – 25% must be relinquished at the end of year 2 and 25% at the end of year 4.
- Kurdistan – 100% must be relinquished after 7 years.
- Cyprus – 100% must be relinquished after 7 years.
- Tanzania – 100% must be relinquished after 11 years.

3.1.2 STEERING COMMITTEE/COORDINATION COMMITTEE (OR SIMILAR)

A body that will be managing and monitor implementation of the PSA needs to be created. A Steering Committee/Advisory Committee/Management Committee/Coordination Committee is a State body that oversights the activities of the investor and provides the approvals where required, allowing for a forum between the contractor and State to discuss progress on the work plans. The committee meetings allow effective tracking of progress and interaction that is logged between the State and PSA holder to determine and understand the challenges faced as well as open dialogue for both parties to make requests with respect of support under the agreement.

A Steering Committee/Advisory Committee/Management Committee/Coordination Committee is a practice that is present in almost all PSAs.

This is an essential clause that allows for a forum for both the PSA holder and the State representatives to discuss progress on the work plans that are approved.

This usually includes exploration, production, budget, procurements, human resources issues (such as key experts, if applicable), approves and requests, determination of prices, and other operational aspects.

The meetings are logged through minutes and form a foundation for future expert determination, if necessary, for the event of disputes.

The committee allows for representatives of various State bodies to partake and represent various elements (labor, fiscal, geological, energy, finance, etc.)

Quarterly meetings are generally acceptable internationally, which will consist of a short presentation/verbal discussion as part of the reporting process and agreed decisions from both State and contractor side.

Experts should be allowed to support the State in analyzing and advising on the discussions.

- Almost all PSAs contain such provision. The structures and frequency can vary; however, it is contained in almost all PSAs. The most common frequency is quarterly.

3.1.3 APPROVAL OF LARGE PROCUREMENTS

Amounts of procurements/subcontracts can amount to US$ millions, therefore in is crucial to ensure control over such funds, since ineffective spending of funds increases the cost-recovery pool and causes direct damages to State.

Steering committee usually has effective oversight over the key procurements

Given the long term of the agreements, it should be ensured that key procurements are better managed in order to ensure that the capital deployed effectively, in line with the work program, budget and correct procurement practices.

In PSAs such clause usually outlines that the procurement procedure, i.e. that all procurements should be done on the competitive and transparent tender basis, all procurement documents should be provided to the State upon request and gives to the State a right to approve the "biggest" procurements (cap for States approval varies from 100k US$ to millions US$).

Given the economics of the cost recovery and the winning bidders, whether now or in future, the control of approval is generally an acceptable requirement for larger procurements to ensure another level of approval and review for costs that will ultimately be added to the cost recovery pool and therefore impact the share of profit gas that the State will receive.

Larger procurements should therefore be monitored by the State and reported for approval to provide a level of transparency and acknowledgement for addition to the cost recovery pool.

- Croatia – Procurement procedures are approved in the work program. Croatian Agency has the right to be included in all procurements with a value > 100 000 EUR.
- Kenya – After the agreed threshold subcontractors must be chosen on tender.
- Kurdistan – Procurement procedures are approved by the Steering Committee.
- Cyprus – If the procurement costs more than 250k dollars, the operator must involve such work or service through a tender.
- Tanzania – Procurements in accordance with international best practice.

3.1.4 TERMINATION

Termination is an end of the agreement. In PSA the termination clause should clearly outline the cases when agreement is (or can be) terminated, the procedure of termination and the grounds for unilateral termination. Also, termination clause includes surviving (that remain active even after the termination of the PSA) obligations of contractor.

Termination process needs to be clearly outlined. Both parties should have the right to terminate subject to certain conditions. For State these conditions include inter alia:

- Non-fulfillment of investment or work obligations.
- Change of control or assignment without approval of the State.
- Non-payment to the State of its amount due.
- Commitment of material breach as stipulated by the PSA.
- Other breaches as stipulated by PSA.

If a trigger for breach occurs by either party, a notice must be provided to specify by the Steering Committee. If the breach is not remedied within the notice period, the non-breaching party can proceed to raising a dispute. Following the dispute period, if no remedies are sought, the dispute shall be referred to arbitration in accordance with International Court of Arbitration or PSA will be terminated.

It should be noted that the State should have the right to terminate, in case of occurrence of above mentioned conditions, without going to the arbitration. This allows not to wait years for arbitration award and quickly retender the asset. And if contractor does not agree with termination – he should go and challenge termination in the arbitration.

Another advised clause – if contractor to date is fulfilling the work program and investment commitments and has no other beaches of PSA conditions – he should have the right to terminate the PSA unilaterally with no or minimal fee, if he sees no further perspective in further exploration. This allows to the State not to freeze asset (and retender it of use it in different way) and promotes fulfillment of program of works

Additionally, termination clause should outline surviving obligations of the contractor that would remain active even after PSA termination. Surviving obligations usually include proper abandonment of wells and rehabilitations of damaged land.

All PSAs reviewed contain termination clause that outlines the cases when PSA can be terminated prior to its end by each of the parties and surviving obligations after PSA termination.

3.1.5 RECOVERABLE COSTS

Recoverable costs are the costs incurred and paid by the contractor during petroleum operations, which are duly entered in the contractor's books of account. Usually, the recoverable costs will include both CAPEX and OPEX with certain list of exclusions (exclusion lists are also common and usually include costs like – loan's interests, fines paid, etc.). Exclusion lists are not usually exhaustive.

List of recoverable costs needs to be clearly outlined.

Recoverable costs should be aligned with work plans and budgets being proposed.

- All international examples contain the approach where all petroleum costs (both CAPEX and OPEX) are recoverable.

3.1.6 SALE OF PRODUCED PRODUCTION

Petroleum needs to be sold on transparent basis, and often the contactor is requested to do this on behalf of the State at no further costs.

Sale of profit petroleum pricing can be determined through the Steering/Coordination Committee and if disputed, can be determined by independent experts. Sale of profit petroleum should be upon request of the State, or by default with a provision to accept gas in kind, upon request. Generally, the sale will be conducted on market basis.

There should not be any additional cost incurred to incrementally increasing the amount of petroleum being sold on a market, other than marketing costs/cost of transactions/transportation, which can be netted of.

Selling to affiliated companies should require specific approvals from the State and determination that the pricing of sale is in line with the market price. Ideally, all extracted products should be traded through the exchanges to achieve the best price.

- Croatia – After the request by the State, the Contractor shall market the State's share free of charge on a market conditions.
- Kenya – By default, the State is receiving in-kind but can request the PSA holder to sell its proper share free of charge.
- Kurdistan – Same as Croatia, but sales commission for the PSA holder will be included.
- Cyprus – By default the PSA holder is selling State's share free of charge on market.
- Tanzania – Same as Croatia.

3.1.7 RING FENCING OF COSTS

Ring fencing clause should be present and applicable in the PSA. It should clearly outline the procedure of ring fencing and be enforceable. Ring fencing is a critical clause which has had IMF attention in Guyana[6], with the understanding that it significantly impacts the fiscal economics as costs from a non-producing area, or worse, costs associated with a closed non-discovery area of the contract area, is being recovered from a part of the contract area which continues to generate revenue. Furthermore, without ring fencing, the taxation regime is also affected as costs are expensed against revenues, additionally reducing state income.[7]

Ring fencing example: If a contractor has invested US$ 10 million for exploration and has made 1 commercial discovery, this discovery would be ring fenced and when the US$10 million (+ other costs to launch production specifically on this area) incurred to make this discovery will be recovered all produced petroleum is considered as profit. Any further costs for exploration will be included in

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[6] https://www.stabroeknews.com/2018/02/11/sunday/guyana-and-the-wider-world/guyanas-psa-fiscal-regime-ring-fencing-and-other-trade-offs/

[7] https://www.elibrary.imf.org/view/IMF071/10907-9780415781381/10907-9780415781381/ch04.xml?_Language=en&redirect=true

recovery pool of the associated area (separately ring fenced) and recovered by associated revenues or won't be recovered at all if not successful.

- Croatia – Ring fencing is being applied.
- Kenya – Ring fencing is being applied.
- Kurdistan – Ring fencing is being applied.
- Cyprus – Ring fencing is being applied.
- Tanzania – Ring fencing is being applied.

3.1.8 INDEXATION

Indexation is a percentage applied to the amounts due, if the payment is delayed. Also, some countries consider application of the indexation to the cost-recovery pool.

Internationally, no indexation being applied to cost recovery amounts (it is acceptable to amounts owed). As demonstrated, there is a significant impact on amount added to the cost recovery pool, which ultimately takes away potential share of the State.

Additionally, by applying a Y%+ indexation to costs incurred, the incentive to produce at marginal profitability is reduced, as this is effectively applying a double calculation of earning implied as a Y%+ (x cost recovery %) on top of the invested amounts.

Furthermore, in the event that a Contractor does not complete work program or incurs costs without delivery of the full work program in a timely manner, the cost recovery amounts will continue to accumulate, **effectively costing the State money**, while waiting for production revenues to be generated. Contractors will typically be more inclined to engage in high cost general & administrative, OPEX and CAPEX, especially in the event of knowing that production will be produced, further increasing the cost recovery pool, and earning an additional percentage on top of the invested amounts going towards the pool.

Agreeing to such practice is not aligned with international best practice and is not in the interest of State.

This mechanism is an indirect way of improving the economics of the Contractor, as demonstrated by a simplified diagram of a typical production sharing split, illustrated below. Keeping an inflated cost recovery pool hinders any "excess" revenue that goes towards the profit-sharing portion.

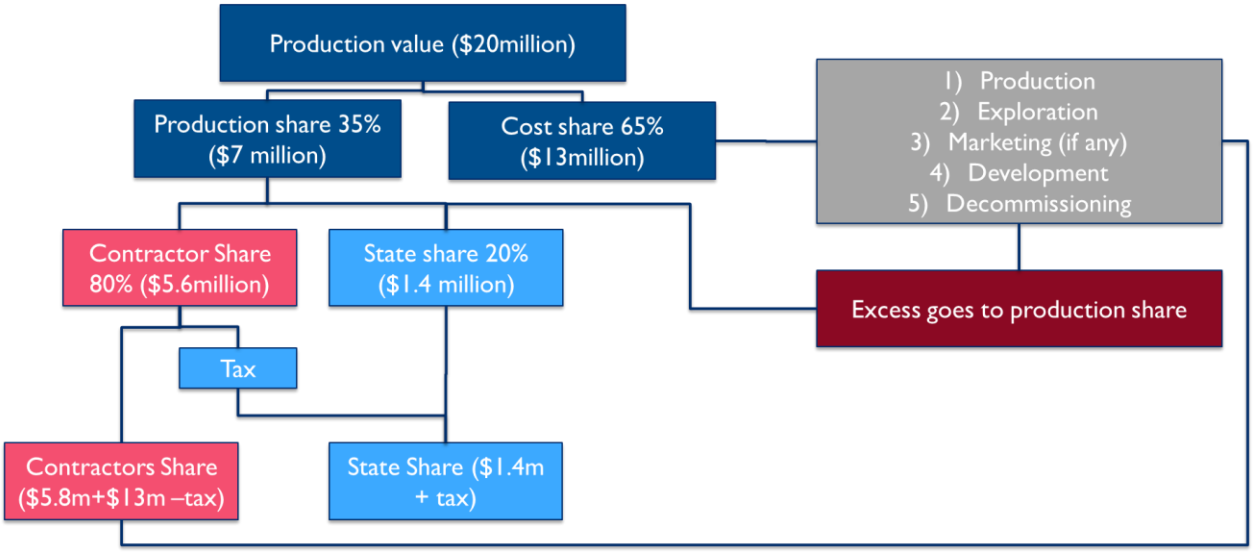

Figure 10: Simplified production sharing split example

Without excess production revenue attributing to profit share:

- State: $1.4m + tax (7% exc. Tax)
- Contractor: $18.8m – tax

The profit sharing and State share is significantly impacted. The sooner the cost recovery amounts are repaid and covered, the larger the State share is, and the State can begin to earn sooner rather than later, example illustration below of how the excess goes back to the State.

- Croatia – No indexation of Recoverable costs.
- Kenya – No indexation of Recoverable costs.
- Kurdistan – No indexation of Recoverable costs.
- Cyprus – No indexation of Recoverable costs.
- Tanzania – No indexation of Recoverable costs.

3.2 PSA CLAUSES CAN PREVENT SPECULATION AND ASSET FLIPPING

Speculation and asset flipping are contractor abuse, as is cost.

PSA is valuable or even strategic asset to the country. Therefore, clauses that ensure that any change of control/assignment receives prior approval of the State should be in place. Another important clauses that provide additional protection are change of operator approval and preemptive right.

3.2.1 TRANSFER OF INTEREST AND CHANGE OF CONTROL

Change of control means direct or indirect change of participating interest into the shareholders of contractor under the PSA. This includes change of control over the top co (throughout the chain of companies) or change in board or other body that have decisive influence over the contractor. With regards to PSA – change of control clause outlines: whether is it allowed, is there any limitations to

such change, and, the most important – procedure of such change which include a State's approval of the change of control.

With respect to risk mitigation, a change of control and assignment clauses are found in almost every PSA. These are a standard provisions that are not withheld unreasonably.

This clauses should provide the procedure of change of control/assignment approval and wording that the new controlling party (entity or individual) have similar financial standing to commit to the work programs as well as similar demonstration of technical ability

These are a very standard clauses and can include a time of which the State needs to object to. The clauses do not create an interruption of economic activity if correct notification is made.

- Almost all PSAs contain such provision.
- Croatia – State approves any change of control.
- Kenya – State approves any change in control, except of transfer to the affiliates or if the assignor ang assignee are jointly liable.
- Kurdistan – State approves any change of control.
- Cyprus – State approves any change of control.
- Tanzania – State approves any change of control.

As part of control over daily activities, the State also should approve a change of operator – In PSAs all works are done by the one company on "zero profit / zero loss basis". This company is called operator of the agreement and is either one of the contractors, or, more commonly, a new company formed by the contractors according to their PSA participating interest. And, in case of contactor's composition change or due to other operational issues, the operator of the agreement may change, meaning that different company may become an operator. With regards to PSA – change of operator clause outlines the procedure of its change including State's approval.

In line with almost all international best practice, a) the State is notified in advance and b) the State has a period of time to object to the appointment of a new operator, where material (mitigates risk of bureaucratic delays) and c) the State will not object such change unreasonably.

- Almost all international PSAs has such a provision.
- Croatia – State approves change of operator.
- Kenya – Operator is appointed by the Operating Committee.
- Kurdistan – Contractor gives prior written notice to the State.
- Cyprus – State approves change of operator.
- Tanzania – State approves change of operator.

3.2.2 PRE-EMPTIVE RIGHT

Preemptive right is a possibility of State to match the commercial terms offered by a third party and obtain the participating share in the production sharing agreement.

Over the course of the agreement the State should have the right to match the commercial terms offered by a third party and obtain the share of production and cost recovery associated if it is in the best interest of the country and its people.

The body to execute the pre-emptive right usually is a national oil company or similar.

The State should maintain upside in the event of a farm-out and "preempt" transactions, where necessary to preserve energy security and increase its share of the produced profit petroleum.

- Croatia – State has a preemptive right.
- Kenya – State has right to participate (stronger than preemptive right).
- Kurdistan – State has preemptive right.
- Cyprus – State does not have a preemptive right.
- Tanzania – State has a preemptive right.

3.3 PSA CLAUSES CAN ALLOW ENFORCEABILITY AND SWIFT RESOLUTION TO DISPUTES

In order to mitigate risk of bad faith contractor's and not losing millions/years the dispute resolution clause should be in place.

3.3.1 DISPUTE RESOLUTION

Dispute resolution provisions are the clauses outlining the terms and mechanism for raising a dispute and arbitration processes. Given that the PSAs are generally concluded with the international oil companies this usually include arbitration as a dispute resolution body.

Generally international arbitration is applied to all PSA parties, as it is favorable to both the PSA holders and the State to resolve disputes in line with international best practice, without undue influence from an independent body. Arbitration as a dispute resolution body is favorable to apply in PSAs with domestic parties too, it will ensure described level of confidence in enforcement and will help contractor with attracting future foreign partners.

- All PSAs reviewed contain arbitration provision for dispute escalation and resolution.

3.3.2 EXPERT INVOLVEMENT

Expert is a person that have proven expertise in the subject matter, is accepted by both parties, and can provide his expert opinion to resolve certain disputes between parties, allowing them not to go to arbitration. Expert does not prevent the parties to go further to arbitration but may serve as an alternative dispute resolution mechanism.

Involvement of experts can save a lot of issues from progressing to arbitration and can help resolve disputes and align with international best practice. It is common practice and in almost all cases, the decision of the expert is binding.

To clarify, this is an expert for the provision of disputes, prior to going to arbitration.

Additionally, experts can advise the State on matters for decision making, but act in advisory capacity or day to day operational/management matters. Such experts' decisions are not binding.

- Croatia – Involvement of expert is provisioned; their decision is binding.
- Kenya – Involvement of expert is provisioned; their decision is binding.
- Kurdistan – Involvement of expert is provisioned; their decision is binding.
- Cyprus – Involvement of expert is provisioned; their decision is binding.
- Tanzania – Involvement of expert is provisioned; their decision is binding.

4. DESPITE THE RISKS – PSAS CAN STILL BE EFFECTIVE IN INCENTIVIZING INVESTMENT FOR INTERNATIONAL CONTRACTORS IF RISKS ARE MITIGATED

During almost 60 years history PSAs were developing and their structures changed to meet the requirements both State and contractors and to mitigate all the possible risks. During the PSAs development their structure and key clause became standardized and a common approach developed taking into account lessons learned from both parties to the agreement. Through practical experience and risks materialized, key clauses were defined to mitigate these risks, effectively creating a commonly accepted standard form of PSAs and internationally acceptable clauses contained within.

4.1 PSAS HAVE BECOME STANDARDIZED OVER TIME, WITH COMMONLY ACCEPTABLE CLAUSES BEING ADOPTED IN THE INTEREST OF ALL PARTIES

Through benchmarking of PSAs, (as outlined in the next section), the standardization has illustrated key categories of clauses which is generally acceptable and contained in a vast majority of the PSAs engaged in internationally with international contractors.

Figure 11: Typical PSA Construct

4.2 INTERNATIONALLY, KEY CLAUSES TO BE CONTAINED ARE PREVAILENT AND INLINE WITH ADDRESSING KEY RISKS PREVIOUSLY OUTLINED.

When benchmarking over 14 PSAs over the key categories of clauses, from different regions, the determination of international best practice is clearly illustrated.

Table 4: Results of PSA benchmark

CLAUSE	RESULT
Obligations of Contractor and State	12/14 PSAs specify explicitly
Relinquishment	12/14 PSAs specify explicitly
Work Programs/budgets	14/14 PSA specify explicitly. Structures vary
Management Committee	12/14 PSAs specify explicitly
Operation Company (Operator)	13/14 PSAs specify explicitly
Pricing/Valuation, Measurement and Dispersal	14/14 PSAs specify explicitly
Local Content, Technology & Knowledge transfer	6/14 PSAs specify explicitly
Definitions, Scope, Term, Termination, Governing Law, Insurance, Notices, Arbitration, Confidentiality, Force Majeure, Others…	14/14 PSAs specify explicitly

Benchmarking illustrates the key themes acceptable by international oil and gas companies for PSAs

5. A GOOD PSA ALONE IS NOT ENOUGH, NOR IS IT THE ONLY WAY TO INCENTIVIZE INVESTMENT WHILE PROTECTING THE STATES INTERESTS

Despite the tighter clauses on PSAs, the economic benefit of PSAs vs. licenses can often be attractive to prospective exploration/production companies, given the mechanism that allows the contractor to recover costs early on from production. The attraction of international investment, new technologies and knowledge for developing assets is a goal of many countries who hold possible assets, but not the resources or risk appetite to explore and develop themselves.

As mentioned, the PSA can certainly incentivize international investors to enter into and invest in countries which may not be within their risk appetite. However, there are many contractors/companies/investors who seek to exploit the lack of knowledge of the country and PSA mechanism itself to their advantage – at the cost of the people of the country. This is realized especially when the party is able to negotiate and leverage their position on the State.

PSAs as a construct to incentivize has had positive cases around the world, following good practice whereby fair agreements are reached. However, poorly structures PSAs also bring significant risk to countries whereby the State is unable to apply what has been learnt over decades of abusive practice by others – often costing the country significant amounts of much needed revenue and domestic production.

A PSA alone cannot effectively incentivize and attract investment. Licenses can be equally effective – especially if the right tools and framework is in place, such an effective marketing plan, a stronger, more robust legal system and a transparent upstream regulator.

5.1 SUBSOIL ASSETS NEED TO BE WELL MARKETED (PSAS OR LICENSES) TO MAXIMIZE COMPETITION IN BIDDING

Auctions (tenders) have proven themselves to be one of the most effective way to sell assets with the maximum benefit for the seller, subject to one important condition – auctions should be competitive. And the best way to bring competition to the auction is to simply tell as big number of possible bidders as possible about the future auction and allow them a reasonable time to evaluate the offer and make sure that the offer is promising. And the best way to do this is to conduct effective marketing campaign.

Effective marketing campaign would allow to the State to raise the price of the asset, select the best fit to explore and develop a block, attract attention to the country's other subsoils assets.

Effective marketing campaign should include:

- Usage of all possible ways for outreach. Auction announcement should be published in various local and global newspapers. Responsible persons should seek to attend all sector-related roadshows to promote the auction. State officials should mention the future action during the relevant foreign visits. The bigger audience is reached – the better.

- Reasonable amount of time to conduct. When all possible audience have been reached (which itself takes couple of months) they need to have a reasonable time to evaluate and take decision whether they are interested to participate. Necessity to rush may prevent big companies with complicated corporate structures, that may need months to receive all necessary approvals to participate in the auction, from participation in the first place. Also, having enough time to participate can allow to attract participants that were hesitating whether to participate, but seeing

interest from other companies made positive decision. Therefore, recommended time for effective marketing campaign is 1 year, and in any case not less than 6 months.

5.2 SUBSOIL DATA SHOULD BE TRANSPARENT AND ACCESSIBLE

When effective marketing campaign was conducted and potential investor have paid attention to the auction, the key precondition to keep him interested – provide him with all required information in a user-friendly way, i.e. he should be able to access the data (data should be digitalized) and he should be able to understand the data (data should be in English).

Access to data is a critical enabler for investors to evaluate investment opportunities. As such, the non-digital form of data, limited time for evaluation under the tendering procedures, may prevent potentially interested investors from partaking in bids even if marketing campaign was conducted successfully.

Having transparent and accessible data would allow to:

- Simplify the geological information flow and access to electronic data.
- Engage international companies into user-friendly geological data processing.
- Remove entry barriers into the market.

5.3 CONTACT AND RESPONSIBILITY SHOULD BE CONDUCTED BY A SINGLE, INDEPENDENT AUTHORITY – I.E. AN UPSTREAM REGULATOR

Conclusion and management of PSAs require from the State to dedicate people with expertise in various spheres (economy, justice, subsoil usage, exploration and production, tax, etc.). And these people need to be constantly involved in the process (evaluation → negotiations → management and oversight). Also, these people need to have deep understanding of upstream segment as their decisions will determine future of PSA. It may be challenging for the State to dedicate required number of experts and assign big portion of their time for PSA-related tasks. Therefore, is it advisable to create specialized body that will be managing exclusively upstream-related tasks.

Furthermore, establishment of single regulatory body responsible for all upstream activities have other benefits, such as:

- Increase of State's capacity for contract's management and oversight. Single body that unites all necessary professionals is much better suited to control implementations of PSAs than various State bodies without upstream-specific experience.
- Availability of capacity and powers to conduct functions necessary to promote country's subsoil assets (such as data collection & management, conducting marketing campaigns, being a dispute resolution body, formation of state policies, etc.).
- Uniting of all necessary functions and communications required for the potential investor under the single entity improving transparency and reducing bureaucracy.
- Increase of participation and future value of the asset as properly established Upstream Regulator is considered to be investor-friendly solution.

5.4 IF PSAS ARE TO BE USED, A MODEL PSA SHOULD BE ADOPTED TO REMOVE THE RISK OF POOR NEGOTIATION AND MISSING KEY CLAUSES

Not having a model PSA that will outline the key clauses of future PSA that cannot be amended during negotiations and that will be public prior to tender announcement can lead to significant challenges:

- Longer negotiations time. Potential contractor would fight for every clause seeking for more favorable terms as it is their money (the more favorable terms for contractor → the bigger "market price" of the asset → the less favorable terms for State).

- Unsuccessful negotiations: if contractor won't push State to the terms that he planned when he bided, he may exit negotiations and refuse to conclude PSA. This means that all resources (and most important time) spent for tender and negotiations will be wasted.

- Conclusion of corrupted PSA. In case persons responsible for negotiations from State's side won't have enough expertise, they may, under the contractor's pressure, agree to the terms that will lead to unenforceable PSAs, PSAs that miss key clauses for State's protection, etc., This will result into PSAs that contain some or all of the risks described in above.

In order to mitigate these risks model PSA should be approved and made public before announcement of PSA auctions. It should be clearly outlined that only commercial terms could be changed, and all key clauses are not subject for negotiations.

Introducing of model PSA brings following benefits:

- Increased transparency both for the bidders that understand the conditions of future PSA even before bidding and can make decision whether they are interested, and for the public which have an understanding on which conditions State is providing its subsoils.

- Reduced favoritism as all PSAs concluded will have the same structure and terms, no matter who is contractor.

- Easy negotiations and quick conclusion as key clauses cannot be changed, and commercial terms are already contained in the tender bid.

- All key clauses will be balanced and protect interests of both State and contractor. PSAs will be enforceable in case of dispute.