

'Oil and Gas: Fiscal Challenges of Tanzania's Production Sharing Agreements

(PSAs)

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Introduction

The recent leak of the natural gas terms agreed with Statoil / ExxonMobil is an opportunity to examine whether our country will adequately benefit from our considerable natural gas resources. In this paper I firstly lay out a framework for examining the extent to which we benefit. Secondly, using the Statoil natural gas terms, I assess likely income from profit gas and suggest how much more we could have made. I then go on to outline wider fiscal challenges in the oil and gas sector. These include: balancing the need to attract investment while maximizing returns to the country; determination of costs; revenue sharing; taxation, and the role of state oil company and building strong linkages from oil and gas to the rest of the economy.

We are able to start this conversation because of the leak of the Statoil's natural gas terms. But even with the leak of the addendum, we still have incomplete information. Critical decisions are made behind closed doors. And worse, the decisions themselves

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remain secret. Public access to such agreements will bring accountability to decision makers and push them to push for the best deal for us.

Production Sharing Agreements

Production Sharing Agreements (PSA) are among the most common contractual arrangements for petroleum exploration and development. Contrary to concessionary systems of granting exploration and development rights in gas and oil, under PSAs the state as the owner of the mineral resource engages a private (mostly foreign) oil company as a contractor. The contractor provides technical and financial services for exploration and development operations (Bindemann, 1999). PSAs are mostly found in developing countries as a response to nationalistic tendencies on ownership of the resource. Therefore under PSAs, the relationship between the state and the investor is that of the owner of resource (here oil or gas reserves) and a contractor.

In Tanzania, petroleum exploration and development is governed by the Petroleum (Exploration and Production) Act of 1980. Note that when the term “petroleum” is used, it can refer to both oil and gas. The 1980 act permits the government to enter into PSAs under which an oil and gas company is given a contract to explore for, and produce, petroleum. Resources are owned by the state whereby licenses are granted to the parastatal Tanzania Petroleum Development Corporation (TPDC). The government (the State), on behalf of the people of Tanzania, and TPDC contracts a private oil and gas company to explore and develop the said resource. This arrangement is fundamentally different from that in the conventional mining sector whereby a private company (an investor) is given the right to prospect and develop the mine and then a possibility of a Mineral Development Agreement as per the Mining Act of 2010.

There are different forms and styles of PSAs. Here we will look at the basic features of a PSA. Normally there are two parties as pointed out above i.e. the State (and its State enterprise – the State Oil Enterprise (SOE)) and the Private Oil Company (POC). POC operates oil and gas fields with an option for SOE to participate directly in the development process.

Fiscal Regime for the Oil and Gas sector

Normally when we use the term “fiscal regime” we refer to the whole revenue stream that a country receives from the exploitation of its oil and natural gas reserves. In order not to create confusion I divide the revenues into two –Resource rents and tax revenues. With the former we have royalty, signature bonuses, brown taxes and profit oil or gas (PSA based revenues) and with the latter we have corporation tax, withholding taxes, capital gains taxes, value added tax, import duties and other levies and charges. Resources rents are stipulated in the PSAs while taxes may or may not be stipulated. However, in order to ensure fiscal stabilization for contractors (investors) as well as exempting some taxes, many PSAs now include non resource rent revenues. In this section I discuss each component with reference to the Model Production Sharing Agreement of 2013, the basis for negotiations with companies bidding under the fourth offshore licencing round,

Royalty is the first item when we discuss the fiscal regime of any natural resource sector like mining or oil and gas, and even forestry and timber. Formally, royalty is a rent to be paid to the owner of the mineral resource in return for the removal of the minerals from the land. It is an instrument for compensation. It is the payment in return for the permission that, first, gives the POC access to the oil and gas reserve and, second, gives the company the right to develop the resource (Otto et al., 2006). Once the oil or gas is produced, the POC may have to pay royalty levied on gross production to the government. In Tanzania royalty is paid by TPDC as the license holder through a minimum share of profit, oil or natural gas being equivalent all times to 12.5% total crude oil or gas production from the contract area.² In other countries, governed by a concessionary system of contracts royalty is paid by the investor (POC).

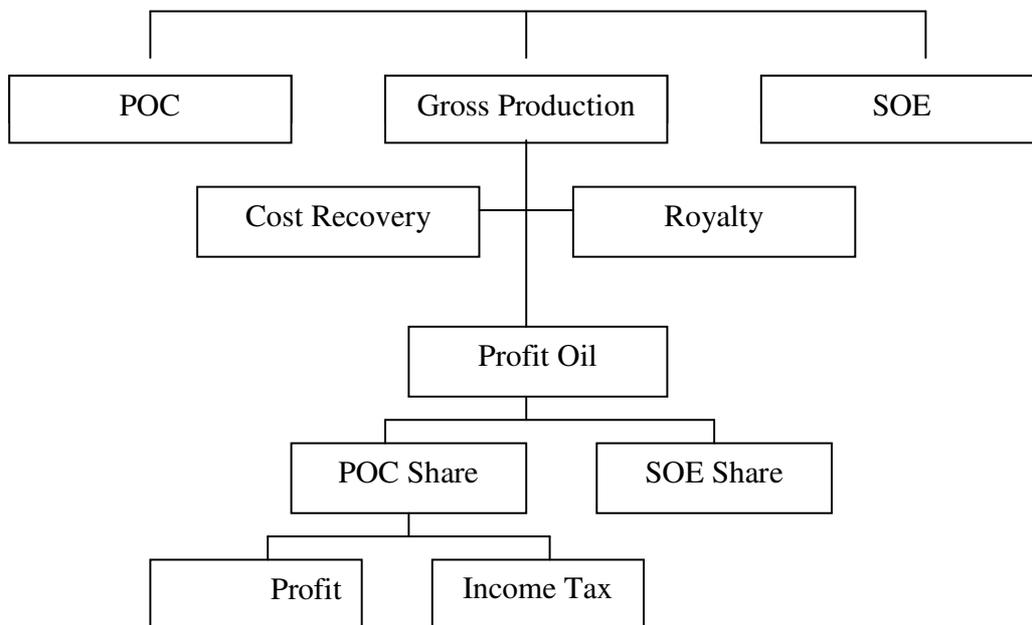
Since TPDC owns the license on the reserve, it is argued that it has the obligation to pay royalty. If licenses were granted to POC operating in Tanzania, then, they would

² [http://www.tpsc-tz.com/Model%20Production%20Sharing%20Agreement%20\(2013\).pdf](http://www.tpsc-tz.com/Model%20Production%20Sharing%20Agreement%20(2013).pdf) (as read on 20.08.2014)

pay royalty. However, this argument is true only theoretically as in practice oil and gas companies are the real ‘owners’ of the resource. .

The second item is **Profit Oil/Gas**. This is at the heart of Production Sharing Agreements. It usually produces the largest share of revenues from the sector to the extent of dwarfing other items. Let us look at the basic features of a PSA and then discuss this item of resource rent.

The Basic Features of a PSA



POC – Private Oil Company

SOE – State Oil Enterprise

Cost Recovery: An investor is allowed to recover costs of production. As stated in the Model PSA of 2013 “Recoverable Contract Expenses shall be limited in any Calendar Year to an amount not exceeding fifty per cent (50%) in case of onshore/shelf areas and offshore areas and Lake Tanganyika of the total Crude Oil or Natural Gas production from the Contract Area net of Royalty.”

Royalty: Paid by TPDC from gross production. It is 12.5% for onshore fields and 7.5% for offshore fields.

Profit Oil: After deducting costs incurred by investor and royalties to the Government the remaining portion is Profit Oil/Gas.

Now we may analyse the government take and investor’s take from the features above. First we need to see various levels of production per day and how profit gas is distributed. Profit Gas is apportioned to State and Investor based on the ratio of levels of production per day. As per Model PSA of 2013, percentage shares are as shown in the table below

Table1: Production Sharing Agreement on onshore gas fie

Tranches of daily production Million Standard Cubic Feet per day (MMSCFD) rates in contract area for onshore and shelf areas	TPDC share of Profit Gas	Contractor Share of Profit Gas
0 – 19.99	60%	40%
20 – 39.99	65%	35%
40 – 59.99	70%	30%
60 – 79.99	75%	25%
80 – and above	80%	20%

Table 2: Production Sharing Agreement on offshore gas fields

Tranches of daily production Million Standard Cubic Feet per day (MMSCFD) rates in contract for deep water areas and Lake Tanganyika North	TPDC share of Profit Gas	Contractor Share of Profit Gas
0 – 149.99	60%	40%
150 – 299.99	65%	35%
300 – 449.99	70%	30%
450 – 599.99	75%	25%
600 – 749.99	80%	20%
750 – and above	85%	15%

As it can be seen from above, the sharing is based on the daily production of gas. As the daily production increases, the government-take also increases. The Tanzanian formula seems to be feasible although challenges are on the gas sub-sector. Some PSAs do not follow the provisions of the model PSA.

StatOil/ExxonMobil PSA for Block 2 Offshore

The above analysis bring us to practicality and our case study is the leaked PSA between Tanzania and Statoil of Norway which operates block 2 offshore in partnership with ExxonMobil from United States of America, which has a minority 35 percent share. Statoil's PSA was signed in February 2012 as an addendum to its previous . In this PSA Statoil/ExxonMobil can use up to 70% of total natural gas produced to cover their costs of production. We will use a model PSA Addendum for Natural Gas Terms of 2010 to analyse this contract. As the original PSA signed in 2007, did not foresee natural gas production, it had to be accounted for in an addendum. The tables below show the terms of a model PSA and those of Statoil/ExxonMobil PSA

Table 3 Model PSA Addendum for Natural Gas – suggested terms.

Tranches of daily total Production rates in each of the Contract Areas (MMscf per Day)		TPDC Share of Profit Gas	Contractor Share of Profit Gas
0	249.999	50	50
250	499.999	55	45
500	749.999	60	40
750	999.999	65	35
1000	1249.999	70	30
1250	1499.999	75	25
1500	Above 1500	80	20

The actual agreed profit gas sharing terms are quite different, as seen in Table 2.

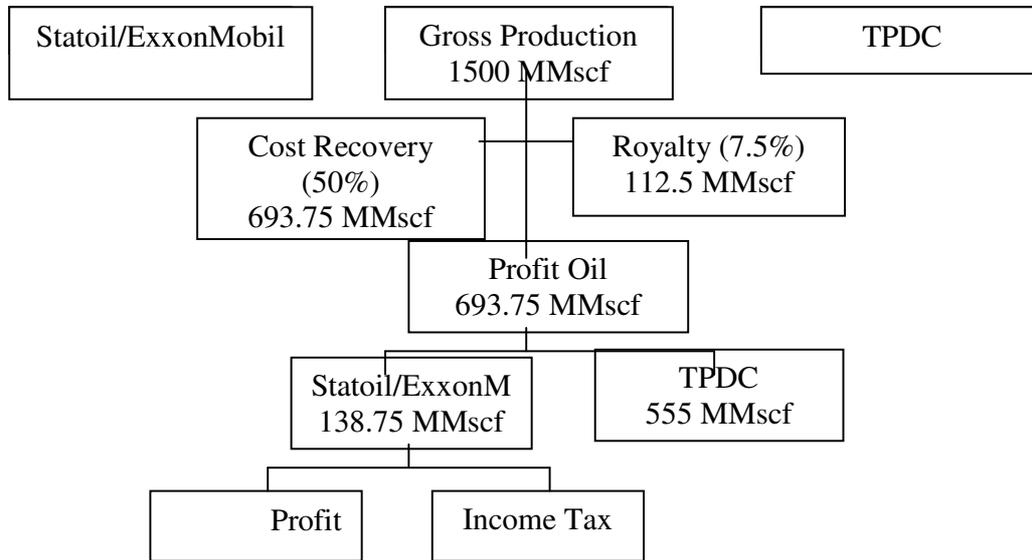
Table 2 Statoil agreed profit gas sharing terms as per leaked document.

Tranches of daily total Production rates in each of the Contract Areas (MMscf per Day)		TPDC Share of Profit Gas	Contractor Share of Profit Gas
0	299.999	30	70
300	599.999	35	65
600	899.999	37.5	62.5
900	119.999	40	60
1200	1499.999	45	55
1500	Above 1500	50	50

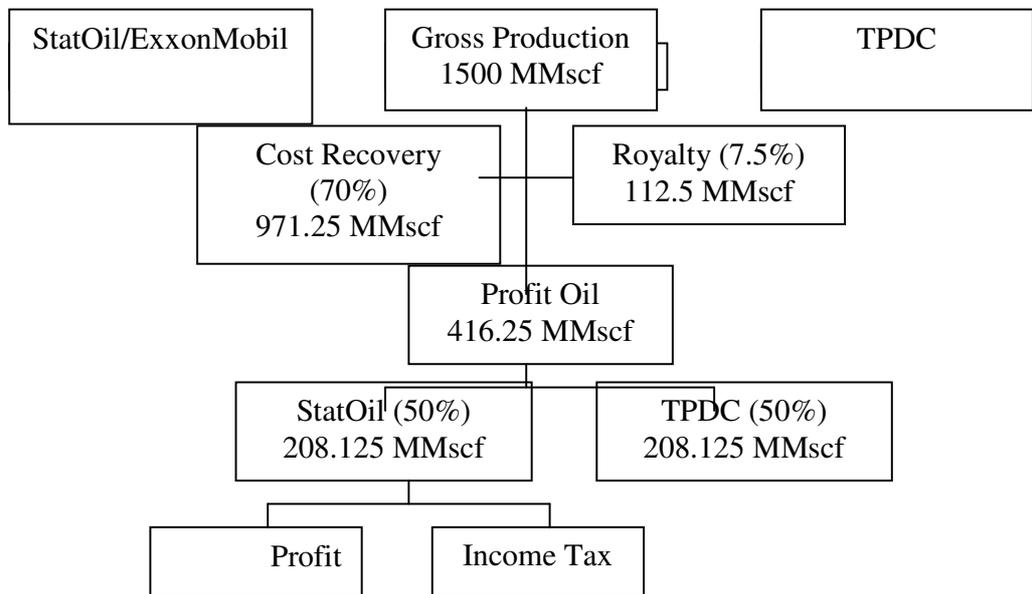
Clearly, the agreed terms are much better for Statoil/ExxonMobil than the proposed terms. Before we look into revenues, using our basic features, let us put numbers so that we will be able to compare the government take and Investors' take from the leaked

StatOil/ExxonMobil contract.

As per Model PSA



As per StatOil/ExxonMobil PSA



From above diagrams we conclude that, if the model PSA was followed Tanzania would receive 45% of the total crude natural Gas produced in block 2. With the terms from the

leaked PSA Tanzania will only receive 21% of the gross crude natural Gas produced which is a loss of almost 24% of the natural gas produced (more than thrice of the royalty received).

What is this loss in monetary terms?

To derive that we need to get current prices of natural gas. Ahmed Dau, a post graduate student at Aberdeen University studying hydrocarbons economics surveyed world prices for his dissertation. He stated “The price of Natural Gas will be taken to be \$13.5 that is an average of \$11 and \$16. As per the agreement between Russia and China, Russia will supply natural gas to China at a price of \$11 per Mmbtu (Million British thermal units). It is estimated that the natural gas market in Asia will converge to the Russian price, on the lower bound of price and converge to the Japanese price of \$16 on the upper bound. Since Tanzania is looking to export its gas to Asian markets, specifically to China, thus, China prices of natural gas will be taken into consideration (Almeida 2014)”. For purposes of our analysis we will use US\$11 per Mscf (equivalent to Mmbtu), a supply price to China which is our likely market.

Block 2 PSA has 21TCF of gas reserves (exploration is still going on) which is equivalent to 21 Billions MMscf. At estimated unit price, this reserve is valued at US\$ 231 Billions. Therefore, with Statoil/ExxonMobil PSA Tanzania will lose US\$55 billions over the life time of the block which is estimated to be 15 years. This loss of revenue is equivalent to more than 200% of current GDP of the country which is estimated at US\$25 billions as of December 2013.³

On a different perspective, a total production of 1500 MMscf per day is equivalent to 258,000 barrels of Oil per day (1 MMscf = 172 barrels of Oil)⁴. Using a Model PSA and at a price of US\$ 100 per barrel (average price over the last 12 months), Tanzania would be receiving US\$7.6 millions daily from Block 2. However with terms in the Statoil/ExxonMobil PSA, Tanzania will receive only US\$5.5 millions leading to a loss of

US\$2.1 millions daily⁵.

Note that;

These calculations are not discounted. In order to take into account time value for money we have to compare the two PSAs (Model PSA and Statoil/ExxonMobil PSA) using Net Present Value (NPV). Taking total revenues as US\$231 billions, costs of production capped at 70% of gross production for Statoil PSA and 50% for Model PSA, life of the block 15 years and discount rate 10%, we have NPV for model PSA at US\$28 billions and that of Statoil at US\$16 billions. That gives us a loss of US\$12 billions over a period of 15 years, half of the current GDP.¹

$$NPV = \sum_{i=1}^T \frac{R_t - TO_t}{(1+r)^t}$$

Where, R_t revenues, TO_t is total costs, r is the discount rate, t is time

Fiscal challenges facing Tanzania

Tanzania has 26 PSAs as of June 2014. We don't know how many of the PSAs are following terms within model PSA, therefore we cannot estimate the losses obtained from the whole sector. It is understandable that some terms were lucrative to woo investors to take risk and invest in Tanzania. However the biggest challenge for Oil and Gas Agreements is the reconciliation between maximum government revenue and maintaining investments. In this case the country must answer the question: What is an optimal fiscal regime for the oil and gas industry? A fiscal system which maximizes current revenue from the project may not be optimal? One key issue is how to maximize the capture of economic rent without inhibiting investments in the sector.

PSAs must provide for a situation whereby oil and gas companies are able to return all their costs and earn normal return as provided by the market. Joseph Stiglitz argues that *"the fact that the typical contract allows the Oil companies to walk away with the windfall profits suggests that something is wrong with the way these contracts are designed"* (Stiglitz, 2006). The case of a leaked StatOil/ExxonMobil PSA is an obvious

confirmation of the latter statement from this guru.

Another challenge is the determination of Cost Oil/Gas. It is the biggest challenge in developing countries. In Tanzania, there has been no ring fencing of blocks. This means costs incurred in one block can be recovered from another block. This is one of the challenges as it is easier for private companies to mount on costs and even declare losses from profitable blocks. Moreover, Issues like equipment leasing from related party, transfer pricing and capitalization (thin capitalization) are so crucial in determining the actual costs to be recovered. The Income Tax Act of 2004 as well as TPDC's capability are still weak on this area. The new National Petroleum Policy 2014 (still draft) has proposed ring fencing of blocks. From my recollections as PAC chairman, only four PSAs have been audited in order to verify the costs by investors. PAC endorsed in the 2013/14 budget for Controller and Auditor General Office which includes an item to establish a Oil and Gas Audit Unit. I have to forewarn that, not all money budgeted for the CAG office are released, thus this Unit may be under financed. It is also recommended that Tanzania review its Income Tax Act to ensure that loopholes for tax planning are removed.

Another fiscal challenge is the how to share revenue between various units in government i.e. Central Government and Local Government areas affected by investments . Tanzania has no such policy on natural resources' rent sharing. On the mining sector, the Bomani Report 2008 recommended for that, but the government through the mining act 2010 has refused to take the recommendation.

As shown above, royalty and profit shares are not tax measures but resources rent. Regions and local government authorities may be given all of the royalty revenues with regions where resources are found given bigger portions. The central government shall remain with the task of collecting mostly tax related revenue like Corporate Tax, VAT and other levies and duties. Having a share of revenue distributed to regions endowed with resources has proved to be a stabilizing factor to some countries.

The previous paragraph leads us to second type of revenues under fiscal regime in the oil and gas sector. However most of this stream of revenue is realized after companies start to make profits.

Income Tax: Corporation Tax is paid by both SOE and POC. This is the last part of the revenues share as shown in the above diagrams of features of PSAs. Corporation tax is 30% on profit of the POC and/or SOE. The model PSAs on the TPDC website shows that TPDC and POC have to pay their own income taxes to the government. However, from the Controller and Auditor General (CAG) report for the financial year ending June 2008, corporate tax that was to be paid by Pan African Energy (PAE) was refunded to it by TPDC under the terms of the PSAs. That CAG identified as an Audit query a provision of the PSA between TPDC and Pan African Energy Tanzania Limited under which a corporate tax paid by the latter is refunded by the former from its share of additional gas sold. The Parliamentary Public Investments Committee (POAC)⁶, in its annual report presented to Parliament on 29th April 2009, managed to get an approval of the Parliament to ask the government to amend the relevant provisions of the PSAs between PAE and TPDC such that PAE pays corporate tax on its profits. The Parliament recommended for the review of the said PSA and that the government collects all the taxes due since Pan African Energy started operating in Tanzania. New model PSAs corrected this, but we are not sure if they are included in the final contracts as they are confidential. Note that for Statoil, these terms are not included in the leaked addendum, but in the original PSA signed in 2007, which has not been released.

TPDC's conflict of interest in the sector may be a cause of this confusion about corporation tax. Currently TPDC acts as a regulator and at the same time as an investor. It is high time that these two roles be separated by splitting it into two, one a National Oil and Gas Company (PetroTan) with clear mandate to actively participate commercially in the sector on behalf of Tanzanians (Government owning 51% and the public through stock exchange owning atleast 25%). Two, a Tanzanian Petroleum Regulatory Authority with mandate to regulate the whole upstream sector. Proposals

are being prepared for such a restructuring, but the principles on which it will be based are not yet known. Royalties and profit gas should be paid straight into a Petroleum Revenues Fund and not to PetroTan while corporate taxes should be paid to TRA like any other sector. Dividends from profits of the PetroTan may be used for re investment or distributed to share holders as per capital markets regulations.

Other taxes includes Value Added Tax (VAT), withholding taxes, import duties, stamp duty, fuel taxes and road fund, employment taxes, social security contributions etc. All these taxes shall be evaluated when looking into the fiscal regime of the PSAs in Tanzania. In some contracts these taxes are exempted. Bearing in mind Tanzania has only two gas operations (Mnazi Bay and Songosongo), an impact study on the fiscal regime has never been conducted.

In conclusion, fiscal challenges face most of developing world resource-rich countries like Tanzania. There are more challenges with equal weight to fiscal ones, including how to maximise backward and forward linkages in the economy. Studies conducted for the last fifty years have concluded that Foreign Direct Investment (FDI) flows into primary sector (mining including petroleum) have a very small multiplier effect to the rest of the economy unless timely and decisive efforts are done through policy interventions to correct the situation. Tanzania is currently experiencing this problem in the mining sector as no strategies were laid down to take at least an advantage on the backward linkages (inputs to the sector from local sources).

In oil and gas these backward linkages involve *“all elements of the supply chain ranging from drilling rigs to office paper clips”* (Stevens, 2005). The best example of the missed opportunity is the linkages between the energy sector and mining sector. While Tanzania has six gold mines, the Tanzania Electric Supply Company (TANESCO) supplies electricity to only two mines, leaving others to generate their own energy and as a result they received exemption for fuel import levies. Hence TANESCO failed to tap a market of almost 150MW and the government subsidizes mining companies through

exemptions. Since the fiscal year 2005/2006 to 2008/2009, a total of 182 Million USD was exempted. There are also examples on limited linkages with agriculture and even the transport sector. How is Tanzania prepared on the petroleum front to ensure the economy benefits from investments in the oil and gas sector is the most important question to be answered by policymakers and other stakeholders in the sector.

While trying to maximize revenue to meet its demand for development challenges, Tanzania must review its petroleum sector and enact legislations that will ensure more investments, stronger linkages and sustainable development through fiscal decentralization on the central government – local government relations and more autonomy to Zanzibar on managing the oil and gas resources while maintaining a Union Regulator for the Upstream. Moreover, the government must start a process to establishing a sovereign development fund for mining and oil and gas sectors in order to ensure a proper use of revenue accrued from the resources rent. We need not to wait another foreign investments backlash, as it happened in the conventional Mining Sector, for us to take proactive measures in oil and gas Sector development.

It is proposed here that all revenues sourced from profit gas be saved at The Sovereign Development Fund as savings for future generation and ‘invest in investing’ (strategic infrastructure, education, health and social security). Revenues from royalties be distributed to all regions of Tanzania based on a given formulae and for specified development projects like agriculture, with a higher proportion to regions endowed with exploited resources (say 20% of the royalty to remain in the region where particular onshore production field is located). Revenues from taxes and dividends be sent to the treasury and other owners of stocks.

We may as well start to critically think of distributing all resources rents direct to bank accounts or mobile phones accounts of all Tanzanians above 18 years old. Some parts of countries in the world are doing this and studies have proved its effectiveness in avoiding a resource curse.

Finally, I am stating the obvious, contracts must be made public. Today we are able to analyse key elements of the Statoil contract against the model contract because we have seen the addendum. What of those we have not seen?

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TPD [The 2010 Model PSA Addendum for Natural Gas](http://www.tpdctz.com/PSA%20%20Adendum%20GAS%20%20General%20Terms%20120610%20%25283%2529-PROMOTION-1.pdf) –
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