

New Orientation of Oil and Gas Contracts and Fiscal Terms in Indonesia

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Abstract—Indonesia is the first country to use Production Sharing Contracts. To make the contract more efficient, the government adjusts the contract year by year. MEMR Regulation 8/2017 enacted in January 2017 changed the terms for all new upstream licence contracts from Standard PSCs to Gross Split PSCs. The government's primary aim is to improve efficiency and reduce the administrative burden on the upstream sector by removing cost recovery. This paper aims to present the transition of the fiscal terms and the strategy of the oil company under the new fiscal terms. The gross split PSC model and the standard PSC model are put forward. Compared with these two models, different cost result in opposite conclusion. Under the low cost assumption, the contractor net cash flow of the gross split PSC is higher than the standard PSC. However, if the contractor takes the high cost, the contractor net cash flow of the gross split PSC is lower than the standard PSC. The low cost strategy is necessary for oil company to keep the profit based on the new PSCs.

Index Terms—Standard PSCs, gross split PSCs, economic evaluation.

I. INTRODUCTION

Indonesia is a very important oil and gas producing country. This country joined the OPEC in 1962 which was created at the Baghdad Conference on September 10-14, 1960, by Iran, Iraq, Kuwait, Saudi Arabia and Venezuela. OPEC suspended its membership in January 2009. However, OPEC reactivated its membership in January 2016 and decided to suspend it again in November 2016. Indonesia possesses 3.7 billion barrels of proven crude oil reserves [1]. Indonesia's growing economy is driving higher domestic demand for energy, but oil production is declining, and many gas developments are facing project delays. From the BP Statistical Review of World Energy 2018, the oil production of Indonesia was 949 thousand barrels per day in 2017, and the oil consumption was 1652 thousand barrels per day [2]. Oil consumption has exceeded oil production since 2002. The peak oil production of Indonesia was 1685 thousand barrels per day in 1977. After 2002, Indonesia's oil production began to decline significantly. The average of the oil production decreased from 1500 thousand barrels per day to 1000 thousand barrels

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per day.

Indonesia is reorienting energy production from serving primarily export markets to meeting its growing domestic consumption. Indonesia encompasses more than 17,000 islands, presenting geographical challenges in matching energy supply in the eastern provinces with demand centers in Java and Sumatra. Also, urbanization and demand in other areas of the country is rising at a faster pace than energy infrastructure development. Indonesia struggles to attract sufficient investment to meet growing domestic energy consumption because of inadequate infrastructure and a complex regulatory environment [3], [4].

Indonesia has over 200 active PSC participants which include US and European majors. The top 8 companies include Chevron, BP, Eni, Shell, Inpex, CNOOC and Indonesia's own state player Pertamina.

This paper is organized as follows: Section II shows the transition of oil and gas fiscal terms in Indonesia; Section III presents the impact of the Gross Split PSC; the last section is about suggestions for the oil company.

II. THE TRANSITION OF OIL AND GAS FISCAL TERMS IN INDONESIA

The history stages of fiscal terms in Indonesia are divided into three stages. The first stage of fiscal terms is "contractor of work" agreements which introduced the concept of the Indonesian government owning the petroleum and sharing the profits with the companies, rather than the title to the oil being transferred to the company in return for royalty payments. Under the fiscal terms, the basic post-tax profit sharing was 60:40. The companies received a 90-91% split of the profits and paid tax at 56% [3]. Contract of Work had Domestic Market Obligation. The company paid the additional payments according with the production and the price [5].

The second stage of fiscal terms is the Standard Profit Sharing Contracts. Indonesia is the first country to carry out the Standard Profit Sharing Contracts. After the mid-1960s, the Standard Profit Sharing Contracts are applied to all the licenses [6].

The Standard PSC is based on the regulation for the Mining of Mineral Oil & Gas in 1960. Under the standard PSCs, Pertamina has the option to take a 10% undivided interest upon commercial discovery and can elect to repay the contractor by cash payment or from 50% of its production share with a 50% uplift applied to the carried costs.

The standard PSCs detail the Work Program Fee, Production Bonus, Profit Sharing, First Tranche Petroleum, Cost Recovery, Abandonment Fund, DMO, and Income Tax. The work program fee is paid to BPMIGAS, which can be

negotiable. The oil profit sharing rate is 26.7857%, the gas and NGL rate is 53.5714%.

First Tranche Petroleum is 20% of project volume. The contractor and the National Oil Company split this according to their profit sharing rates for both oil and gas. 100% of production after FTP is available for cost recovery. FTP is unrecoverable.

The oil and gas costs are recovered first with their own revenues individually. If the individual product costs are not fully recoverable with individual revenues, other product revenues are available for recovering the remaining costs. Bonuses are not recoverable. The abandonment budget is agreed between the government and contractor. The contract sets the abandonment fund deposits which are calculated by straight-line accrual from production start to anticipated end of the project. DMO is 25% of the production based on profit sharing rate. The DMO starts after 5 years from production start. The Income Tax rate is 44%. Bonuses are not deductible for Income Tax. The losses are carried forward indefinitely. Fig. 1 shows the structure of the standard PSC.

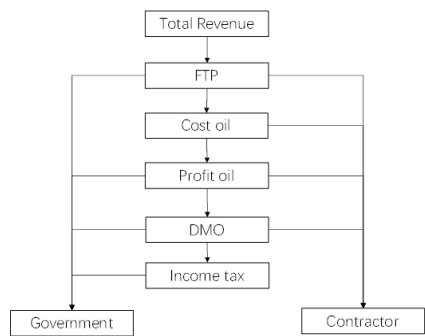


Fig. 1. The standard PSCs.

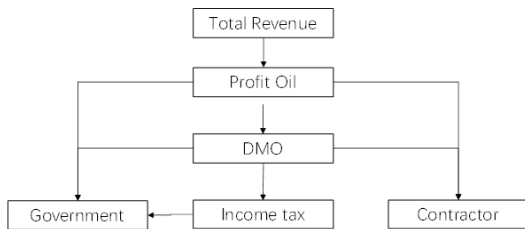


Fig. 2. The gross split PSCs.

To make the contract more efficient, the government adjusts the contract year by year. In 2003, Indonesia applied the new model contract with more favorable production splits for deepwater, gas, and marginal oil projects, and lower FTP rate. In 2005, 20% uplift on capital costs was allowed for marginal fields (i.e. expected rate of return <15%). In 2008, the first PSCs were awarded with a new field-based cost recovery ring fence. The government also announced the intention to reduce the number of cost-recoverable items and cap the total amount of recoverable costs in the country each year. In 2009, the government reduced the income tax rate from 30% to 28%, and in 2010, it decreased to 25%. In 2016, State companies could take 10% stake from all new licenses and contract extensions [7], [8].

The third stage of fiscal terms is Gross Split PSCs. MEMR Regulation 8/2017 enacted in January 2017 changed the terms for all new upstream licence contracts from Standard PSCs to Gross Split PSCs. Contracts are awarded through direct

negotiation or during a licensing round.

Within the Gross Split terms, there is no royalty or cost recovery. Revenue is simply shared between the government and the contractor, and the latter must recover costs and make a profit from its allocation. The total contractor revenue share contains the base split, variable split, and the progressive split. The revenue share has a flat base rate of 43% for oil and 48% for gas. The variable split is incremental to the base split. The exploration period of new terms is 6 years with possible 4-year extension. Total duration of the PSC contract is limited to 30 years with possible extension up to 20 years. Fig. 2 presents the structure of the Gross Split PSC. The government’s primary aim is to improve efficiency and reduce the administrative burden on the upstream sector by removing cost recovery.

The Ministry of Energy and Mineral Resources(MEMR) released MEMR regulation 08/2017 and enacted a new regulation (MEMR regulation 52/2017). The differences between these two regulations are shown in Table I to Table VII [9].

TABLE I: CONTRACTOR REVENUE SHARE (DEVELOPMENT STATUS)

Initial GS Terms		Revised GS Terms	
Condition	Contractor share	Condition	Contractor share
First POD	5.0%	First POD	5.0%
No POD	0.0%	Further POD	3.0%
		No POD	0.0%

TABLE II: CONTRACTOR REVENUE SHARE (INFRASTRUCTURE)

Initial GS Terms		Revised GS Terms	
Condition	Contractor share	Condition	Contractor share
Well developed	0.0%	Well developed	0.0%
New frontier	2.0%	New frontier - offshore	2.0%
		New frontier - onshore	4.0%

TABLE III: CONTRACTOR REVENUE SHARE (H₂S: PPM)

Initial GS Terms		Revised GS Terms	
Condition	Contractor share	Condition	Contractor share
H ₂ S < 100	0.0%	H ₂ S < 100	0.0%
100 ≤ H ₂ S < 300	0.5%	100 ≤ H ₂ S < 1000	1.0%
300 ≤ H ₂ S < 500	0.75%	1000 ≤ H ₂ S < 2000	2.0%
H ₂ S ≥ 500	1.0%	2000 ≤ H ₂ S < 3000	3.0%
		3000 ≤ H ₂ S < 4000	4.0%
		H ₂ S ≥ 4000	5.0%

TABLE IV: CONTRACTOR REVENUE SHARE (PRODUCTION STAGE)

Initial GS Terms		Revised GS Terms	
Condition	Contractor share	Condition	Contractor share
Primary	0.0%	Primary	0.0%
Secondary	3.0%	Secondary	6.0%
Tertiary	5.0%	Tertiary	10.0%

TABLE V: ONTRACTOR REVENUE SHARE (GAS PRICE SPLIT)

Initial GS Terms		Revised GS Terms	
Condition	Contractor share	Condition	Contractor share
-		Price < \$7/mmbtu	(7-Gas price)*2.5%
		\$7/mmbtu ≤ Price ≤ \$10/mmbtu	0.0%
		Price > \$10/mmbtu	(10-Gas price)*2.5%

TABLE VI: CONTRACTOR REVENUE SHARE (OIL PRICE SPLIT)

Initial GS Terms		Revised GS Terms	
Condition	Contractor share	Condition	Contractor share
Price < \$40/bbl	7.5%		(85-Oil price)*0.25%
\$40/bbl ≤ Price < \$55/bbl	5.0%		
\$55/bbl ≤ Price < \$70/bbl	2.5%		
\$70/bbl ≤ Price < \$85/bbl	0.0%	All prices (\$/bbl)	
\$85/bbl ≤ Price < \$100/bbl	-2.5%		
\$100/bbl < Price < \$115/bbl	-5.0%		
Price ≥ \$115/bbl	-7.5%		

TABLE VII: CONTRACTOR REVENUE SHARE (CUMULATIVE PRODUCTION SPLIT)

Initial GS Terms		Revised GS Terms	
Condition	Contractor share	Condition	Contractor share
< 1 mmboe	5.0%	< 30 mmboe	10.0%
1 mmboe ≤ X < 10 mmboe	4.0%	30 mmboe ≤ X < 60 mmboe	9.0%
10 mmboe ≤ X < 20 mmboe	3.0%	60 mmboe ≤ X < 90 mmboe	8.0%
20 mmboe ≤ X < 50 mmboe	2.0%	90 mmboe ≤ X < 120 mmboe	6.0%
50 mmboe ≤ X < 150 mmboe	1.0%	120 mmboe ≤ X < 175 mmboe	4.0%
≥ 150 mmboe	0.0%	≥ 175 mmboe	0.0%

III. THE IMPACT OF THE GROSS SPLIT PSCS

A. The Regulatory Body

The MEMR (Ministry of Energy and Mineral Resources) is responsible for the implementation of government policy in the energy sector. The MEMR includes the departments of Ming, Oil and Gas, Electric Power and Renewable Energy. The Directorate General of Oil and Gas(MIGAS) supervises and promotes the optimal utilization of the oil and gas resources of Indonesia to maximize the benefit for the people and Government of Indonesia. In additional, MIGAS is responsible for the exploration bid rounds, issuance and

relinquishment of blocks fall. The MIGAS incorporates the BPH Migas and SKK Migas. SKK Migas is tasked with implementing the management of upstream oil and gas business activities under a Cooperation Contract. The SKK Migas is responsible for the supervision of upstream in oil and gas industry. The formation of this institution is intended so that the extraction of state-owned oil and gas natural resources can provide maximum benefits and acceptance for the state to maximize the people’s prosperity. The BPH Migas is responsible for the supervision of downstream in oil and gas industry [10].

The PERTAMINA which is an independent oil and gas company was the upstream contract administrator and the establishment of a new upstream regulatory body before 2001. Law 22/2001 removed the PERTAMINA’s role as a government department. The law also sought to establish PERTAMINA as an independent oil and gas company. In July 2002, a new regulatory body called BPMIGAS was set up. BPMIGAS replaced the role of the PERTAMINA and was a state owned legal entity that aimed to be a proactive and reliable partner in optimizing the benefits of upstream oil and gas for Indonesia and all stakeholders. BPMIGAS mandated, supervised and controlled the implementation of Cooperation Contracts with the spirit of partnership to ensure the effectiveness and efficiency of upstream oil and gas. In November 2012, Indonesia’s Constitutional Court issued decision 36/PUU-X/2012, which ruled that the role of upstream regulator, BPMIGAS, was unconstitutional and the organization must be disbanded [11]. The SKKMIGAS, which was formed in 2012, replaced the role of the BPMIGAS.

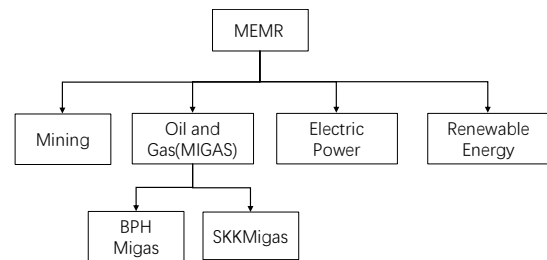


Fig. 3. The regulatory body of energy industry in Indonesia.

B. The Comparison of the PSC Models

This paper builds the Gross Split PSC model and the standard PSC. Based on the standard PSC, the effective tax rate is 40%, the DMO volume is 25%, the cost ceiling is 100%. The model estimates the revenue of these two PSCs is 100. The net cash flow under these two models are as follows.

TABLE VIII: The NET CASH FLOW UNDER TWO MODELS

Cost	10	15	20	25	30
Gross split PSC	19.80	16.80	13.80	10.80	7.80
Standard PSC	15.75	14.25	12.75	11.25	9.75

Under the Gross Split PSC, the contractor should apply low cost strategy. Table 8 shows the results of the models. It is obvious that the contractor gets less profit under higher cost scenarios. Both of these PSCs follow this trend.

Comparing these two PSC models, the results are variable

under different cost scenarios. When the cost is 10, the net cash flow of Gross Split PSC is higher than Standard PSC. While the cost increases to 25, the trend is change which the net cash flow of Gross Split PSC is lower than Standard PSC. Under the Gross Split PSC, the contractor faces challenges to decrease the cost to realise more profit.

C. *The Analysis of the Gross Split PSC*

The Gross Split PSC for frontier field locations, sulphur content, and production stage will enhance the economics for exploration and development for both greenfield and brownfield opportunities. For example, a new field would get an additional 10% contractor share on the first 30 mmboc of cumulative production.

From the new PSC, the contract share is related to oil price and gas price. If the oil price goes down to 50\$/bbl, the contractor will get additional 8.75% contract share. The new terms are more flexible so that the contractor gets more share rate to balance the loss under the low oil price. The equation is shown as follows:

$$\text{oilrate} = (85 - \text{oilprice}) * 0.25\% \quad (1)$$

If the gas price is lower than 7\$/mmbtu, the gas price split is calculated as follows:

$$\text{gasrate} = (7 - \text{gasprice}) * 2.5\% \quad (2)$$

If the gas price ranges from 7\$/mmbtu to 10\$/mmbtu, the gas price split is zero. If the gas price is higher than 10\$/mmbtu, the equation of the gas price split is as follows:

$$\text{gasrate} = (10 - \text{gasprice}) * 2.5\% \quad (3)$$

The additional contractor share has no cap, the contractor may get 70% contractor share based on the new term. The contractor share is higher than most of the other PSCs. It is attractive for the contractor that the share rate increases to 70%.

The Gross Split PSCs improve the contractor share under some conditions, but there are several uncertainties related to Gross Split PSCs. Ring fence and cost recovery are the key elements of uncertainties.

The standard PSCs have a ring fence placed around each development area for cost recovery and tax purposes. Once a commercial discovery has been made and a Plan of Development agreed between the contractor and SKK Migas, expenditures on exploration elsewhere in the block are not recoverable against revenue from the fields covered by the Plan of Development. Exploration expenditures incurred within the development area are recoverable. The standard PSCs details the ring fence and the recoverable cost. However, the government has not specified how ring fencing will be implemented under Gross Split contracts when there are multiple PODs within a single contract area, which is typical in Indonesia.

The government amended the regulation about unrecovered costs. If the contractor is unchanged, any unrecovered costs will be taken into account when negotiating the contractor's new production share. If the contractor changes, the new contractor will be able to recover unrecovered costs from 5 years prior to expiry through a higher share of production after paying the value of those

costs to the old contractor. However, the old contractor faces potential losses for any unrecovered costs that extend beyond 5 years prior to expiry [4].

D. *Raising the Risk of Company Exits*

Indonesia has one of the most diverse upstream industries of any country in the world, with over 200 active PSC participants of varying ability and size. In terms of remaining reserves and production, the top 10 companies include US and European majors (Chevron, BP, Eni, and Shell), national oil companies from Japan, China, and Indonesia's own state company. Under the gross split, foreign companies may exit the Indonesia market.

The government's primary aim is to improve efficiency and reduce the administrative burden on the upstream sector by removing cost recovery from the equation. However, from the side of the company, the gross split PSCs increase the risk for the company. 20 PSCs will expire between 2019 and 2023. Pertamina has the priority to be the operator and will become the operator of key producing PSCs expiring. If the PSCs expire, the operator may lose the operatorship. For example, Pertamina was awarded operatorship in Offshore Mahakam PSC from 1 January 2018.

Second, the recent policy volatility has generated substantial uncertainty. The cost recovery and ring fence are uncertainties which are mentioned. The government did not mention that if the contractor takes the new exploration obligation after contract expiring. It is a high risk for the oil company if it takes on a large exploration obligation. The minimum sunk cost depends on the exploration obligation which is a very important element for the company profit.

Third, contractor budgets do not require formal approval, and authorizations for expenditure are not required under the Gross split regime. It saves time for government and company. However, cancelling the cost recovery is not good for the contractor. Under the new PSCs, the contractor needs to be careful about their costs.

IV. THE STRATEGIES FOR THE INTERNATIONAL OIL COMPANY

It is important for the international oil company to focus on the change to the Indonesia fiscal term. The Gross Split PSCs are immature, and the government has revised the fiscal term twice since 2017. The revised fiscal term introduced gas price formulas, and increased splits for several components, including cumulative production. Meanwhile, the fiscal term introduced income tax c/f limit of 10 years, preproduction costs depreciation based on double Unit-of-Production method, and indirect taxes exemption during pre-production period.

Under the Gross Split PSCs, the low cost strategy is necessary to keep the positive net cash. The oil company should be more careful with the cost. Based on Woodmac study, an additional 10% of model projects are made uneconomic or 'deterred' by new terms [12]. When the company acquires the new project or the expired project, the company should analyse the cost and evaluate the returns under the new terms.

The oil company should find the opportunity to cooperate

with Pertamina. Following recent decisions on expiring PSCs or the new projects, Pertamina plays a core role. By assuming operatorship of several expiring PSCs, Pertamina will face lots of challenges, especially the financial challenge. Pertamina will seek cooperation with international oil companies.

V. SUGGESTIONS FOR FUTURE RESEARCH

Moreover, some points are not taken into account in the proposed model. First, details about change of the fiscal terms such as income tax are not considered in the Gross Split PSCs. Second, the sensitivity of oil price, production and Capex are not included in this model. These limitations will be studied in future.

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