

# Pestle and Porter's Five Forces Analysis Indonesian Downstream Business of Diesel Oil in 2015

Ratih Dwimeini Purwanto<sup>1</sup>, Lukman M Baga<sup>2</sup>, Tanti Novianti<sup>3</sup>

<sup>1,2,3</sup> School of Business, Bogor Agricultural University (IPB), Jl. Raya Pajajaran Bogor, Indonesia 16151, Indonesia

**Abstract:** *Oil and Gas still the main source of energy in Indonesia. Oil and gas business in general divided into three sections: upstream, mid-stream and downstream. The whole business aspect of this oil and gas are related to each other. This journal will be discussed more in related to downstream business. Downstream business is the backbone of the whole chain of the oil and gas industry. This industry demands the efficiency from all aspects to be able to support any other business. Diesel is one of the final results of the processing of petroleum that has a fever that keeps rising every year. Diesel oil downstream industry in Indonesia in general can be analyzed using analytical models PESTLE and porter's five force analysis. PESTLE models identify some of external factors that will affect the downstream business of diesel oil in Indonesia in terms of the Political, Economic, Social, Technological, Legal and Environmental. Porter's five force analysis model will generate the competitive strategy from the five forces that have been identified.*

**Keywords:** Oil and Gas, Diesel Oil, PESTLE, Porter's Five Forces, Downstream

## 1. Introduction

Oil and gas still the main source of the energy in Indonesia, according to the data from the Ministry of Energy and Mineral Resources which stated that on 2015 as much as 70% of energy resources in Indonesia still comes from oil and gas. All the activities of large industries and households still use fossil fuels as an energy source. Despite many efforts to develop renewable energy currently in the form of biofuels as additional material for fuel oil, fossil fuel consumption in Indonesia is still more than the biofuel usage. The oil and gas industry is growing rapidly and has a very large network. There are three segments of the oil and gas industry, namely upstream, midstream and downstream.

Upstream is an industry exploration and processing of crude oil. This segment is one of initial stage of the entire oil and gas business activities, include geological surveys, seismic, and the amount of available oil exploration areas. The main output of upstream industries are crude oil, which is the base material of whole petroleum industry. Midstream industries mostly take aspects of the upstream and downstream segments. This segment is a link between those two segments. Transportation, storage, and distribution operations are the scopes of this segment.

Downstream industries are including refining and processing of crude oil and natural gas. Distribution and Trading is the backbone of this segment, with the main considerations whole oil and gas business is depend on the efficiency of the downstream segment. Oil downstream industry plays a role in generating revenue from the sale to the end customer, the main function of the downstream industry makes this segment is most important of the entire chain of oil and gas industry. Diesel oil is one of the final product of oil and gas industry. Demand and market of this product have a very huge area, despite of automotive usage, almost of entire industry requires diesel oil as their source of energy.

Demand of diesel oil in Indonesia on 2015 is 198 million barrels and the number of import is 61 million barrels. This number predicted will continue to increase, especially with developing of Indonesian infrastructure that requires a lot of energy.

Along with increasing demand for diesel oil, supply of diesel oil should be increase, so Indonesia can grow quite promising. However, demand continues to increase is not follow by sufficient amount of exploration and local supply, so Indonesia still have to import diesel oil in regards to full fill the demand in 2015. The cost of substantial exploration is one of reason of less petroleum exploration in Indonesia. Environmental issues are now being encouraged and the difficulty foreign companies to invest is also an important factor that causes a lack of domestic diesel oil production.

## 2. Data

The data that used in this research are primary and secondary data. The primary data came from forum group discussion and depth interview with the expert of supply chain management of diesel oil. The secondary data is form the yearly record of Indonesia's Ministry of Energy and Mineral Resources.

## 3. Methodology

The research method used the qualitative research and descriptive explanation. The data collected through depth interview with the expert, and forum group discussion between government as the policy maker and businessmen. All the data analyzed using the PESTLE and five forces models.

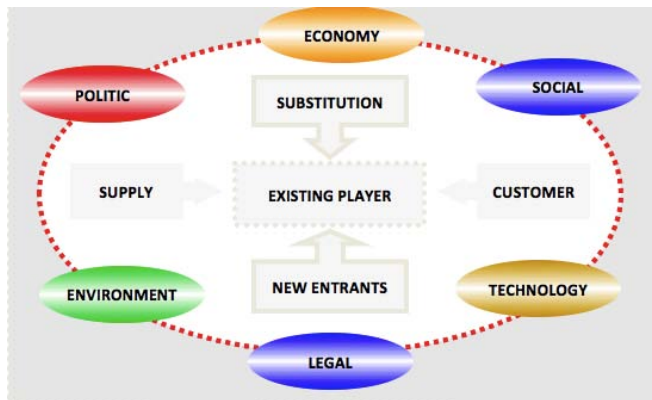
## 4. Empirical Result

A combination of political, economic, social, technological, environmental and legal (PESTLE) factors the Porter's five

forces (Porter 2008) may combine to further establish the level of complexity in the industry (Whittington 2001).

### PESTEL Analysis Diesel Oil business in Indonesia

A graphical representation of the dynamic interaction between these peculiar factors and the five forces which influence the downstream of diesel oil industry in Indonesia in figure 1 below.



**Figure 1:** PESTEL Models of Downstream Diesel Oil business in Indonesia.

#### Political factors

The activities and policies of governments have a big influence on the environment of oil and gas industries in general section. In Indonesian downstream diesel oil industry every movement and changes in government policies gives a big impact for business. Diesel oil is one of commodity that need fully control from government in term of the whole sales things.

Renewable energy campaign includes Biodiesel become worldwide trend. Indonesian government also take the part of this trend, and become the one of country with highest Biodiesel implantation until 20% bio content in their biodiesel. Ministry of Energy and Mineral Resources stated the policy in Ministry of Energy and Resources Rules Number 32/2008 concerning Supply, Utilization and Administration of Commerce Biofuels (Biofuel) as alternative fuel, and Ministry of Energy and Resources Rules Number 12/2015 as the Amendment Regulations of Ministry of Energy and Resources Rules Number 32/2008. The regulation stipulates the mandatory blending diesel with biofuels in this case is FAME (Fatty Acid Methyl Ester) with palm oil as the base material. The percentage blending of biofuels (biodiesel) each year continues to increase until targeted to reach 30% in 2025, so hopefully with these regulations can reduce the use of diesel. The main objective of this regulation is to reduce the amount of imported diesel oil to Indonesia.

Government pushing to reduce subsidies for all oil and gas product includes diesel oil. Start from end of 2013 government commence to reduce the budget allocation for subsidize fuel and reallocate the budget to another aspect such as education, health, and infrastructure. This move caused the downstream oil and gas business more alive than before, since

the market start open for all player, not only the biggest local player such as PERTAMINA and AKR.

#### Economy Factors

There have been many changes in the market and economic environment because of the increasing globalization. Globalization also bring fiercer competition around the world. The competition shows not only on the marketing side but also in side if supply chain management. Every company become aware and take action to increase their competitiveness and this caused an impact to Indonesian GDP (Gross Domestic Product). GDP growth at 5-6% on 2015. Along with GDP increment, energy usage will increase and eventually it will also impact to diesel demand itself.

Inflation expected to be approx. 6.84% whilst Rupiah expected to weaken against USD in 2015 onward. Fuel price will have direct impact to the inflation, so if the oil price increase inflation will be increase. Government must have the full control in fuel price in Indonesia take action to create the administer price to keep the inflation as expected.

Government aggressively trying to attract FDI (Foreign Direct Investment) through infrastructure projects. Investor will get the simplicity to invest the small oil exploration in Indonesia, it may cause the very competitive oil and gas market in Indonesia.

#### Social Factors

Social term came from customer bargaining power. All the de-regulation from government that explained in other aspect take to customer side. The diesel oil company have to comply with the regulation meanwhile customer have the higher bargaining power to get the lowest price from supplier.

#### Technology Factors

In terms of technology, diesel oil business get a quite huge impact from the renewable energy usage. Electricity production switch to coal & gas thus minimize diesel oil usage in the future. The development of these technology may impact to diesel oil demand in Indonesia.

#### Legal Factors

All licensing and paper work such as Import license, wholesales license, and other licenses that need to be done before the whole sales activity started become and issue. The main problem is the timeline of license processing from government side that still takes unreasonable and uncertainty time to get such a simple license. Business activity need to be postpone due to delay in obtaining the license, especially for the foreign oil and gas company that put government compliance as a priority, they will stop the operation if there is no license to operate.

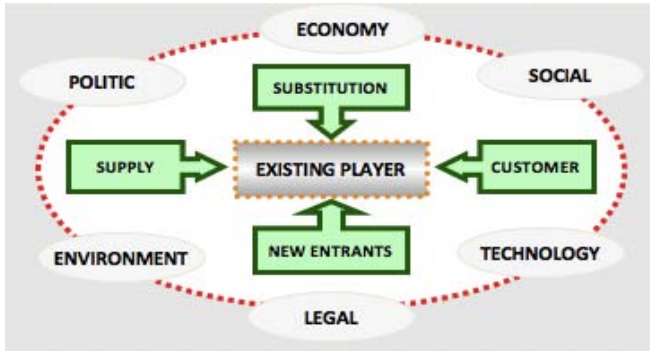
#### Environment Factors

Government have commitment in reduction Diesel Sulphur content from 0.35% to 0.05% expected to be enforced by 2021. All oil and gas company should comply the specification from government. Current diesel market in the world already

use 0.05% ppm sulphur content, so for the 0.35% sulphur will hard to find the market.

**Porter’s Five Force Analysis Diesel Oil business in Indonesia**

Porter Five Forces is a tool used to analyze how the competitive environment will affect the marketing of a product. This tool is a simple but very powerful to understand the situation of the business is being run.



**Figure 2:** Porter’s Five ForceModels of Downstream Diesel Oil business in Indonesia.

It also helps to know the benefits of competition position today and that will be encountered later. So that the company can increase the strength, weaknesses and anticipates the company will avoid making the wrong decision. Figure 2 gives us the better picture of the factor that effected the downstream business of diesel oil.

**Existing Player**

First thing that we need to describe in this model is existing player, we can know current business position by knowing the existing player in Indonesian downstream diesel oil market. Table 1 is the market share position in 2015 based on primary data from BPH Migas.

**Table 1:** Market Share Position Downstream Diesel Oil Business Indonesia in 2015

Company	Share Holder
PT AKR CORPORINDO TBK	10.13%
PT ENERGI COAL PRIMA	0.57%
PT GLOBAL ARTHA BORNEO	0.74%
PT NIPPON OIL INDONESIA	0.58%
PT PERTAMINA (PERSERO)	50.40%
PT PERTAMINA PATRA NIAGA	7.48%
PT PETRO ANDALAN NUSANTARA	4.56%
PT PETRO ENERGY	1.24%
PT PETROMINE ENERGY TRADING	4.36%
PT PETRONAS NIAGA INDONESIA	0.77%
PT SHELL INDONESIA	4.76%
PT SINARALAM DUTAPERDANA II	0.68%
PT SOLARIS PRIMA ENERGY	2.65%
OTHER COMPANY	11.1%

Total company that have the whole sales license in downstream diesel oil business in Indonesia is 111 companies. PT PERTAMINA still have more than 50% market share along with other giant local company PT. AKR COPORINDO TBK who has 10.3% market share in 2015. Foreign company such as PT. Shell Indonesia, PT. PETRONAS NiagaIndonesia, PT. Solaris Prima Energy can only hold about less the 5% volume in 2015. Other 98 small local and foreign companies only have 11.1% market share in 2015. From this data we can get the clear figure that the competition between downstream diesel oil player in Indonesia still can’t be more open, government still have fully control on this business.

**New entrance**

New entrance can give quite big impact in this industry especially if the new entrance has the strong secured source. There many new players who’s trying to get whole sales license and plan to enter retail and commercial diesel oil business. The majority of new entrance for now are the unbranded reseller and trader, but there are some new entrance who has promising supply source such as Glencore, Henliong, and other famous diesel trader. There is possibility the new entrance can beat the local market share leader and change the pattern of downstream diesel oil business in Indonesia, it’s all depend of how strong the supply from the new entrance and policies from government it self.

**Customer**

The basic instinct of customer is always demand for the lowest price and longest credit term. Most of the new local company gives this facility to customer to get the wider market, but they don’t consider about the certainty of supply. Only the bigger company who can gives certainty and security of supply with the best product quality as the major concern. HSE (Health Safety Environment) awareness from customer also become an issue this day, most of end customer only concern about the lower price and flexibility of credit term. It may cause the accident, by using the cheap with less safety equipment.

As explained before government’s biodiesel program have a big impact to customer side, many customers are reluctant to accept biodiesel product due to incompatible with their machine.

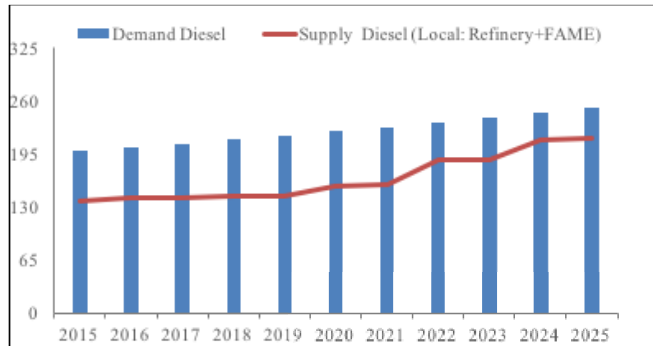
One of the biggest issue from customer side is PERTAMINA publish price always become a benchmark in costumer’s side, even though the price will have different pattern with world oil price. Existing player from foreign company have to follow the market that monopolized by PERTAMINA.

**Substitution**

Renewable energy become the main concern of this aspect, government have commit to reduce the fossil fuel usage and blend it with biofuel. The Bio Diesel usage obligation is gradually increase to be 30% in 2025.

## Supply

Diesel oil demand growing at 2.4 % per annum for year 2015-2025 as shown on Figure 3 below, with total domestic diesel demand is approx. 194 million barrel in 2014. Domestic supply will not enough to full fill the demand, about 36% of domestic demand will met through import from Singapore or other Asian country.



**Figure 3:** Projection of Supply and Demand Diesel Oil business in Indonesia 2015- 2025 (in million barrel).

## 5. Conclusion

Based on the research that has been done, it can be concluded as follow.

### 1) PESTLE analysis can be done to analyst the external factor in downstream diesel oil business in Indonesia. This analysis concluded:

- Politics factors as follow: Renewable energy campaign include Biodiesel, and Government pushing to reduce subsidies for Diesel.
- Economy factor: Current GDP growth at 5-6%, Inflation expected to be approx. 6.84% whilst Rupiah expected to weaken against USD in 2015 onward, and Government aggressively trying to attract FDI through infrastructure projects.
- Social factor: Customers have higher bargaining power since de-regulation of fuels market
- Technology factors: Electricity production switch to coal & gas thus minimize Gasoil usage in the future
- Legal factor: Issues on Licensing (Import/wholesales license)
- Environment factor: Reduction in Diesel Sulphur content from 0.35% to 0.05% expected to be enforced by 2021.

### 2) Porter's five forces analysis give the conclusion as follow:

- Existing Players: Existing player from foreign company have to follow the market that monopolized by PERTAMINA with the market share more than 50% on 2015.
- New entrance: New player FDI source secured whole sales license and plan to enter retail and commercial fuel business. Majority of new entrants are unbranded resellers and traders.
- Customers: Demanding for lower prices and credit terms due to increased choice, security of supply and product quality

still a major concern, lack knowledge and awareness on HSE, Bio Diesel programmed resistance, and still use PERTAMINA's Publish prices as benchmark

- Substitution: High Conversion rate to Gas, Electricity and Coal. On the other hand, Bio Diesel usage obligation is gradually increase to be 30% in 2025.
- Supply: Gasoil demand growing at 2.4% per annum FY 2015-2025. Total domestic diesel demand is approx. 194 million barrel in 2014. Approx. 36% of domestic demand is met through Imports from Spore and other Asian country.

## References

- [1] Aubert Ane E, Frigstad Ane K. 2007. Strategic Analysis of Statoil's International Competitiveness. [thesis]. Norwegia, Norwegian School of Economics and Business Administration.
- [2] BPH Migas. 2015. Masterplan Pengembangan Infrastruktur Penyediaan dan Pendistribusian BBM Nasional. [FGD]. Jakarta (ID): Badan Pengawas Hukum Minyak dan Gas Indonesia.
- [3] Bright, Olufesobi. 2004. Strategic Business Report On The European Gas Industry. Scotland. Center for Energy Petroleum and Mineral Lay Policy: University of Dundee. Plan): British Embassy Workshop: Policy Dialogue.
- [4] Porter. Micheal, E. 1979. How Competitive Forces Shape Strategy. Harvard Business Review.
- [5] Ringland, G. (1998). Scenario Planning: Managing for the Future. John Wiley & Sons Ltd.
- [6] Srdjevic Zorica, Bajcetic Ratko, Srdjevic Bojan. 2012. Identifying the Criteria Set for Multicriteria Decision Making Based on SWOT/PESTLE Analysis: A Case Study of Reconstructing A Water Intake Structure. Serbia. Water Resour Manage. 26:3379-3393.
- [7] Ting, Pang. 2008. Improving Huawei International Supply Chain. [thesis]. Nederland (ND). University of Twente.
- [8] Ward, J., and J. Peppard, *Strategic Planning for Information Systems*, 3rd ed. New York: Wiley, 2002.
- [9] Ward, John., Peppard, Joe. 2002. Strategic Planning for Information System. Cranfield, Bedfordshire, United Kingdom: John Wiley & Sons, LTD
- [10] Wiratmaja, Ing. 2016. Indonesia Policy on Energy Security

## Author Profile



**Ratih Dwimeini Purwanto** accepted in Bogor Agriculture University at Department of Mathematic and Natural Science, Faculty of Applied Meteorology, as undergraduate student in year of 2007. While study in undergraduate program, he also active as a professor assistant, and basketball athlete and follow basketball competition held by PERBASI. After graduate in 2011, she worked at PT. Asi Pudji Astuti (Susi Air) as a crew resource until 2012, she moved to PT. Shell Indonesia as a Supply Operation from 2012 until 2015. She's now working for PT. PETRONAS Niaga Indonesia as an Executive Supply Chain Management and continue her study at Postgraduate Program of Business Management and focusing on strategic.