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The Use of Bonded Logistic Center to Increase Efficiency in Indonesia Upstream Oil and Gas Industry

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THE USE OF BONDED LOGISTIC CENTER TO INCREASE EFFICIENCY IN INDONESIA UPSTREAM OIL AND GAS INDUSTRY

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Abstract

The falling of oil price and the slowdown in global economic have forced oil and gas industry ("O&G") to cut their operating and production costs. One of the most highlighted cost was the supply chain management related cost. Within Production Sharing Contract, all expenses incurred by the O&G Company will be reimbursed by the Indonesian Government. Therefore, cost efficiency initiatives by either O&G Company or Government of Indonesia will subsequently increase the profit sharing to both parties. The Government of Indonesia has initiated the establishment of Bonded Logistics Centers ("BLC") which serve as multi-function logistics warehouses for imported and local goods by exempting the import duty and value added tax ("VAT") of imports and thus enabling operational flexibility. The legal basis for construction of the BLC's is the Government Regulation No. 85 year 2015 regarding BLC. The BLC's are located across Indonesia and they comprise multiple products, from automotive, industrial raw materials, to mining materials. The presence of BLC can speed up logistic processes by cutting the trade chain. The product, initially to be exported, is diverted to the local market, shortening the customer's lead time for heavy equipment or spare parts needed. Customers also enjoy the benefit from exempted duties by getting equipment and spare parts at more affordable prices.
A number of benefits from BLC will enable PSC Contractors to reach efficiency in terms of time and budget. In terms of time, the existence of BLC will allow PSC Contractors to manage purchasing strategy and ensure delivery when accelerated good supplies is needed. From budget perspective, BLC will reduce PSC Contractors' spending on logistic mobilization and demobilization costs.
The lowered cost will increase the portion of profit sharing between the Indonesian Government and the PSC contractors, which eventually will improve the economic value of the project carried out by the PSC contractors.

Keywords: *bonded logistic center, production sharing contract, oil and gas supply chain management, and tax facility*

1. Introduction

Innovation and efficiency are the keys to the challenging future business competition. In the absence of those two crucial factors, it is impossible for an enterprise to compete in the global market. Innovation is related to the capability of one business unit to produce goods and services being desired by its customers. This kind of need is not only for current needs but also includes future needs.

One of a dozen factors which are related to the enterprise's efficiency is efficient supply chain management. A business entity or company must be able to design its logistics management model in such a way that it may lead to maximally managed-inventory/supply level at a reasonable cost.

The oil and gas industry differs from other industries. The key features embedded in this industry are the capital intensive,

technology intensive and high risks that are present within the industry (Iswahyudi, 2016). In the case of oil and gas supply chain management, it has to solve a lot of challenges caused by the nature of the supply chain in this particular industry, which are higher complexity, in-flexible characteristics, long lead time, limited transportation forms at the different stages in the supply chain, rigid take or pay procurement and limited primary distribution capacity (Hassen, 2012).

In order to boost investment and increase competitiveness, the Government of Indonesia provides several facilities to the investors, and one of them is taking the form of BLC establishment. The BLC is an area that meets certain requirements which are used to store goods for certain purposes and obtain import duty postponement.

The companies who conduct their operations within a BLC area will benefit from tax and customs facilities provided by the Indonesian Government, which take the form of suspension of import duties and the exemption of Value Added Taxes on imported goods. Therefore, the companies which import raw material and operate their business in a BLC may make such cost efficiency improvements. Moreover, the increasing number of business entities that conduct their operational activities in a BLC will reduce lead time of procurement of oil and gas materials if the suppliers are located within the same area. In the current situation of falling oil prices, PSC contractors are forced to cut their costs in all stages of operation. Hence, PSC contractors may utilize BLC's as an alternative model of supply chain management.

2. Basic Theory

The falling oil price since 2014 to date has led to a need for increased cost efficiency by all companies in the oil and gas industry to secure their sustainability. One of the cost efficiency processes that can be performed was the effectiveness in supply chain costs. There is empirical evidence that suggests that an adoption of sustainability in the oil and gas supply chain leads to improved economic performance and environmental performance, which, in turn, positively impacts organizational competitiveness (Abubakar, 2014).

Supply chain management in the oil and gas industry is a dynamic process that entails a continuous flow of information, materials and funds across multiple functional areas within and among chain members to meet customer's requirement to maximize their profit (Saad et al., 2014).

According to Noor Rafhati's research in 2011 in Malaysian oil and gas industry, there were nine dimensions which may affecting the improvement of supply chain management. The dimensions mentioned in the research are strategic supplier, partnership, customer relation practice, information sharing, data quality, internal lean practices, information technology, training and internal operation.

All of the above literature reviews are based on the assumption that oil and gas companies have the same operations characteristics, even if they operate in many countries. Those research have not taking into account the different fiscal term factors among host countries. PSC contractors, which adopt a Profit Sharing Contract, undoubtedly will face such issues that are considerably different from those who adopt a royalty system. Iswahyudi (2015) explained that the efficiency taken by Indonesian Oil and gas companies is affected by the cost recovery feature which is the major component of the Profit Sharing Contract system.

3. Problem Statement & Methodology

This research performed analysis of the inventories management model currently applied by PSC contractors. Furthermore, the researcher also conducted an analysis of the inventories management model by the implementation of bonded logistic centers. Within those two models, the researchers tried to identify the advantages of using a bonded logistic centers with regards to the Indonesian PSC scheme.

The data used in this study consisted of secondary data. Data collection methods used for collecting secondary data are by reviewing the literature, journals, books, standard operating procedures, procurement contracts and material reports from PSC contractors to SKK Migas.

The main reason why qualitative methods and more in detail case study method was chosen to be used is because the case study method enables insightful research relationships and connections which have not yet been studied much.

3.1 Research Objectives

This research aimed to discover the benefits being offered by BLC utilization for supply chain management in the Indonesian oil and gas industry as compared to the conventional supply chain management process (without BLC involvement) with regards to the Indonesian PSC scheme.

3.2 Scope and Limitation

The oil and gas industry is classified into two main sectors, upstream and downstream sectors. The upstream sector begins with the oil and gas exploration process which is then being followed by oil and gas production output delivery at the delivery point to be further processed in the oil refinery industry. Meanwhile, the downstream sector starts its activity from the crude oil and gas delivery point, with the oil and gas transporting process to the refinery facility, processing stage in the refinery facility and the last step being delivery of processed products to the consumers.

Figure 1. Oil and Gas Supply Chain

The actual purpose of BLC implementation is to increase Indonesian economic growth through reduction of dwelling time, reduction of logistics costs in Gross Domestic Product, increasing investment in the manufacturing sector, creating employment and developing local skills and capacity. Despite all those benefits applicable to various industries, this research scope was limited to the Indonesian upstream oil and gas industry.

4. Results and Analysis

4.*1 Government of Indonesia Incentives for BLC implementation*

The BLC is one of the results of the second economic policy package under Government Regulation No. 85/2015 on the Amendment of Government Regulation No. 32/2009 on Bonded Zones and Finance Minister Regulation No. 272/PMK.04/2015 on the Bonded Logistic Center. There are five incentives provided by the Indonesian Government, which are as follows:

a. Import duty postponement.
b. Non-collection of Value Added Tax (VAT), Sales Tax on Luxury Goods and Article 22 income tax on import,
c. Excise duty exemption,
d. The goods being transferred from one bonded zone into another bonded zone may obtain similar facilities plus VAT and Luxury Goods Sales Tax.
e. The goods originated from a Special Economic Zone, Free Trade Area or other Economic Area into a BLC area being intended for export will not be taxable for VAT.

A BLC may store both imported goods and products from other places in the

Indonesian custom zone. Therefore, the source of materials which can be stored in a BLC does not necessarily need to originate from import but may originate from Indonesian custom zone as well.

4.2 Logistics Process

The logistics process can be divided into four phases: Material ordering, materials receipt, inventory management and material usage. In the material ordering phase, the process starts with the issue of a Purchase Order (PO) from the user to the supplier. Based on the PO received, the supplier delivers the materials to the designated place within the predetermined time. In material receipt, the process begins with the receipt of materials and checking the conformity of the specifications of the ordered materials with the PO through materials warehousing.

The information on the materials receipt will be sent to the user making the order. The phase of inventory management is a phase in which the company attempts to minimize the number of the existing supplies without causing any disruption to the operating activities. The last phase is material usage, in which the relevant user will send the warehouse personnel a request to deliver the ordered materials.

Figure 2. Logistic Process

In figure 2, it is shown that between the ordering and receiving phases is a process of materials transportation from the supplier to the receiving warehouse. This phase begins with materials transportation from the port of origin until they are received at the warehouse.

4.3. *Logistics Management Efficiency Model with BLC*

The analysis on efficiency from BLC usage for the oil and gas industry in Indonesia is intended for:

a. Material purchase
b. Rent of drilling rig.

4.3.1 Efficiency of Material Purchase Process

The material transport process from material ordering to the receipt of the

materials as well as the corresponding costs in each process can be seen in the figures below.

Figure 3. Materials Transportation Process

The processes start with materials transportation from the supplier's warehouse. This warehouse may be within the supplier's country of origin or within the logistic hub of the supplier (e.g. a logistic hub in Singapore). In the example above, the transportation is carried out by sea transport. The transportation can also be conducted by air transport but the basic processes of the two transportation modes remain the same. The subsequent phases are the receipt of the materials and the usage of the materials, which starts with the receipt of the materials at the buyer's warehouse until the delivery of the materials to the users.

Figure 4. Materials Usage Process

In figure 4, there are two warehouses representing the warehouse of each PSC contractor. The location of the warehouses may differ according to the policy of each company.

If the supplier/supplier uses a BLC facility, the materials management model will be divided into three sections: The process of materials transportation from the factory of the supplier/supplier to the Supplier's Logistic Hub in BLC, inventory management process at the supplier's warehouse in BLC and materials receipt process at the warehouse until the materials are used. The main difference between this model and the existing one lies in how the supplier moves its logistic hub or warehouse from a location outside Indonesia into Indonesia. This model assumes that the supplier is willing to move its logistics hub to Indonesia in order to benefit from tax facilities provided by the Indonesian Government.

Figure 5. Material Transportation Model – BLC Usage First Phase – Logistic Hub in BLC

The first process starts with material transportation from the supplier's warehouse in BLC. The second process is the process of the receipt of PO and the materials transportation to PSC contractors. In this phase, the supplier receives the PO and then processes the PO to their warehouse in BLC. Then, the supplier sends the materials from their warehouse in BLC to the receiving warehouse or directly to the field. The BLC is situated near or within the oil and gas operating area, making it closer and faster to the intended destination.

Figure 6. Material Transportation Model –BLC Usage Second Phase – PO Receipt and Materials Transportation

4.3.2 Efficiency in Drilling Rig Procurement Process

Upon completion of the drilling rig procurement process, the following phase is rig mobilization to the working location, rig operation and rig demobilization after the drilling program is completed.

The mobilization rate covers all incurred costs required for the mobilization activities of the platform from the point of origin to a designated position, including but not limited to the permit process to enter Indonesia water area, berthing permit, importation process, rental of tug boat and all marine transportation required in the mobilization activities.

The demobilization rate covers all costs incurred for the jack up platform demobilization activities from a designated position to the area outside PSC contractor's operation area including but

not limited to the permit to exit Indonesia water area, exportation process, rental of tug boat and all marine transportation required in the demobilization process.

According to regulation, it is possible that the drilling rig can be used in a different working area after the completion of work in a previous location. If this is the case, the rig must be demobilized to the location outside Indonesia prior to being used in the next working location. This is due to the provision in customs regulations that a rig is subject to exemption of import duty. Consequently, after completing a work program, the rig must be re-exported, leaving the Indonesian custom zone.

Figure 7. Rig Operation Model – Existing practice without a BLC.

The scenario for the figure 7 is as follows:

a. The drilling rig will be used in two locations, the first is Java Sea, then offshore Papua.
b. The rig will be shipped from Singapore
c. Based on this scenario, the phases of the rig operation are as follows:
   First phase; rig mobilization from Singapore to the Java Sea. The rig then operates according to the contract.
d. Second phase; after completion of drilling program, the rig is demobilized from Indonesia, which in this case is to Singapore.
e. Third phase; Rig mobilization from Singapore to offshore Papua.
f. Fourth phase; after completion of the work, the rig is demobilized out of Indonesian custom zone, which is in this case to Singapore.

From the process illustrated above, it can be seen that there are inefficient time usage and costs, which is during the demobilization from the Java Sea and mobilization to offshore Papua. The demobilization process from the Java Sea to Singapore is unnecessary if the rig can be directly mobilized to the next work location in offshore Papua. In order to reduce time and cutting cost, the BLC facility can be used to store the rig temporarily.

Figure 8. Rig Operation Model with BLC implementation.

By using the BLC facility, the drilling rig demobilization to outside Indonesian custom zone is no longer needed and it can be shipped directly to a BLC inside an Indonesia custom zone (process no. 2). From a BLC, the rig can be mobilized to the next working location, which in this case is offshore Papua. Thus, the time consumed for the demobilization from the Java Sea to Singapore can be eliminated. The reduction of demobilization time means a reduction of the overall rig rental cost.

Based on the drilling rig contract, the average cost of mobilization and demobilization in Indonesia are ±3 million USD per trip. Within 2016, there were 9 drilling rigs imported and operating according per contract with respective PSC contractors. At the time the drilling work was completed, this cost of demobilization will be reduced to approximately 500.000 USD per trip since the drilling rigs will be re-exported to a BLC inside an Indonesia custom zone instead of to Singapore.

The supplier is also saving costs with the implementation of the BLC as they no longer have to store their imported equipment in Singapore and can directly send it to a BLC in Indonesia.
Thus, suppliers can save on warehouse rent and manpower costs and can in turn pass these savings to PSC contractors.

Conclusion

Based on the explanation above, the use of a BLC can streamline the costs within oil and gas industry.
Cost efficiency is resulted from:

- The provision of tax and customs facilities,
- Direct ship from origin country to BLC locations and no trans-shipping point required, temporary import goods/re-exported goods can be stored in BLC.
- Reduction of mobilization time since supplier's warehouse already located in BLC, previously outside Indonesia.
- Reduction of mobilization and demobilization cost
- Reduction of warehouse rental cost since level of material can be minimized (using supplier warehouse in BLC), and less surplus material.
- Reduction of material handling cost.

The lowered cost will in turn increase the portion of profit sharing between the Indonesian Government and PSC contractors, which eventually will improve the economic value of the project carried out by by the PSC contractors.

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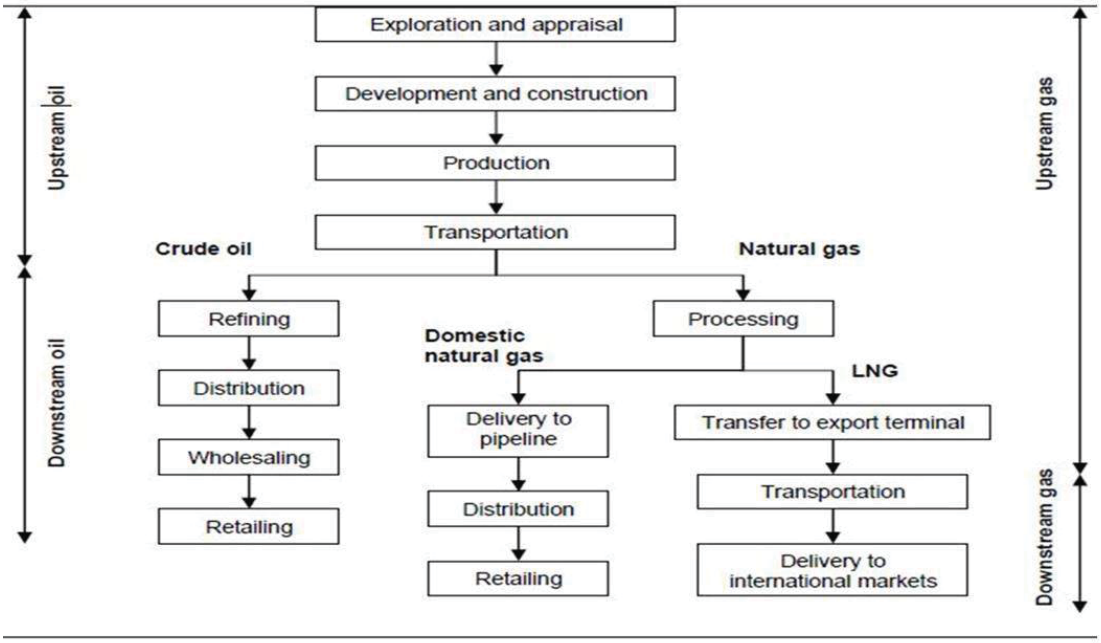

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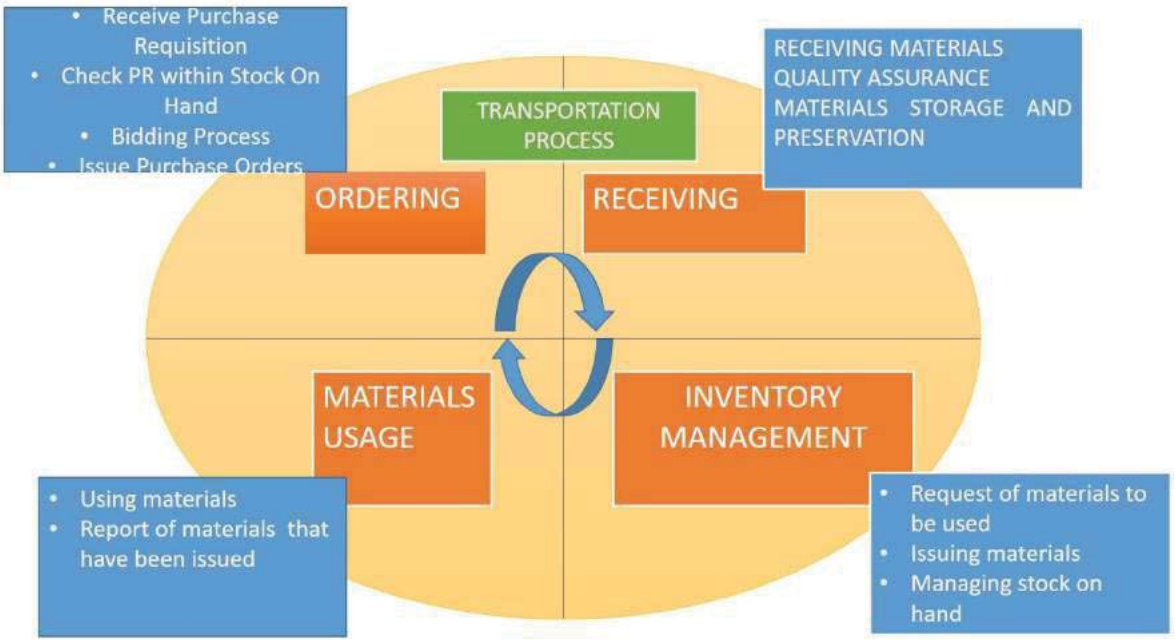


Figure 2. Logistic Process

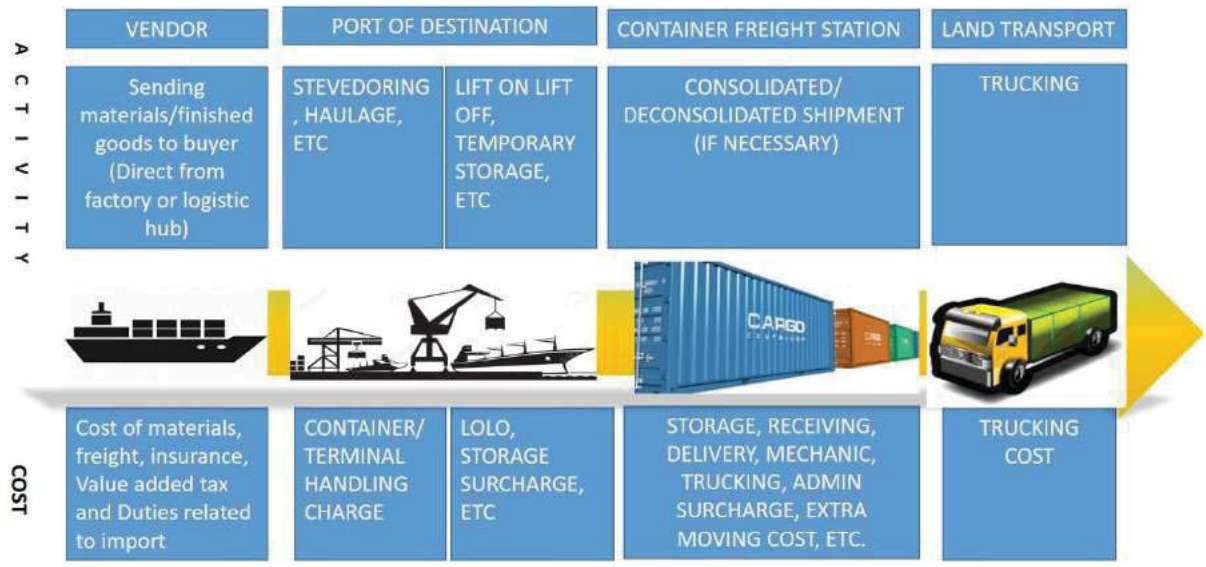


Figure 3. Materials Transportation Process

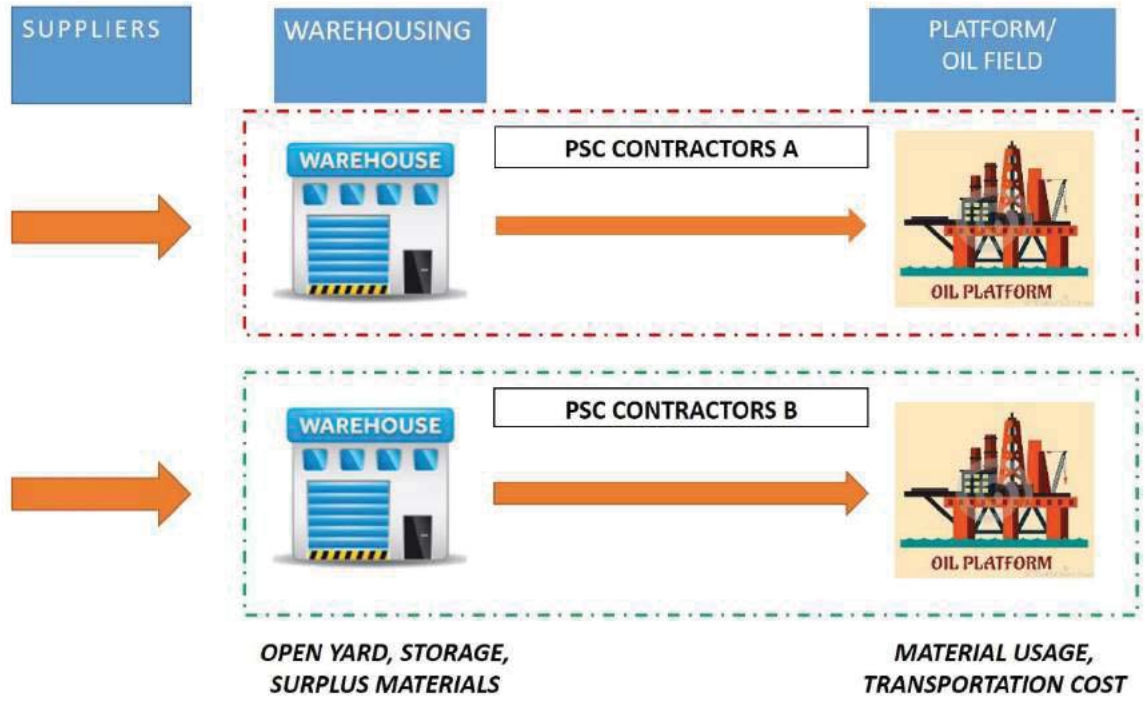


Figure 4. Materials Usage Process

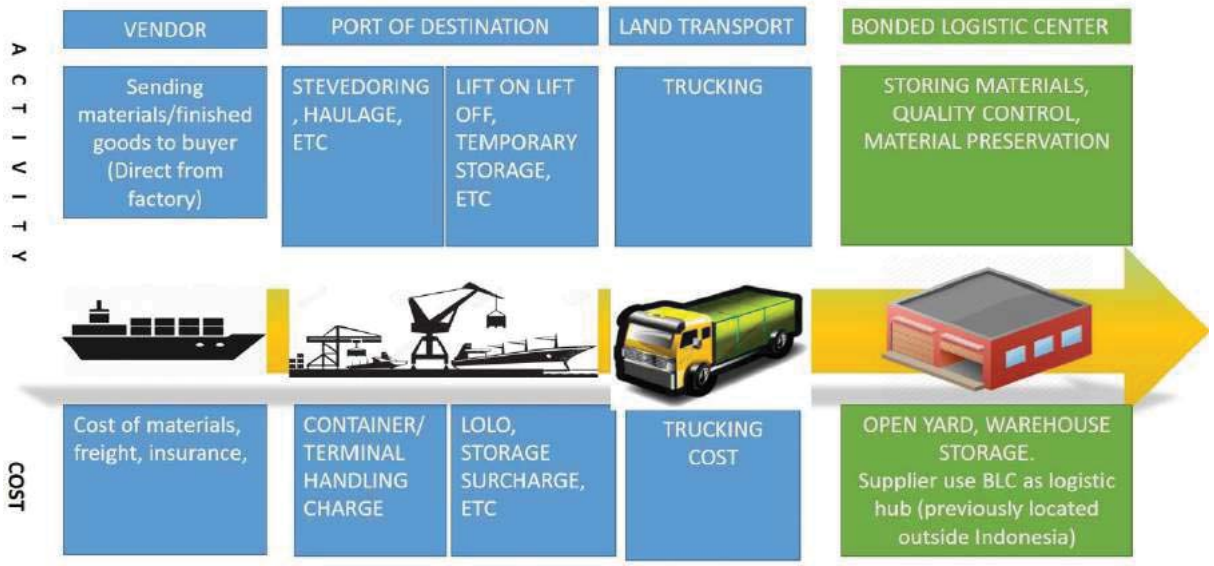


Figure 5. Material Transportation Model – BLC Usage First Phase – Logistic Hub in BLC

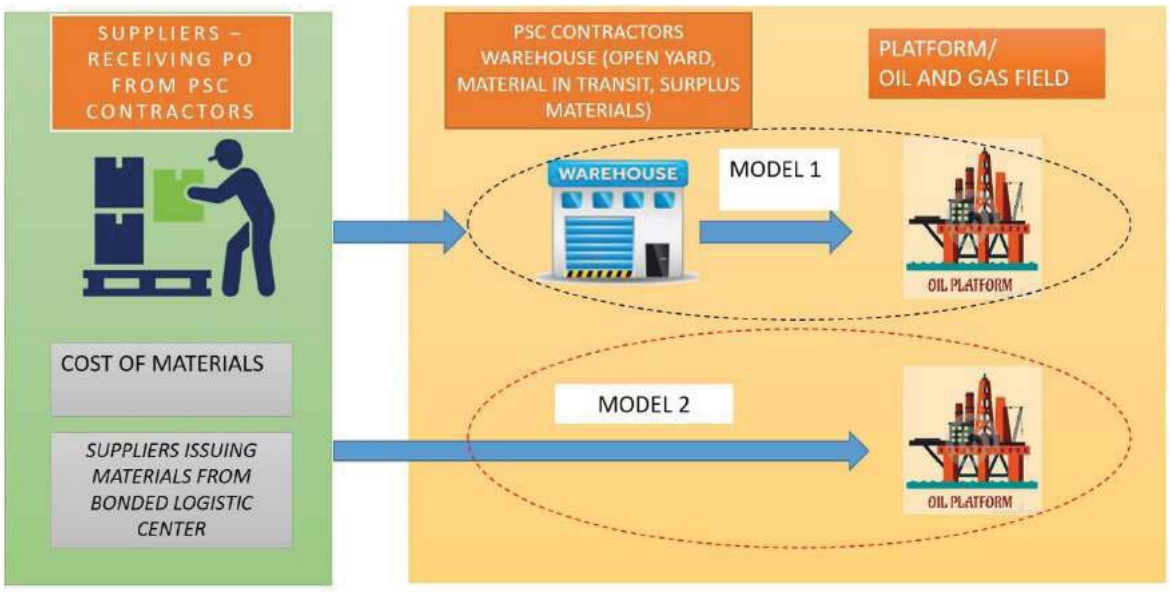
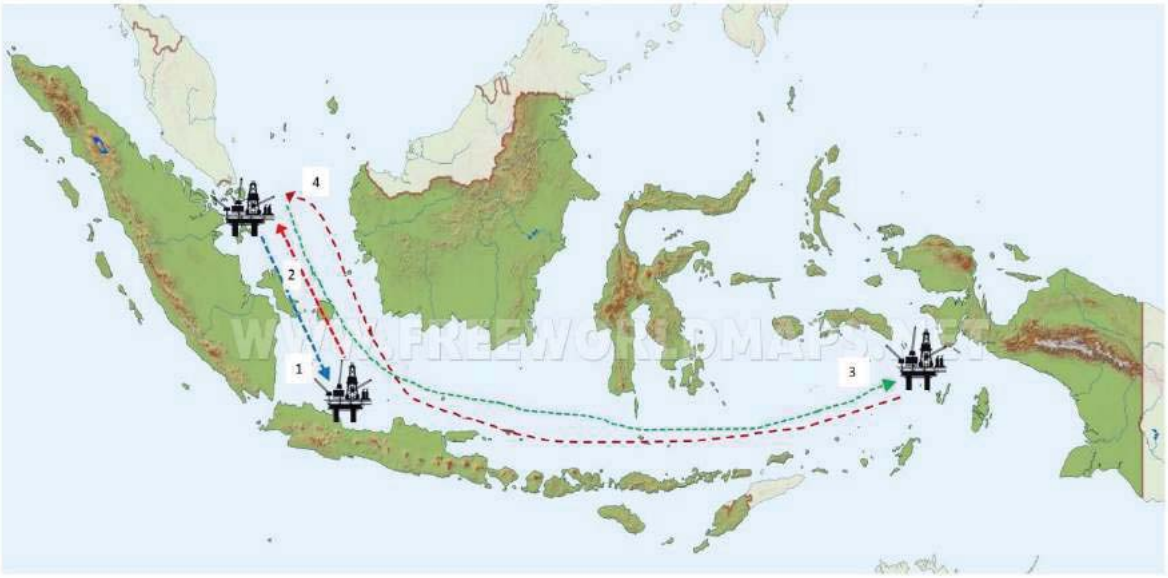


Figure 6. Material Transportation Model –BLC Usage Second Phase – PO Receipt and Materials Transportation



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