Fiscal incentive policy for coal downstreaming in Indonesia

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Abstract. This study aims to describe the coal downstreaming program which is expected to increase the added value of coal in Indonesia. Increasing the added value of coal such as the gasification project has a strategic role to increase state revenues and foreign exchange and is expected to have implications for increasing development in the region and nationally. The research method used is a quantitative and qualitative approach. The quantitative approach is used in the accounting approach and benefit cost analysis (BCA), while the qualitative approach is used in the study of literature and focus group discussions. From the results of the discussions, the Government can provide coal gasification fiscal incentives to pioneering companies with the consideration that this downstreaming program will be able to spur state revenue as well as regional and national economic growth. Besides this downstreaming activities will be able to increase similar activities in Indonesia.

1. Introduction
Indonesia is a country endowed with abundant natural resources that store oil, gas, minerals, coal and others [1]. The potential yield of this mineral and coal is very large for state revenues both from taxes and non-taxes such as fixed fees, exploitation fees (royalties). Non-tax state revenue from natural resources currently has a tendency to increase. Contributions from oil and gas, minerals and coal reached more than IDR 90 trillion or accounted for 95 percent of natural resource revenues. The oil and gas and mining sector also has a 7.2 percent share as the main contributor to the Gross Domestic Product (GDP) after the trade, agriculture and construction services sector [2]. The realization of PNBP until 2018 for several natural resources such as copper, gold, tin nickel and silver has an increasing tendency. Realization of coal non-tax revenue was very dominant. In 2018, coal non-tax revenues amounted to IDR 21.85 trillion, an increase from 2017 which only amounted to IDR 18.60 trillion [3].

One of the downstream policies such as the export duty policy is intended as one of the restrictions on the export of raw minerals in the short term that will have a negative impact on the economy, in particular causing a decline in raw mineral exports and new investment in the mineral mining sector[4]. However, the export restriction policy will have a positive impact on the economy if supported by new investments in the mineral processing sector so that Indonesia can export processed mineral commodities [5].

In fact, the Government has provided many incentives for companies or Minerba businesses to produce or increase the added value of mining products by downstreaming. However, until now Minerba’s derivative products, especially coal in the form of coal liquefaction process (gasification) have not been as expected.

This study aims to illustrate the opportunities for fiscal incentives for pioneer companies to increase the value added or downstream of coal. In addition, it can be seen the impact or benefits of
providing fiscal incentives for the national economy, social benefits and labor absorption as well as tax and non-tax revenue. Furthermore, this research is expected to obtain recommendations to ensure the granting of coal downstream fiscal incentives. The goal application of fiscal incentives to all of coal product like coke making, coal upgrading, coal briquetting, coal gasification, underground coal gasification, coal liquefaction, coal water mixture are to increase value added coal, and ultimately, coal mining companies hopefully could develop public settlement in underdevelop regions and public open space around the mine. By coal utilization for the Downstream Project, hopefully there are an increase in both the Central and Regional Tax Potentials caused by a new tax object for transactions from these activities.

2. Methods

The method used in this research is quantitative and qualitative methods. The quantitative method in this study used the accounting approach [6] and Benefit Cost Analysis (BCA) to create a benefit and cost scenario providing fiscal incentives for coal gasification, with the following formula

\[ PV_i = \left( B_{i0} - C_{i0} \right) + \frac{\left( B_{i1} - C_{i1} \right)}{(1 + r)} + \ldots + \frac{\left( B_{it} - C_{it} \right)}{(1 + r)^t} \]

Where,

- \( PV_i \) = Present Value project i
- \( B_{it} \) = Benefit from project i at time t
- \( C_{it} \) = Cost from project i at time t

The fiscal incentive scenario provided is tax allowance, tax exemption and royalties which can affect macroeconomic activities. The data used are data from the Central Bureau of Statistics and data from PT. Bukit Asam. To deepen the study also used explorative qualitative methods, by seeking information from policy makers about fiscal incentives to support coal gasification programs in Indonesia, through Focus Group Discussions and literature studies [8].

3. Result and Discussion

Natural Resources are all physical, chemical, biological and social things that shape the environment around us. According to Hunker[9], natural resources are all that come from the earth, biosphere, and atmosphere, whose existence depends on all human activities. All elements of the natural environment including soil, water, air, seeds, trees, sun, rivers are natural resources. One of Indonesia's natural resources which has not been optimally processed is coal.

Based on the BP Statistical Review of World Energy report in 2019, Indonesia's coal reserves amounted to 3.1 percent of the total world coal reserves. While the countries that have the greatest natural wealth in the form of coal are the United States, Russia and China, as Figure 1.
In Law number 30 of 2007 regarding energy, article 21 states that the use of energy is carried out among others by optimizing all potential energy resources, and prioritizing meeting the needs of the community. Furthermore, the Government Regulation (PP) governing coal is PP number 23 of 2010 concerning Implementation of Mineral and Coal Mining Business Activities. Whereas Article 84 Paragraph (1) states that the holder of production operation IUP and production operation IUPK must prioritize the needs of minerals and / or coal for domestic interests. Article 94 paragraphs (1) contains that for Production Operation IUP Holders and coal Production Operation IUPKs, they are obliged to carry out processing to increase the added value of coal produced either directly or in cooperation with companies, holders of IUPs and other IUPKs [11]. What is meant by processing in this provision includes coal crushing, coal washing, coal blending, coal upgrading, briquetting, coal liquefaction, coal gasification and Coal Water Mixing [12]. This can be described as follows:
Downstreaming currently being developed includes coal gasification. At present there is only one State-Owned Enterprise company (BUMN) that has the opportunity to carry out gasification downstreaming, namely PT. Bukit Asam. The company will develop coal into gas (syngas) which is then converted into methanol and then made into Dimethyl Ether (DME) and Polypyrpylene. There are two areas that will produce, namely in TanjungEnim, South Sumatra and Riau's role in the region. The two regions are expected to be able to produce DME of 400 KTA and 1,400 KTA. [14]

Currently coal production in Indonesia tends to be exported, whereas the target of national electricity power needs is always increasing. In the future, it is estimated that national coal consumption will increase along with the increasing need for fuel for power plants that still use coal. Indonesia has several countries to export to, namely India, China, South Korea, Japan, Taiwan, Europe and America. According to a report by The Oxford Institute for Energy Studies (OIES) in 2017 [15], it turned out that the last highest export of Indonesian coal occurred in 2013 and in the following years Indonesia's coal exports declined.

In accordance with the national coal production plan based on the National Medium Term Development Plan (RPJMN) for 2015-2019 and in accordance with Presidential Regulation number 2 in 2015, production in 2019 is 400 million tons. The percentage of domestic demand for national coal production is 60 percent in 2019 [16].

When viewed from the state revenue derived from non-tax Mineral and Coal state revenues for 2018 amounting to more than IDR 50 trillion or reaching 156 percent. While the revenue target of non-tax state revenue set in the 2018 State Budget for Development and Expenditure is only IDR 32.1 trillion. The composition of Minerba non-tax revenues in 2018 consists of Royalties of IDR 29.8 trillion or 59.6 percent, mining product sales of IDR 19.3 trillion or 38.6 percent, fixed contributions of IDR 0.5 trillion, and state revenues from services and information of IDR 0.4 trillion.

State revenues from non-tax state revenues from minerals and coal have been increasing since 2014. Successively in 2014 amounted to IDR 35.4 trillion, 2015 decreased by IDR 29.6 trillion, 2016 amounting to IDR 27.2 trillion. But in 2017 it has increased again to IDR 40.6 trillion and in 2018 it has risen to IDR 50 trillion. Furthermore, state revenue from non-tax state revenue from minerals and coal can be seen from several types of non-tax state revenue from minerals and coal such as fixed fees, exploitation fees in the form of royalties and royalties from the sale of mining products specifically for the Coal Mining Concession Work Agreement (PKP2B) [17].

In accordance with Regulation of the Minister of Energy and Mineral Resources number 17 of 2010, that certain types of coal used domestically can be sold at a price below the Coal Benchmark Price, after obtaining approval from the Director General. Coal for certain purposes can be sold at a price below the coal benchmark price, after obtaining approval from the Director General [18]. Certain types of coal are fine coal, reject coal and coal with certain impurities. Coal for certain purposes intended is coal used in the context of increasing the added value of coal carried out at the mouth of the mine, coal used by the Steam Power Plant whose electricity is only for the production process and for the development of disadvantaged areas. The price of certain types of coal and for certain purposes approved by the Minister of Energy and Mineral Resources is used in the calculation of Non-tax State Revenues. Furthermore, further provisions are regulated in Director General Regulation number 480 of 2014 [19].

The potential for increased value added to turn coal into gas is very high. Low-calorie coal in Indonesia has a great opportunity to develop or increase its added value. There are several companies that are interested in increasing value added, such as PT Bukit Asam, this company which will develop coal gasification in two projects. First, the coal gasification project located in TanjungEnim, South of Sumatra. This region has reserves of 363 million tons of GAR 4,200 Kcal / kg coal, annual coal consumption of 5.1 million tons plus a 2.9 million ton power plant. And the planned product is 400,000 tons of DME, 570,000 tons of Urea and 450,000 tons of Polypyrpylene.

Second, the Coal gasification project in Peranap, Riau Sumatra. This region has coal reserves of 287 million tons of GAR 2715 Kcal / kg, annual coal consumption of 6,600,000 tons plus a power plant of 2,100,000 tons. The production plan is 1,400,000 DME.
3.1. Benefits of Coal Downstreaming for the Economy in Indonesia

The coal downstream program in Indonesia turned out to have an impact on increasing national economic activity in several sectors including the economic, industrial, taxation, and investment sectors. As an illustration, PT Bukit Asam, as one of the coal downstream pilot project companies in Indonesia, is expected to operate in 2022. The impact produced by increasing coal production and investment downstreaming to the national GDP is IDR 108.13 trillion from 2017 which is IDR 66.83 trillion. The impact on GDP in 2022 due to an increase in coal production of PT Bukit Asam is estimated at IDR 2.5 trillion and investment of IDR 42.59 trillion.

It is estimated that the output value of the benefits arising from coal downstreaming carried out by PT Bukit Asam amounted to USD 1,163,363,030, while the associated externality is estimated at USD 292,564,190 and the total value of social benefits obtained from downstreaming of PT BA is estimated at USD 478,592,253. It is estimated that the benefit coefficient from coal downstreaming (gasification) of PT Bukit Asam is equal to 0.41.

For tax acquisition when downstreamed by PT Bukit Asam, it is estimated to be obtained in the amount of USD 564,954,468 which consists of externalities tax revenue estimated at USD 380,355,100, an excess payment is estimated at USD 64,019,216 and economic rent factors of USD 120,580,152.

Potential Non-Tax State Revenues (PNBP) derived from production fees (royalties), fixed fees (deadrent), forest taxes, and dividends after downstreaming are estimated at IDR 1.01 trillion, which consists of Non-Tax State Revenues for the central IDR 254, 01 billion, for the Regional Government of South Sumatra Province IDR 208.20 billion and the Regional Government of MuaraEnim for IDR 541.42 billion. It is estimated that several types of taxes will increase with coal gasification downstreaming. Some of the taxes that will increase include the Building Land Tax and the Surface Water Tax.

On the other hand, the downstreaming of coal into several derivative products has the consequence of an increase in investment in the coal gasification production process. The following is an illustration of the impact of downstreaming and investment for the MuaraEnim district GRDP. From this picture it can be seen that in 2017 (before there was downstreaming) the coal GRDP for MuaraEnim Regency amounted to IDR 47 trillion. Furthermore, after coal downstreaming was carried out in 2022, the estimated GRDP of coal production value is IDR 73 trillion and IDR 114 trillion from the coal downstream value or almost 3 times the increase in coal GRDP.

As an illustration also that with coal downstreaming there will be an increase in the rate of the economy, an increase in the value of production and an increase in investment and employment. Examples of cases in coal downstreaming at PT Bukit Asam located in MuaraEnim Regency. With this downstreaming, it is estimated that the GRDP of MuaraEnim Regency will increase which can absorb more than 5,000 workers. This increase in the number of workers comes from several sectors. The most dominant sector, among others, the coal sector, is expected to absorb a workforce of 2,403 people. This was followed by the chemical and plastic industry sector (306 people), the wholesale and retail trade sector (398 people), the company service sector and the building rental (459), the road transport sector (223) and several other sectors.

Coal downstreaming carried out by PT Bukit Asam is also expected to increase tax revenue due to the coal production process being the product of several other products such as products for urea (ammonia) fertilizer, DME as raw material for gas and polypropylene (PP) as plastic materials. From the simulation of Business Entity Tax and Individual Tax, Polypropylene downstream is targeted to contribute Corporate Income of USD 1,061,976 or IDR 15.5 billion. Whereas downstream DME increased Corporate Income Tax by USD 357,776 or by IDR 5.2 billion and for Urea increased Corporate Income by USD 253,673 or by IDR 3.7 billion. Likewise, the increase in Individual Income Tax will also increase.

Basically, the Government strongly supports business entities that will undertake downstreaming by providing various facilities and fiscal incentives. The provision of fiscal incentives can be given to
companies that will undertake downstreaming by considering the positive impacts caused to the national and regional economy and to improve the standard of living and social life of the community.

As an illustration, the following shows the comparison of costs and benefits obtained by providing incentives. For example, if the Government reduces the royalty rate from 13.5% or IDR 208.94 billion is reduced to 0% for downstream business entities such as PT BA, it means that state revenue for the center is reduced by IDR 41.78 billion. While regional revenues (South Sumatra province and MuaraEnim regency) amounted to IDR 167.16 billion. However, from the incentives and then carried out downstreaming, it will increase benefits for the central and regional governments. The central government will be able to save foreign exchange by IDR 12.4 trillion because Indonesia is able to produce PP and DME and obtain additional foreign exchange of IDR 2.16 trillion because it can export fertilizer from ammonia from downstream coal.

For regions, the MuaraEnim regency's GRDP increased in the form of an additional coal production estimated at IDR 2.95 trillion and an additional investment of IDR 39.56 trillion. Likewise, there was an increase in job opportunities by 5,578 people and an estimated social benefit gained by MuaraEnim Regency was IDR 6.94 trillion.

When seen the effect on several aspects of the benefits obtained earlier the government should be able to provide fiscal incentives to pioneer companies such as PT Bukit Asam. Some of these aspects include an increase in the national economy and local governments such as increased state revenue, social benefits and increased employment and also a positive effect on the downstream exploitation areas.

4. Conclusions and Recommendation

The fiscal incentive scheme in the form of reducing royalties and taxes will in the short term reduce state revenues from the tax and non-tax revenue sector. But in the long run it will increase the national and regional economy such as an increase in GDP and GRDP by three times. Likewise, tax and PNBP receipts averaged 3 times. Besides that, it will provide social benefits and employment, estimated at more than 5000 workers.

To support the downstreaming program carried out by a pioneer company (PT Bukit Asam), the Government can provide fiscal incentives in the form of taxes (tax holidays, tax allowances), reduction of royalties, and other facilities. The success of pioneering companies in developing gasification downstreaming projects needs Government support in the form of fiscal incentive regulations. The gasification downstreaming that will be carried out by PT Bukit Asam is expected to encourage other companies to do the same.

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