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NATIONAL AND PUBLIC INTEREST PERSPECTIVE ON THE GOVERNANCE AND REGULATION OF CARBON CAPTURE AND STORAGE IMPLEMENTATION IN INDONESIA

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ABSTRACT

Recently Indonesian Government issued two important regulations regarding Carbon Capture Storage (CCS) namely, President Regulation No. 14/2024 and Ministry of Energy and Mineral Resources Regulations No. 2/2003. Both regulations have caused Indonesia's CCS Legal and Regulatory score by the Global CCS Institute to increase significantly. There are three criteria applied by the Global CCS Institute to define the score: regulation of trans boundaries movement of CCS, specific legal and regulatory framework, and facilitation of early project. Despite the increase in CCS score, some essential questions remain as crucial problems that are not solvable easily. Those questions regarding the national and common interest of Indonesian people by the issuance of both legal and regulations are still unclear, at least from the common people's perspective. The Presidential Regulation define dual schemes for CCS implementation: Contract Scheme and Permit Scheme. From the common people's perspective, both schemes need to be exercised further to respond to the public questions properly. Therefore, any reason behind the implementation of those two schemes as well as any potential benefit for Indonesia by implementing those two schemes in parallel are very important to be reviewed and analyzed. Reinforcement of Oil and Gas Production Sharing Contract Principles in the implementation of CCS in Indonesia are more favourable for the National and Public Interest Perspective.

INTRODUCTION

Indonesia, as one of the world's largest carbon emitters, faces major challenges in achieving greenhouse gas emission reduction targets in accordance with global commitments (Adyana, 2024; Patrianti et al., 2020). The implementation of Carbon Capture and Storage (CCS) technology is one of the potential solutions to reduce carbon emissions in the energy and industrial sectors (Safarudin, 2023). However, the implementation of CCS in Indonesia requires a strong governance and regulatory framework to ensure that its implementation runs effectively, safely, and in accordance with the national and public interest. In this context, this study aims to explore the national perspective and public interest in the governance and regulation of CCS implementation in Indonesia, considering the importance of the role of the government and various stakeholders in realizing a balance between economic, environmental, and social interests. A deep understanding of how policies and regulations can be drafted and implemented will be key to ensuring that CCS technology not only reduces emissions, but also contributes to sustainable development in Indonesia (Leontinus, 2022).

As a member of the Global Society and being consistent with the values of the Indonesian spirit of the Indonesian Constitution 1945, in 2016 Indonesia adopted the Paris Agreement into the national legal framework by Law No. 16 / 2016. Since then, Indonesia determined a national commitment to reduce emissions by up to 29% (by self-efforts) or 41% (by international cooperation / global support) in 2030. This kind of

commitment is commonly called the Nationally Determined Contribution (NDC) (Dadek et al., 2023; Nasution, 2018).

Other than the global commitment due to compliance to the recent international conventions on climate change, Indonesia has also considered and adopted the principles of Protocol Kyoto in the legal frameworks where they were issued during the period of the political reformation era 1998 until nowadays, among others in Law No. 41/1999 regarding Forestry, Law No. No. 32/2009 regarding the Environment as well as their implementation regulations. Those legal frameworks have to be enforced to fulfill Indonesia's commitment to the global community (Carlsnaes et al., 2021; Setiawan, 2020).

The Global commitment to collectively reduce carbon emissions is driven by global awareness of the global warming bad impact on the planet. Based on the results of research and studies by credible institutions, energy, industry and transportation sectors are recognized as the biggest contributors to carbon emissions in the world. That is the reason why any effort to mitigate the impact of global warming shall not avoid the energy, industry and transportation sectors. Reducing world carbon emissions shall be focusing on most carbon contributor countries.

According to the BP Statistical Review China, the US and Germany are the most consumable energy in the world. This means the key success of world carbon emission reduction somehow will depend on the strategy of those countries to manage energy consumption through the most environmentally friendly ways. The below data shows that Indonesia's position is in the sixth rank of the most carbon contributor countries in the world. It means that Indonesia is in the top ten carbon contributors (Fahmi et al., 2022; Hilda et al., 2023).

Considering that fact, Indonesia take a least four major strategies to reduce carbon emissions in order to achieve the NDC target:

1. Optimizing and improving Green Energy (Zero emission energy)
2. Minimizing / Reducing Flaring and Combustion in Upstream and Downstream of Fossil Energy Use
3. Promoting Rain Forest Conservation and Massive Reforestation Movement
4. Implementing Carbon Capture and Storage (CCS) and Carbon Capture Utilization Storage (CCUS)

However, it has to be understood that to meet the NDC target, nothing is considerably cheap. The table below shows the estimate cost and/or investment needed to achieve the target. This table shows that funding shall be the biggest challenge to realize the commitment. In comparison, the total national budget expenditure of Indonesia year 2023 was only 3.121.9 Trillion IDR. It is less compared to the NDC estimate cost and or investment. It is impossible to expect the Indonesian national budget to self-fund the road map of NDC actions. Such international collaboration will be required to make the “dream come true” in particular to accelerate the energy transition to develop renewable energy.

Indonesia President Regulation No. 14/2024.

> *Article 2 paragraph (3) mentions “CCS implementation in a Work Area as referred to in paragraph (2) shall be carried out by a Contractor under a Cooperation Contract:*
> *Article 3 mentions: “CCS implementation on a Carbon Storage Permit Area shall be undertaken by a business permit holder who has acquired both Exploration Permit and Storage Operational Permit”*

Further, Article 4 mentions:

> *2) The Cooperation Contract as referred to in paragraph (1) may take the form of:*
> *a. production sharing contract with an operational cost recovery mechanism;*
> *b. gross split production sharing contract; or c. any other Cooperation Contract*

In reference to these stipulations Indonesia apply such a dual system in the CCS for the purpose of:

1. Reducing Carbon Emission to Meet with NDC Target
2. Optimizing depleted reservoir and saline aquifer which can store 600 gigatons of Carbon

The potential partners to develop CCS programs in Indonesia are the giant energy (oil and gas) companies that have capital, technology as well as experience in subsurface matters. Assuming they are not the expert in carbon reduction by reforestation programs they have to avoid competition between “Clean Fossil Energy” (by implementation of CCS) versus Clean Renewable Energy.

Therefore the formulated problem that will be analyzed in this article:

1. Which scheme of the dual system (Contract and Permit) is the most favourable for the national and public interest perspective?.
2. Does Indonesia need to apply a dual scheme for CCS implementation?.

Legal and Governance theories and approaches will be taken to analyze and academically respond those two formulated problems knowing the execution of National and Public Interest in the context of politics, governance and constitutional law is officially represented by the Government. So in this context such “government interest” that is mentioned herein shall mean/ similar to National and Public Interest (Larasati et al., 2018; Subianto, 2020).

This study aims to analyze the perspective of national and public interests on the governance and regulations of Carbon Capture and Storage (CCS) implementation in Indonesia. This research will explore how policies and regulations related to CCS are in line with national interests, as well as how the public and public stakeholders view the implementation of this technology. In addition, this study aims to identify challenges and opportunities in the implementation of sustainable CCS, which can support the achievement of carbon emission reduction targets in Indonesia. The results of this study are expected to provide in-depth insights into the alignment between national policies and public interest in the implementation of CCS in Indonesia. This research will provide recommendations for policymakers to formulate regulations that are more effective and responsive to national needs and public expectations. In addition, this research will also be useful for academics, practitioners, and other stakeholders in understanding the complexity of CCS governance and its contribution to climate change mitigation efforts in Indonesia.

METHOD

This study uses a qualitative method with a case study approach. The selection of this design is based on the objective of exploring in depth the specific context of CCS (Carbon Capture and Storage) regulation and implementation in Indonesia. The sampling technique used is purposive sampling, which aims to select the participants and documents that are most relevant to the research question. The sample consisted of key stakeholders involved in the CCS scheme, such as government officials, industry experts, environmental organizations, and academic researchers.

Primary data was collected through semi-structured interviews with stakeholders and experts involved in CCS schemes, while secondary data included official documents, regulatory texts, policy papers, industry reports, and previous research related to CCS regulation. The data were selected based on their relevance to the research question, credibility, and their ability to provide a holistic understanding of CCS regulation and implementation. Data collection methods include in-depth interviews, document analysis, and observation. These methods were chosen to triangulate the data to ensure a thorough understanding of the research problem.

The research instruments used include interview guides, document analysis frameworks, and observation checklists. Interview guidelines are developed based on research questions and are tested in advance to improve the clarity and relevance of the questions. The document analysis framework is designed to systematically examine policy and regulatory documents. The validity of the instrument is guaranteed through expert review and trials. The accuracy of the data was confirmed through member checking, where participants reviewed and validated interview transcripts and interpretations. In addition, triangulation is used to compare data from different sources. The steps of data analysis include organizing data, transcribing interviews, organizing documents, and categorizing data based on themes. Next, open coding is carried out to identify patterns, followed by axial coding to connect codes with a broader theme.

RESULTS AND DISCUSSION

Government Interest in the Contract Scheme

The Production Sharing Contract (PSC) as one type of Cooperation contract scheme is applicable for CSS operation according to President Regulation No. 14/2024 as above mentioned. However, it is limited to the CCS operation within such valid upstream oil and gas working areas. It is not applicable for CCS outside and or invalid PSC of such oil and gas working areas. The more detailed stipulations of CCS operation in oil and gas PSC working areas are regulated by the Ministry of Energy and Mineral Resources No. 2023, in which the CCS operation shall be deemed as part of petroleum operation.

It is interesting to understand more about the background and reason why the Indonesian government apply a dual system (Contract and Permit), meanwhile the most potential CCS players in the world are the oil and gas companies who have been familiar with the PSC (contract scheme).

Regarding the Production Sharing Contract, Didik Sasono Setyadi, Hadariat Kuncara Zakty and Jani Purnawanty in “Production Sharing Contract” (2023: 35 - 36) mention:

> *The Production Sharing Contract is a fairly unique act of the government for a business activity that in daily operation is performed by the private sector.*
>
> *Based on the Legal Theory of Governance, instrument models for the implementation of public policy within the context of good governance, among other things includes*
>
> 1. *Permit: Decision of authorized Government Officials as a form of approval upon application from the community members by the provisions of the legislation.*

2. *Dispensation: Decision of authorized Government Officials as a form of approval upon application from the community members which denotes an exception towards certain prohibitions or orders with the provisions of the legislation.*
3. *Concession: Decisions of authorized Government Officials as a form of approval from an agreement of an Agency and/or Government Officials in addition to an Agency and/or Government Officials in management of public facilities and/or natural resources and other management with the provisions of the legislation.*

As subsequently adopted by the Law on Government Administration (No. 30/2014). The choice of these instruments is a concrete form of public policy that currently has to be organized based on the Principles of Good Governance which is a characteristic of a legal/democratic country. Which often appears in the public imagination, upstream oil and gas business activities are performed by the permission instrument (model/scheme) as appropriate for general mining operations (minerals and coal), whereas seeing the definition given by Law No. 30/2014 as mentioned above, PSC is closer to a "concession" rather than permit or dispensation.

The definition of concession in Law No.30/2014 is different to a concession that had been applied by Dutch Colonial Government to oil companies before the independence of Indonesia. The definition of concession in upstream oil and gas business practice is similar to such scheme as mentioned by Rinto Pudyantoro (2012 : 140):

"Concession system is relatively simple stipulations for the government. The Government does not get involved in the business operation. The whole operational aspects to manage the natural resources; what the technology to be applied; how to do and when to start; are not the government's interest."

As a result, Indonesia dismissed and erased the concession scheme (heritage of colonialism) from the upstream oil and gas business scheme and then change it into PSC, where enable government to exercise their interest by getting involved in the management of natural resources, rather than being passive and only expecting revenue from tax and royalty.

Due to above reasons, the issue of "national and public interest" in the CCS implementation is arising because the government promote the dual schemes as stipulated by President Regulation No. 16/2024. The basic question arise out of public perspective: public are curious whether or not the government intends to get involve in the operation and management of CCS.

Related to government role and position in the management of natural resouce, Benny Lubiantara (2017 : 23) wrote *"The basic theory to analyze state right shall use 3 theories: theory of state sovereignty over natural resources, ownership of natural resources theory, and access to natural resources theory. Meanwhile, to utilize the natural resources for the greatest prosperity of the people shall use 2 economic classical approaches, namely: Economic Rent and Principal-Agent Theory"*

In fact, the implementation of PSC in upstream oil and gas is containing the following principles of government interests (Setyadi et al., 2021).

Principles of a Cooperation Contract are as follows:

1. *Natural resources are under the State's control;*
2. *The Indonesian Upstream Oil and Gas Special Task Force (SKK Migas) has the authority in upstream oil and gas business activities;*
3. *The contractor is required to possess:*
   a. *Financial ability (not a financial arrangement) – internal source and cost of money (interest) is not allowed*
   b. *Technical competence – the contractor has to be ready for the possibilities of technological advancement*
   c. *Professional skill – hiring professional staff and possessing the ability to transfer its expertise towards the Indonesian party*
4. *The Mining Right is owned by the Indonesian Government*
5. *The government implements effective and efficient management*
6. *A cooperative contract consists of: SKK Migas and the contractor*
7. *Mutual Covenant to agreement*

The primary feature of this Cooperative Contract is that the natural resources are not to be taken over by the contractor/private party, but are still under the State's control. In other words, all attempts of searching and production processing of natural oil and gas resources are entirely under the surveillance institution appointed by the Government to perform supervision and management.

In other article Didik S Setyadi and Mailinda (2021: 392) also cited Benny Lubiantara question to the scholars who once proposed to eliminate the PSC scheme because their objection on Cost Recovery (Setyadi et al., 2021). Benny Lubiantara re-addressed a statement that Cost Recovery substantially makes the government control over the oil and gas business stronger rather than by concession scheme. Benny Lubiantara mention:

The Principles of PSC that firstly introduced by Ibnu Sutowo in 1966:

1. *Management is under State Owned Company (SOC)*
2. *Contract shall be based on Production Sharing*
3. *The Contractor shall bear all risk, in case of failure to produce oil and or gas. The yearly Cost Recovery shall not be more than 40% of Oil and Gas Production*
4. *Oil and Gas Lifting (after cost recovery deduction) to be shared 65% for SOC and 35% for Contractor*
5. *SOC to pay Contractor Income Tax to Government*
6. *The Contractor shall employee Indonesia Manpower. Once the Contractor meet the economic scale of production, the Contractor shall train Indonesia Manpower and transfer the knowledge and technology accordingly.*
7. *The Contractor shall comply with the domestic market obligation (DMO), maximum 25% of their production share.*

Those principles were previously rejected by the major oil and gas companies. They have been favorable with the concession scheme, however eventually the accept and support it, it becomes one of the most favorable schemes in the world.

As consequent of the PSC implementation, such cost recovery shall be granted to recover contractor/ investor expenses during period of exploration, production and post operation. The cost recovery is actually a normal business practice of people whenever and wherever they are doing business, no matter what the type of business and regardless they use their own money and or other people money, the rule of thumb is: any spending of relevant cost/ expense for the interest and purpose of doing the business has to be recovered, accordingly. In the context of PSC for natural resources are under control of authorized government shall cause the whole business assets to be owned by the government consequently (nothing shall be owned by the contractor/ investor other than cost recovery and the split of production as agreed in the contract).

In case of adoption the all principles of upstream oil and gas PSC, therefore the CCS PSC implementation, will be:

1. CCS management shall be under Government Business Institution (assigned by the government)
2. Contract shall be based on Revenue and or Storage Sharing Contract.
3. The Contractor shall bear all risk, in case of failure to operate CCS. The yearly Cost Recovery shall not be more than certain percent of revenue
4. Revenue sharing (after cost recovery deduction) to be shared fairly by both parties
5. Government Business Institution to pay Contractor Income Tax to Government.
6. Contractor shall employee Indonesia Manpower. Once the Contractor meet the economic scale of CCS operation, the Contractor shall train Indonesia Manpower and transfer the knowledge and technology accordingly.
7. The Contractor shall comply with such domestic carbon storage at certain percent of the capacity

Government Interest in the Permit Scheme

Eric Biber and J.B. Ruhl wrote an article in Duke Law Journal. The title is "The Permit Revisited : The Theory and Practice Regulatory Permit in the Administrative State". They underlined Richard Epstein study about "Permit".

Epstein expressed deep concerns with what he called the "permit power," the root attribute of which is its reversal of "the classical American view . . . that all that is not prohibited is permitted, which sets the initial presumption in favor of liberty—not in favor of government action." Although he did not advocate a "permit-free society,"11 Epstein dwelled at length on the sharp contrast between the tort system and its injunction remedy, which requires the party claiming injury to prove its case before a court will prohibit continued harm and the permit system, under which "the individual citizen becomes a supplicant before the government in all cases, whether or not any real threat of harm exists."When legislatures change the default rule from "permitted-until-judicially-prohibited" to "legislatively-prohibited-until-administratively-permitted," they create an "enormous power in the state" that in Epstein's view, "results in a complete inversion of the proper distribution of power within a legal system."The shift in the locus of power from courts to agencies, Epstein warned, turns the fate of much of the public and private affairs of the nation over to "specialized bodies which often have a strong ideological position on the issues that come before them time after time

From above explanation, it is clear that "permit" is coming from an "ideology" for the favor of liberty (liberalism) rather than such a simply government action. As further Epstein said (2014: 155-156) *For example, imagine that a statute authorizes an agency to implement regulatory exemptions, permits, and regulatory prohibitions with respect to a particular category of activities, such as water pollution. The statute instructs the agency to decide which permission form to use for different types of water pollution sources based on the cumulative harm to environmental resources a type of source, if not regulated, is expected to produce when all such sources are taken into account. Based on this standard, the agency could array its regulatory instrument options based on a harm continuum with exemptions at one end for very low harm levels, prohibitions at the other end for very high harm levels, and permits for the intermediate harm levels. In such a system, permits thus must be able to handle everything from low to high levels of harm, suggesting that permitting must be a flexible regulatory instrument.*

In Indonesia legal framework, the general legal definition of permit is defined in Law No. 30/2014:

Permit: Decision of authorized Government Officials as a form of approval upon application from the community members in accordance with the provisions of the legislation. They words of permit definitions provide by that law is: approval decision upon application in accordance with provision of legislation. This definition is simply such an administration process between community (individual or corporation) to apply such approval for something which is prohibited by such legislation (law) (Anggoro, 2017; Kindangen et al., 2018). In other means: as long as there is such an application that following the provisions of legislation product, while there is no reason to disapprove it, then government just simply approve it. If so then, how strong the national and or public interest is accommodated?

WF Prins, Philipis M. Hadjon and SF. Marbun call the permit is a kind of government decision ("Keputusan"). The *"Keputusan"* in Dutch called as *"beschikking"*. It contains the elements of (Hadjon 2005) :

1. *One Sided/Self Intention (not including two or more parties in an agreement);*
2. *Issued by an Administrative (Government) Institution;*
3. *Based on Authority Provided by Public Law;*
4. *For Specific Purpose and Occasion (Concrete and Final);*
5. *Providing a Legal Status/Capacity in Administrative Law.*

Ridwan (2006: 144) enriched: *"The Administrative Determination was firstly promoted by a Germany Scholar, Otto Meyer with a terminology called as: "verwaltungsakt". This terminology was promoted to Dutch and called as "beschikking" by van Vollenhoven and C.W. van der Pot, in which by other Scholars: AM. Donner, H.D. van der Wijk/Willemkonijnenbelt and others are deemed as "de vader van het modern beschikkingsbegrip".* So that in such permit scheme, the government will not get involved in the business operation as well as asset management of CCS. It is absolutely different to the PSC scheme in where the assigned government institution will be fully engaged and involved in the business activities as agreed by the terms and conditions.

Currently, all administrative determinations / government actions has to be performed in Good Governance ways. Gisselquist cited the OECD definition on the Good Governance (Gisselquist, 2012): *'the use of political authority and exercise of control in society to the management of its resources for social and economic development,' which 'encompasses the role of public authorities in establishing the environment in which economic operators function and in determining the distribution of benefits as well as the nature of the relationship between the ruler and the ruled' (OECD 1995: 14)*

Denhardt (2000) underlined the role of modern government shall not only to direct by regulation and decree (decision) but become to another player:

The comparison between Contract vs Permit Scheme showing that by PSC Scheme the government may become player in concert with private, public and non-profit agencies to protect the national and public interest.

No	Government of Indonesia Position in regard with the following matters	Contract Scheme	Permit Scheme
1	Sub Surface, Project and Asset Owner	Government shall be the owner and investor shall be the contractor	Government shall only be as the owner of sub surface, All assets belong to Investor
2	Operation Management	Involvement in the Program and Budget Approval	Not Involved
3	Legal Structure	Public - Private Partnership	Ruler and Ruled Party Hierarchy
4	Dispute Settlement	Arbitration (Private Law)	Administration Court

5	Change of Terms and Conditions	Amendment (it is a simply private law amendment mechanism)	Revocation (Administrative law mechanism). Potential of maladministration
6	Intellectual Properties and other innovation	Owned by government or jointly owned by government and partner	Fully owned the Permit Holder
7	Local/ National Human Resources Development	As per government policy	Depends on Company Policy

CONCLUSION

In accordance with the provision of Indonesian Constitution 1945 Article 33 which provide a mandate to the government to manage natural resources within Indonesia territory for the purpose of most prosperity of the people, therefore a Contract Scheme (Cooperation Contract/ Production Sharing Contract) is the most favorable scheme for promoting National and Public Interest as preference. The President Regulation No. 14/2024 which stipulate dual system in the CCS implementation and policy need to be revised into a single system (Contract Scheme only) accordingly

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