

Policy Analysis of City Gas Network in Indonesia Using The CIPP Approach

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KEYWORDS

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ABSTRACT

The provision of environmentally friendly, cheap and safe energy for citizens by taking into account the mix of national energy use by considering the country's financial ability to provide subsidies is a policy that must be carried out by the Government. In this case, the Government of Indonesia itself has taken the initiative to save subsidies through the conversion of kerosene to the use of LPG which is safer for the community. However, the high LPG subsidy because it still relies on imports for its fulfillment also ultimately raises other problems. Starting in 2009, the Government continued to take initiatives to overcome this by continuing existing policies by building Household Gas Networks to optimize the potential of natural gas that is widely available in Indonesia and to reduce dependence on the use of LPG, especially in the household consumer sector and small customers. This policy is even included in one of the National Strategic Projects through Presidential Decree No. 18 of 2020 where this is also contained in the Medium-Term Development Plan (RJPMN) which targets the construction of 4.7 million household connections by the end of 2024, but in fact until 2022 only around 871,000 connections have been realized. This study conducts an analysis of policy evaluation of Jargas Development through the CIPP (Context, Input, Process & Product) approach to get a comprehensive picture of the policy process that occurs. From the results of the study, it was found that there are still things that need to be improved to ensure that this policy can better achieve the expected targets, both in terms of planning to policy implementation that involves many parties in it and also recommendations for implementation in the future.

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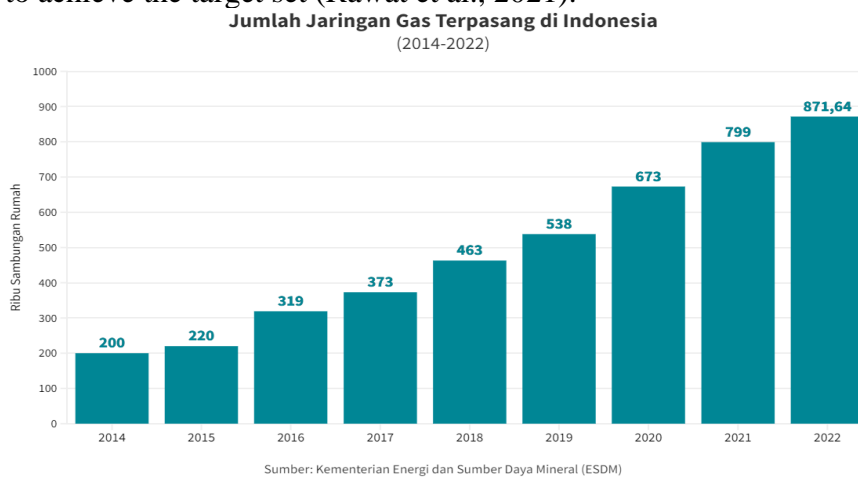
Introduction

Oil and Gas is a fundamental need of every country as an alternative energy to run all forms of household activities and also production activities of goods and services to ensure welfare and fulfillment of living standards for its citizens. This also applies to the

State of Indonesia where besides that the existence of production / lifting from Oil and Gas (Oil and Gas) is also a factor that has a considerable influence on state income and one of the drivers of the economy (Yadav & Sircar, 2022). So it can be said that the existence of energy sources from oil and gas is one of the fundamental things for meeting the consumption needs of citizens and also as a driver of the Indonesian economy. On the other hand, the existence of the energy industry in Indonesia is still one of the sectors that is expected to provide income for our country through non-tax revenues as well as from taxes and other supporting activities. But on the other hand because the current condition of Indonesia's energy consumption exceeds domestic production capacity, the fulfillment of energy will be a burden on the state if it is not managed properly because it depends on the fulfillment of energy through imports (Wang et al., 2014).

To ensure the sustainability of energy availability for the people and ensure the optimal use and utilization of various kinds of energy/energy diversification, in 2007 the Government of Indonesia began to reduce people's dependence on kerosene for daily household use as well as small and medium enterprises by implementing a kerosene conversion policy to *Liquid Petroleum Gas* (LPG). This existing conversion is expected to save state budget subsidies because LPG subsidies are lower than kerosene subsidies (Sa'diyah et al., 2021). In addition, the use of *Liquid Petroleum Gas* (LPG) is also proven to be much more environmentally friendly and more efficient than the use of kerosene (Directorate General of Oil and Gas, 2011), while for the community the use of LPG is also expected to reduce the existing fuel burden, where people with small families who use LPG can certainly save Rp. 25,000 to Rp. 30,000, - per month, compared to using kerosene one liter per day (Vikalista, 2016). The kerosene to LPG conversion policy that has been running does seem to result in a reduction in the burden of subsidies for the state and also savings for the user community, but the government's limitations in providing LPG require the government to import since 2018 where according to Suharyati (Sa'diyah et al., 2021) the government in 2018 was only able to produce 26% of LPG needs which means it had to import 5.5 million tons. In 2023, LPG subsidies in 3 kg cylinders are the largest portion compared to fuel and electricity subsidies in the State Budget, where according to the 2023 State Budget it is budgeted at Rp. 117.85 trillion (Ministry of Energy and Mineral Resources, 2023). On the other hand, the lack of supervision in the distribution of subsidized 3 Kg LNG cylinders because they are still in open sales raises the problem that so far existing subsidies have not been right on target (Wiratmadja et al., 2016) where the government's dependence on LPG raw materials through imports will eventually also burden the State Budget through the amount of subsidies that must be issued. The problems that arise above encourage the government to move forward by taking the initiative to build a household gas pipeline network (*city gas*) to meet domestic gas needs. This initiative has been started by the government since 2009 by building a city gas pipeline network that is expected to be able to distribute natural gas originating from oil and gas production fields in Indonesia directly to daily users, especially households and small businesses. This policy is certainly one of the efforts to implement an energy mix by providing cleaner, cheaper and safer energy options for the community, while on the government side of course this will reduce the burden of subsidies and optimize the use of natural gas resources that are indeed widely stored in Indonesia, where indeed the potential of natural gas reserves in the country is recorded to be greater than petroleum reserves and It is estimated that it is enough to be used for the next 60 years (Directorate General of Oil and Gas 2018).

In Presidential Regulation Number 18 of 2020 concerning the 2020-2024 National Long-Term Development Plan (RJPMN), it is also stated that one of the 41 National Strategic Priority Projects is to build City Gas Network Infrastructure for 4 Million Connections. With the development of city gas network infrastructure, it is expected to save LPG subsidies of Rp. 297.6 billion per year and reduce LPG imports by 603.720 thousand tons per year. However, unfortunately, the policy that is expected to bring many benefits is still not meeting the target set, where when viewed from the number of connections currently installed (only 871 thousand SR in 2022, data from ESDM) by comparing also the targets set by the government, both in the RUEN document and RJPMN 2020 – 2024 which targets 4.7 million SR in 2025, it seems that it will be difficult to achieve the target set (Rawat et al., 2021).



The number of achieving the target for the development of household gas networks from the target set is one of the impacts of the implementation of policy implementation which is influenced by many things including the planning process and also the involvement of every actor who plays a role where according to Hoogerwerf (Tachjan, 2006) one of the factors in the success of policy implementation is the clarity of information for each actor who plays a role including the community in addition to the existence Clarity of program targets and priorities supported by facilities and infrastructure as well as the distribution of tasks, delegation and responsibilities.

With regard to the above and seeing the challenges of implementing existing policies and the evaluation process of existing policies that are running, the purpose to be achieved from this study is to conduct a policy evaluation analysis regarding the Development of Household Gas Networks in Indonesia based on the Context, Input, Process & Product (CIPP) indicator proposed by Daniel L. Stufflebeam which is one of the newest aspects in research on Jargas and write recommendations that can be done so that they can be input for policy improvement in the future.

As a public entity, the state has various goals to be achieved and also various challenges and problems faced to achieve these goals. Existing problems can come from citizens, economic dynamics, domestic and foreign politics or matters related to the country's own government. The problems that must be solved by government are public problems, namely unrealized values, needs or opportunities, which, although identifiable, can only be realized through public action (W. N. Dunn, 2015). To overcome these problems, the government needs to make public policies where public policy is a decision made by the government to regulate various problems in a country. Public policy has many definitions, simply according to (Dye et al., 2017): "public policy is everything that

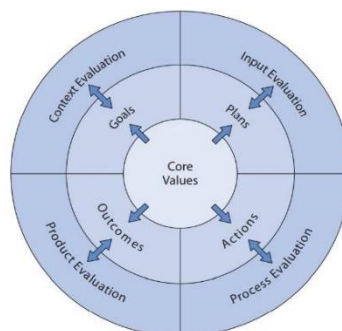
the government chooses to do or not do". Based on this understanding, it can be said that the government is an actor in public policy who has the power to choose actions or let decisions be taken. In more detail, (Howlett & Cashore, 2020) argues that Dye's definition considers the government as the main actor in public policy making, policymaking involves the government's basic choices about what to do or not to do and emphasizes that public policy is a fundamental choice made consciously by the government. (Tachjan, 2006) stated that the characteristics of public problems that are dynamic and interdependent between existing factors require a comprehensive or holistic approach, where existing public problems cannot be separated or measured separately but must be seen in the whole, therefore, because common problems cannot be solved separately and there needs to be effective and efficient solutions, Therefore, a process of problem formulation and public policy determination is needed. (W. N. Dunn, 2015) states that in the public policy process it consists of 5 major processes starting from 1). Agenda Preparation; 2) Policy Formulation; 3) Policy Adoption; 4) Policy Implementation and 5) Policy Evaluation. The first step taken by policymakers is to formulate problems and then put them on the policy agenda. The second step is to organize the identified problems and solutions found in the form of policy development. By considering all options or solutions proposed, the best alternative is chosen which then requires government support, in this case the legislature and judiciary. After getting support from the legislature and other interested parties, the next step is to try to get support from the public and commitman in the implementation of policies to be implemented by the government. The next step in the policy implementation process is to measure the extent to which the policy is implemented according to predetermined provisions based on what is believed to be what can solve the problems faced by the state or society. Not much different from Dunn, Knill & Tale (2008) also states that the public policy process is a variety that goes through 5 interrelated and cyclical stages, namely; 1) Agenda Setting 2) Policy Formulation 3) Policy Adoption 4) Policy Implementation and 5) Policy Evaluation.

As described above, in the public policy cycle or process, the policy evaluation stage takes place at the final stage of the policy process. Evaluation is carried out after the implementation of the policy, although sometimes there is an evaluation process in the planning stage, but in general a policy is determined to be implemented and then evaluated. Even though it is in the final stage, evaluation still plays an important role in a policy process, because from there we can see the effectiveness and impact of a public policy in overcoming a public problem and also the extent to which policy objectives are achieved. Policy evaluation can be interpreted as an activity that aims to assess the extent of the difference between policy objectives or expectations and actual performance that exists in reality.

However, many experts have their own definitions and views on the evaluation process in question. (Zimmerman & Holden, 2019) refer to the definition of the joint committee on educational evaluation standards saying that the process of making a policy evaluation plan involving standards of integrity, appropriateness, usefulness and appropriateness is a complex process that often depends on the ability of intuition, perception and ability of the assessor to refer to the interests of the parties involved. (J. Dunn, 2018) suggests that the term evaluation can be interpreted as interpretation, ranking, and assessment. Evaluation is also related to the meaning of the results of the information produced that contains the value and benefits of the policy. In addition, evaluations provide reliable or valid results regarding the achievement of policy implementation, specifically the extent to which needs, values, and opportunities are met

through public action. Evaluation contributes to the application of other methods of policy analysis, including problem formulation and recommendations. Therefore, although evaluation is associated with policy performance, evaluation has a close relationship with the effectiveness of the overall policy process itself, especially at the policy implementation stage. During the evaluation formulation process, it is usually also concerned with the content of the implementation / action carried out, not only assessing whether the process carried out has fulfilled the previously agreed procedures (Wibawa et al., 2014) stated that the evaluation of activities basically aims to find out aspects of the existing policy-making process, then the policy implementation process, the consequences caused by the policies implemented and also want to know the effectiveness or impact of the policy. Furthermore, it is stated that from the existing objectives, it is expected that the policy evaluation process can produce several functions, including; Explanation / explanation where through the evaluation carried out by the evaluator can describe the causal relationship or generalization process of various observed factors; Compliance / compliance where from the evaluation process carried out it is expected to be seen whether the procedures carried out are in accordance with the policies that have been determined; Audit is a function that is expected to find whether or not there are deviations from policy goals or objectives and the last is Financial & Social Calculations / accounting where it is expected to know the impact of the policy socially and economically.

Researchers chose to use the *Context, Input, Process, & Product (CIPP)* Evaluation Model developed by D. Stufflebeam as an analytical tool in evaluating policies for the development of Household Gas Networks (*City Gas*). The reason for choosing this is because researchers see that the existing CIPP evaluation model allows researchers to conduct a thorough evaluation of the main aspects of existing policies, namely context, inputs, processes and products. The CIPP evaluation model assesses not only policy outcomes but also the policy environment, objectives, plans, resources, and policy implementation (Stufflebeam & Zhang, 2017). This enables CIPP to provide a comprehensive understanding of the Policy. Emphasis on aspects of the policy context in the early stages is also expected to help the author in understanding the background and challenges that affect the implementation of the Policy itself. (Stufflebeam & Zhang, 2017) summarize the basic elements of the CIPP model in three concentric circles. The smallest or innermost circle describes the core values underlying the assessment. The second circle is then divided into four axes of evaluation: goals, plans, actions and results. Finally, the outermost circle describes the appropriate type of evaluation to evaluate the four axes of evaluation, namely *Context, Input, Process, and Product*, which stands for CIPP.



Key Elements of the CIPP Evaluation Model

Sumber: Stufflebeam & Zhang (2017)

Research Methods

Writing is done through literature studies, which involve collecting data from various sources such as studies, reports, publications, books, and news related to the Construction of the City Gas Network. As stated by (Creswell, 2014), literature study is a written summary of journal articles, books, and various other documents that present theories and information related to a particular topic, both from the past and the present. The purpose of this literature study is to find theories and frameworks that are relevant to the issue of policy evaluation, especially in the context of City Gas Network Development in Indonesia.

Results and Discussions

The following is a further explanation of the 4 dimensions in the CIPP evaluation model;

A. Context

The Government through Presidential Regulation Number 18 of 2020 concerning the 2020-2024 National Medium-Term Development Plan (RPJMN), stipulates that one of the 41 National Strategic Priority Projects is to build City Gas Network Infrastructure for 4 Million House Connections. Where the purpose of developing city gas network infrastructure (city gas) is apart from being one of the efforts to maintain energy security, it is expected to save LPG subsidies of Rp. 297.6 billion per year and reduce LPG imports by 603.720 thousand tons per year. The funding plan for this policy is 38.4 trillion rupiah with an allocation of 4.1 trillion rupiah state budget, 6.9 trillion rupiah for SOEs and a Government and Business Entity Cooperation (PPP) scheme of 27.4 trillion rupiah. The gas network development initiative has actually been started since 2009 where in 2010 through Presidential Decree No.19 of 2010 the Ministry of Energy and Mineral Resources was assigned to provide gas network infrastructure for households where at that time the existing financing was through the State Budget.

City Gas Network Development Plan 2020-2030 (Document RUEN 2017)

Some of the stakeholders involved in this policy include;

No	Item	Unit	2020	2025	2030
1.	Home Connection	SR	1.834.000	4.734.000	7.734.000
2.	Indication of Gas Requirements	MMSCFD	30	77	126

No.	Stakeholder	Role
1	Ministry of Energy and Mineral Resources (ESDM)	As a Policy and Regulation Maker in the implementation of Jargas Infrastructure development
2.	BPH Crumbs	As an Agency that determines Gas Distribution Prices and selling prices to Consumers
3	National Development Planning Agency (Bappenas)	Parties who carry out national development planning including setting targets for Jargas weaving with the National Energy Council

4	PT. Pertamina Gas Negara (PGN)	Companies receiving assignments from the Ministry of Energy and Mineral Resources in the Development and also Management of Gas Networks through the APBN, BUMN and PPP schemes
5	Ministry of Finance	Authorities to approve tax incentives, review loan arrangements, provide technical guidance, review government support and guarantees, and recommend maximum value if possible to provide subsidies to Jargas users
6	Local Government	Holder of authority in zoning, spatial planning and licensing for the implementation of Jargas infrastructure development
7	Enterprises	Potential Partner in the Construction and management of household gas networks
8	User	End users of Natural Gas are channeled through Jargas. Consumers are charged tariffs in the form of both household consumer tariffs and small business consumers.

The scope of this Gas infrastructure development based on Presidential Regulation No.6 of 2019 includes::

1. Gas Network Development
2. Gas Network Operation
3. Natural Gas Distribution
4. Natural Gas Network Maintenance.

(Stufflebeam & Zhang, 2017) suggest that at this context evaluation stage , it is expected to find an understanding of the problem to be solved, the history of the policy and environmental conditions that will affect the implementation of existing policies. From what was found, it is clear that the Jargas Development policy involves many stakeholders, but there is no clear role determination and it seems that no party is directly responsible for the success of the existing targets. Identification of needs as well as implementation and funding plans also seems to have no detailed elaboration including consideration of existing risks and mitigations. In addition, several government initiatives that are still being carried out such as the Electric Stove Program and the 3 Kg Subsidy LPG Program where there are no firm restrictions so that when this policy is implemented it appears as an indicator that there is no policy priority to be implemented. The development of Jargas itself should begin with the prioritization of areas that will be carried out infrastructure development, where areas that are not potential and have high

costs do not need to be a priority, but areas that still have potential, for example those that are still newly built so as to facilitate installation without the risk of additional costs because having to install pipes in existing buildings may be a more economical choice.

B. Input

By evaluating inputs, it is hoped that it can help decision makers design strategies, create action plans and budgets, and make changes to achieve goals and meet the needs of beneficiaries. (Stufflebeam & Zhang, 2017). Evaluation of inputs evaluates policy strategies, action plans, staffing plans, and financial plans that support policy feasibility and potential cost-effectiveness in meeting beneficiary needs and achieving policy objectives. The purpose of input evaluation is to evaluate policy plans, projects, service strategies, and work plans, including budget aspects of policy implementation. Evaluation of inputs is carried out by identifying various approaches that can be adapted to existing policy strategies both with regard to the resources needed in policy implementation, budget allocation, technology to be used, regulations and also even political support to ensure the achievement of policy objectives.

In terms of network infrastructure development, the budget plays a very important role where indeed development activities to the maintenance of gas networks that will eventually flow natural gas to the final consumer certainly require a lot of costs (around Rp. 10 million / connection). At the time of budget determination, it has been determined that the costs needed for this implementation will be sourced from 3 budgets, namely the State Budget, SOEs and also the PPP Scheme where the largest source is expected from the PPP scheme and the lowest is from the APBN scheme. But unfortunately this budget planning is not in accordance with reality where what is going on a lot is based on APBN funds while from SOEs are still constrained by the economic calculation of projects and PPP is also constrained by unclear rules governing how private parties or other legal entities can participate in the construction of existing gas networks, not to mention the problem of economic calculations that are less attractive to entrepreneurs. Pihak PT. PGN, which is mandated to boost the development of the household gas network, is also ultimately constrained by organizational capabilities and also the budget to do this, where since the discontinuation of the state budget for the construction of this gas network, the burden is automatically expected from the operational costs of the SOE which will certainly be a burden if it is not managed professionally. In terms of existing regulations, the implementation of this project has a strong legal basis which is indeed included in one of the national strategic projects contained in the presidential decree as mentioned above, but in the existing derivative rules, both in the Decree and the Ministerial regulation, there are still areas that need deeper study. For example, in the ESDM Decree No. 85K/16/MEM/2020 concerning "Assignment to PT. PGN to carry out the supply and distribution of natural gas through natural gas transmission and/or distribution networks for households and small customers" there are still limitations in the development of business cooperation in the development of jargas development and also certainty on licensing status and also reporting mechanisms from PT. PGN to the Minister of Energy and Mineral Resources through the Director General of Oil and Gas, especially in the event of a force *major*.

C. Process

Process evaluation involves assessing the practical steps taken in policy implementation including monitoring, documentation, assessment and also implementation reports. Stakeholders can use the results of the evaluation process to assess how well the policy is implemented and whether the results of the policy are in

accordance with the wishes or considered less than optimal based on the quality of policy implementation implemented.

The implementation of gas network development as mentioned above involves many stakeholders, one of which is the Regional Government, where in this case a special team is needed to oversee the implementation of the gas network so that the advocacy process and also implementation are not constrained by existing regulations such as the imposition of regional levies which will actually make the value of this project more uneconomical. It takes collaboration and coordination between PT. PGN as the recipient of the mandate to build Jargas with local governments and also regional business entities, for example to carry out the development and operation of jargas infrastructure. From the existing historical data, the average network builder since 2019 is 100 thousand SR per year, so looking at this data it is rather difficult to be able to achieve the target of connecting jargas of 4 million SR. In addition, the main obstacles in the form of economic value between the selling price at the end consumer and the purchase price of gas (which has been set by BPH Migas) and the cost of Jargas Development are things that need to be evaluated continuously in order to support the realization of the target of this jargas development assigned to PT. PGN. So the synergy between the central government, SOEs and also local governments is a significant factor in influencing the success of achieving targets both in the process of identifying and resolving obstacles in the field as well as constraints on rules and tariffs that have not supported the economics of this policy.

D. Product

(Stufflebeam & Zhang, 2017) mentioned that product evaluation is carried out to identify and evaluate the costs and impact results of policies, both planned and unplanned, short-term or long-term, and those that bring negative or positive results. Product evaluation is used to evaluate cost-effectiveness, how well the program meets the needs of beneficiaries and what are the results of the policies implemented. Where the information obtained can be used to determine whether a policy is indeed feasible to be continued and developed, or even the policy needs improvement or even stopped and replaced with another policy that is considered more feasible. In this regard, there are several important questions related to product evaluation that can be answered: 1) Have the policy results succeeded in achieving their goals? 2) Do policy outcomes meet needs and address problems? 3) What are the side effects of the policy? 4) What positive and negative consequences does the policy bring? 5) Is the success of the policy worth the cost?

Furthermore, (Stufflebeam & Zhang, 2017) divides the product evaluation dimension into four subdimensions. The four sub-dimensions are::

1. Impact refers to the accuracy of policy objectives to determine whether a policy has achieved beneficiary goals, document and evaluate which parties benefit from the policy, and document the impact of the policy on society.
2. Effectiveness, this evaluation assesses how effectively the results of existing policies can meet the needs and overcome existing problems, this is seen from cost effectiveness and also other aspects.
3. Sustainability, to assess how far existing policies can survive and run over time.
4. Transportability (adaptation and application elsewhere), this evaluation looks at how existing policies can be adapted and applied elsewhere.

From the results of the achievement of natural gas network connections in 2022, where only around 871 thousand connections have been installed out of the planned SR 4.7 million, it appears that the products expected to be accepted by the target consumer

have not met expectations, the expected benefits in the form of cheaper, safer and cleaner energy prices for the community have not been fulfilled where on the other hand the value of energy subsidies for LPG provision is still relatively large, where in 2023 it is still budgeted recorded at Rp. 117 trillion which actually this value can be used for the development of a more productive economic sector.

There are still doubts about the direct benefits of using old gas through jargas in the community and the level of socialization that has not been optimal compared to the kerosene conversion program makes public acceptance still not as expected. The success and success stories of the use of natural gas by people who have already enjoyed the results of gas network development should be used as an example for the community to learn about the perceived safety and practicality benefits. On the other hand, there is no firm restriction on the distribution of LPG 3Kg subsidies still provide a convenient option for the public to not switch to natural gas products for daily needs, so that existing products have not become the main choice in fulfilling daily energy for the community or even small businesses and parties who should not be entitled to use subsidies from existing 3Kg LPG.

Share PT. PGN as a state-owned enterprise assigning high investment costs to provide existing network infrastructure networks is not comparable to the rate of return from the tariff that will be received for the use of natural gas by consumers where the current price has been set at Rp.10,000/M3. The relatively low level of use by household consumers needs to be accompanied by sales to business consumers to ensure that the installation investment costs that have been incurred can provide a good economic level, although indeed this also needs to be supported by a policy to provide natural gas purchase rates on the upstream side where PGN expects to buy gas at a price of US \$ 4.72 / mmbtu compared to the purchase price of around US \$ 6.5-7 / mmbtu to support The development of a more massive gas network, attractive economic value and ultimately can provide competitive selling power for end consumers and ensure that this policy can continue so that the objectives of resilience and optimization of the energy mix and the allocation of appropriate and more effective subsidies expected by the government can be achieved.

Conclusion

The results of the evaluation of the implementation and achievement of the target of the jargas development policy contained in Presidential Regulation No. 18 of 2020 which is also contained in the Medium-Term Development Plan (RJPMN) as one of the national strategic projects using the CIPP model produce the following conclusions;

From the evaluation of the existing policy context, it has gone through the stage of target preparation and needs analysis carried out by regulators and several policy stakeholders, but it does not appear to have been accompanied by the process of making clear target achievement measures as well as risk consideration analysis and monitoring of the achievement of existing targets. There are still several other policy initiatives running that are considered to be obstacles to achieving policy targets, being one example of the absence of a policy prioritization process.

Referring to input evaluation, it can be seen that the preparation of policy strategies, the planned policy period and budget seems difficult to implement, the role of PPP and SOEs which are expected to play a greater role in financing in reality has not played much role, which is exacerbated by legal obstacles with the lack of clarity of rules and laws for the involvement of business entities in PPP schemes in achieving existing targets. The problem of determining selling prices and also the economics of the project is one of the

things that also hinders SOEs from optimally carrying out existing assignments, in addition to the limited resources of other organizations.

Evaluation of the process that looks at the implementation of the policy itself and the interim achievement of the target until 2022 which is still far below expected, shows that there is a mismatch between the plan or target set and the ongoing implementation. The involvement of many queues in policy implementation also brings its own challenges, where unclear roles and lack of coordination and weak monitoring processes result in no anticipatory steps for lagging policy implementation targets that should be predicted every year and alternative solutions are sought. Synergy between the implementation of policy implementation mandates such as PT. PGN and local governments also need to be improved to facilitate the process of building existing network infrastructure.

With regard to the evaluation of products resulting from this Policy, namely the use of natural gas through gas networks to consumers, it also seems that the impact felt by the community has not been optimal due to development that has not reached the target. Socialization and promotion of the use of natural gas that is not yet massive and there are still many alternative choices for energy use such as 3kg Subsidy Gas which is indeed cheaper for the community can also be included as one of the factors that need to be considered in the future so that the final product of the policy can be more beneficial for the community and also for the state.

References

- Creswell, J. W. (2014). *A Concise Introduction To Mixed Methods Research*. SAGE Publications.
- Dunn, J. (2018). *Setting The People Free: The Story Of Democracy*. Princeton University Press.
- Dunn, W. N. (2015). *Public Policy Analysis*. Routledge.
- Dye, L., Boyle, N. B., Champ, C., & Lawton, C. (2017). The Relationship Between Obesity And Cognitive Health And Decline. *Proceedings Of The Nutrition Society*, 76(4), 443–454.
- Howlett, M., & Cashore, B. (2020). The Dependent Variable Problem In The Study Of Policy Change: Understanding Policy Change As A Methodological Problem. In *Theory And Methods In Comparative Policy Analysis Studies* (Bll 154–167). Routledge.
- Rawat, A., Gupta, S., & Rao, T. J. (2021). Risk Analysis And Mitigation For The City Gas Distribution Projects. *International Journal Of Energy Sector Management*, 15(5), 1007–1029.
- Sa'diyah, H., Thamrin, S., & Kuntjoro, Y. D. (2021). Analisis Percepatan Pencapaian Target Jaringan Gas Kota Untuk Mendukung Ketahanan Energi Nasional. *Ketahanan Energi*, 7(2).
- Stufflebeam, D. L., & Zhang, G. (2017). *The CIPP Evaluation Model: How To Evaluate For Improvement And Accountability*. Guilford Publications.
- Tachjan. (2006). *Implementasi Kebijakan Publik*. APII Bandung.
- Vikalista, E. (2016). Implementasi Kebijakan Konversi Minyak Tanah Ke Lpg (Liquified Petroleum Gas) Di Kecamatan Banjarmasin Utara Kota Banjarmasin. *Jurnal Ilmu Politik & Pemerintahan Lokal*, 1(2).
- Wang, M., Wang, J., & Tian, F. (2014). City Intelligent Energy And Transportation Network Policy”“Based On The Big Data Analysis. *Procedia Computer Science*, 32, 85–92.
- Wibawa, S., Purbokusumo, Y., & Pramusinto, A. (2014). *Evaluasi Kebijakan Publik*. PT Raja Grafindo Persada.
- Wiratmadja, I. I., Govindaraju, R., & Handayani, D. (2016). Innovation And Productivity In Indonesian It Clusters: The Influence Of External Economies And Joint Action. *International Journal Of Technology*, 7(6).
- Yadav, K., & Sircar, A. (2022). Modeling Parameters Influencing City Gas Distribution Sector Based On Factor Analysis Method. *Petroleum Research*, 7(1), 144–154.
- Zimmerman, M. A., & Holden, D. J. (2019). *A Practical Guide To Program Evaluation Planning: Theory And Case Examples*. SAGE Publications Inc.