



# *Regulation On-Grid Rooftop Solar Power Plant: Is There Any Commitment to Energy Transition?*

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**Abstract**—The elimination of the mechanism for calculating the export-import of electricity from rooftop solar power plant users is allegedly able to reduce public interest in using it, which can hamper Indonesia's primary energy mix target in the form of renewable energy. This condition is not in line with the objectives of the 2017-2050 National Energy General Plan or *Rencana Umum Energi Nasional* (RUEN). This research analyses whether the rooftop solar photovoltaic (PV) regulation has validity, inner morality, and is in accordance with the principle of legality or not to be enforced. This normative legal research uses primary legal materials (laws and regulations on Rooftop Solar Power Plant Systems and in particular the Minister of Energy and Mineral Resources or *Energi dan Sumber Daya Mineral* (ESDM) Regulation on Rooftop Solar Power Plant Connected to the Electricity Network of Holders of Electricity Supply Business Permits or *Izin Usaha Penyediaan Tenaga Listrik* (IUPTL) for the Public Interest) and secondary legal materials (books, journals, proceedings, reports, and other scientific articles). The technique that used on this research is library research. As a result, the regulation of Rooftop Solar Power Plant Systems in Indonesia has not fulfilled the 8 principles of legality, which means that it does not have the inner morality of law, so it does not have the validity to be enforced. The principles that are not fulfilled are the clarity of law because of the unclear objectives of the contradictory objectives between laws and regulations, no contradictions in the laws, which are not in accordance with the principles of energy management, and congruence between the official action and declared rule because the government does not understand the need to maintain these objectives, thus passing laws and regulations with contradictory objectives. The government does not have to abolish the electricity export-import calculation mechanism but can still apply it with percentage or capacity provisions. This will be able to significantly encourage the achievement of the level of primary energy mix in the form of New Renewable Energy in Indonesia.

**Keywords**— Rooftop PV; Energy Transition Commitment; Electricity Import Export; Solar Energy.

## I. INTRODUCTION

Renewable energy resources, one of which is sunlight, are natural resources and it should be used to the greatest extent for the prosperity of the people in Indonesia accordance with Article 33 paragraph (3) of the 1945 Constitution. Law 30 of 2007 or Energy Law further regulates this matter, especially related to the utilisation of renewable energy sources of sunlight in Article 12 paragraph (1) of Government Regulation 79 of 2014 on National Energy Policy or *Kebijakan Energi Nasional* (KEN) which confirms one of the main policy strategies is

the use of solar cells in households. KEN becomes the reference for the government to make National General Energy Plan or RUEN and also the National Electricity General Plan or known as *Rencana Umum Ketenagalistrikan Nasional* (RUKN). The policy is further contained in Presidential Regulation 22/2017 on RUEN 2017-2050. In Appendix I of National General Energy Plan or RUEN 2017-2050, solar energy has a potential of 207,898 MW or 4.80 kWh/m<sup>2</sup>/day which dominates over geothermal 29,544 Megawatt (MW), hydro 75,091 MW, hydro 19,385 MW, bioenergy 32,654 MW, wind 60,647 MW, and marine 17,989 MW. Indonesia's total renewable energy potential is 443,208 MW and only 1.9% has been utilised.[1][2] RUEN targets the development of renewable energy at least 23% of the total primary energy mix by 2025. However, the target will be revised to 17-19% as it only reached 13.1% or 238.1 million barrels of oil equivalent (MBOE in 2023. Coal (40.46%), oil (30.18%), and natural gas (16.28%) still dominate the energy mix. [3]

To achieve the target, the Government of Indonesia inaugurated the regulation of Rooftop Solar Power Plant System to be developed for a projected 6.5 GW in 2025 and then 45% in 2050 or 22% of the potential 207.9 GW by enforcing the obligation to utilise solar cells at least of 25% of the roof area of the luxury houses. To implement this, that Minister Regulation 49/2018 on the Use of Rooftop Solar Power Plant Systems by state electricity company named PT Perusahaan Listrik Negara (PLN) (Persero) consumers was issued, which was amended by that Minister Regulation 13/2019 and amended by that Minister Regulation 16/2019, revoked by that Minister Regulation 26/2021 on Rooftop Solar Power Plant Connected to the Electric Power Network of IUPTL Holders for Public Interest and revoked last time by that Minister Regulation 2/2024 on Rooftop Solar Power Plant Connected to the Electric Power Network of Holders of Electricity Supply Business Permits or named IUPTL for Public Interest.

The applicable regulation and the focus of discussion in this article is that Minister Regulation 2/2024 because it eliminates the provisions of: (1) capacity limitation; (2) export-import of electrical energy; (3) capacity fee; and (4) development quota of rooftop solar power plant. The emergence of that Minister Regulation 2/2024 is a response to the existing condition that the number of rooftop solar PV utilisation in the household sector is not directly proportional to the decline in its price.[4] [5] The scope of regulation includes application and licensing for use, construction and installation, inspection and testing, provision and installation of advanced meters, parallel operation fees, complaints, reporting, guidance, supervision of Rooftop Solar Power Plant Systems, and others.

Rooftop solar PV has been in high demand since the issuance of that Minister Regulation 49/2018 but has declined since 2022.[6] The reason is an internal memo from PT PLN (Persero) limiting the capacity of rooftop solar power plants to a maximum of 15% of PT PLN's (Persero) electricity capacity when it should be 100% according to that Minister Regulation 26/2021.[7] Seeing these conditions and the planned revision of the New Renewable Energy development target of at least specifically 23% of the total primary energy mix in 2025 to 17-19% because it only reached 13% in 2023, shows that Indonesia has not been able to commit to energy transition. Both actually hinder public participation and Indonesia's New Renewable Energy target achievement. This is because the attraction of using rooftop solar power plants is the electricity import-export mechanism, where when electricity production exceeds demand, energy enters the IUPTLU network and reduces PLN's electricity bill for 6 months.

The main reason for the elimination of the export and also the import of electrical energy is the oversupply of electricity by PLN.[8] PLN is burdened because it not only has to pay for import-export calculations, but also has to continue operating for the electricity needs of non-users of rooftop solar power plants. For example, a Rooftop PV customer uses 1 MW but the quota it gets is 10 MW, meaning 9 MW is exported to PLN and PLN has to pay 10 cent/kWh. This adds to the subsidy compensation from the State Budget, which is detrimental to the state's finances.[6]

Based on this description, the regulation of the Rooftop Solar System is considered to reduce public interest, uncompetitive prices, not obtaining a break even point of 4-5 years [9] for the costs it incurs. The significant impact of the deletion is that Indonesia's primary energy transition target fails to be achieved, so that Indonesia's commitment to the 2060 net zero emission energy transition is questioned. Regulations that should make it easier to achieve the primary energy transition target from New Renewable Energy actually open up opportunities for failure.

In this regard, this regulation needs to be further identified with the 8 principles of legality by Lon L. Fuller which are able to show whether the that Minister Regulation 2/2024 has the validity of inner morality and the principle of legality or not to be enforced. This principle needs to be used as an analytical knife because if it does not fulfil the principles: first, The Generality of Law then it is not worth complying with. Second, Promulgation then the rules cannot be known so they cannot be obeyed. Third, No Retroactive Laws then the rules cannot be enforced and lead to arbitrariness. Fourth, The Clarity of Laws, the rules fail to be understood, are unclear, cannot be obeyed, and trigger arbitrariness. Fifth, No Contradictions in the Laws, the rules will have goals that conflict with other rules so that they are difficult to enforce and fail to achieve their goals. Sixth, No Laws Requiring the Impossible, rules are difficult to comply with because they require something that is impossible. Seventh, Constancy of the Law Through Time, there is 'legislative impermanence' and it becomes a problem for people who are not easily informed. Eighth, Congruence between Official Action and Declared Rule means, the rule is

subject to misinterpretation, unavailability of the law, lack of knowledge of what is necessary for the purpose of the law to be maintained, lack of government integrity, and/or other things, so that if it conflicts, it cannot be applied properly to achieve the country's goals.

## II. LITERATURE REVIEW

### A. *Energy, Energy Sources, Energy Resources, Renewable Energy Sources, Renewable Energy, Primary Energy, and Final Energy*

Energy in a simple way known as the ability to do work. Energy can be in the form of heat, light, chemistry, mechanics and also electromagnetics. An energy source is something that can produce energy. This means that an energy source is something that can produce things that are capable of doing work. An example of an energy source is sunlight that produces heat energy. Energy resources are natural resources that can be utilised both as a source of energy and as energy. This means that energy resources are natural resources that can be utilised as the source of something capable of doing work, or as the ability to do work itself.

Next, new energy sources are known as energy sources that can be produced by new technologies. This energy sources can come from renewable energy sources and non-renewable energy sources. This means that the point of understanding new energy sources is in the new technology that is supported by both renewable and non-renewable energy. Examples include nuclear, coalbed methane, hydrogen, liquefied coal and gasified coal.[10]

In addition, renewable energy sources are energy sources produced from energy resources that are sustainable if managed properly. Examples include geothermal, bioenergy, sunlight, wind, water flow and fall, and the movement and temperature difference of the ocean layer. Furthermore, renewable energy is energy that comes from renewable energy sources. An example is sunlight that produces heat and light energy that can become electrical energy. Another example is geothermal [11] which produces heat energy so that it can become electrical energy.

Meanwhile, primary energy is energy provided by nature and has not undergone further processing. Examples are geothermal, coal, natural gas, and petroleum. Unlike primary energy, final energy is energy that can be directly consumed by end users. Examples of final energy are electrical energy, processed fuels (diesel, premium, kerosene), LPG, etc.

### B. *Rooftop Solar Power Plant System*

Rooftop Solar Power System is a power plant with PV modules that are installed and then placed by the customers on the parts of their houses like walls, roofs, or other parts of the building that owned by customers and distributes electrical energy through the Rooftop Solar Power customer's electricity connection system. Rooftop PV is a power plant using new and renewable energy that is intermittent [12] [13] and changes based on its primary energy, sunlight. In addition to solar power plants, intermittent power plants are wind power plants.

### C. *Principles of Legality by Lon. L. Fuller*

Lon. L. Fuller is a legal philosopher who wrote *The Morality of Law* regarding law and morality. Fuller explains about the inner morality of law that binds the actual legal system. The inner morality of law is derived from the idea that law is an instrument to regulate and control humans as agents who are able to consider and choose. Therefore, rules should apply forwards, so that humans are able to determine their behaviour. Rules should also be clear and can be obeyed and apply to the public. The coercive nature of the law means that it should have morality, otherwise it is not worth obeying. This inner morality ensures that every legal system is fair, if it is not fair in terms of fundamental morality, then it is not obliged to be obeyed. This is because morality, which was not originally a binding legal rule and then incorporated into a rule, should be obeyed because of its morality.

However, Fuller recognises that there are also laws that are inconsistent with inner morality. Sometimes rules that are not morally good do not necessarily lose their validity. Fuller recognises that legal products may not have inner morality validity, but they are right according to social goals. Fuller conveyed 8 ways inner morality fails is not fulfilling the 8 principles of legality, namely:[16] The Generality of Law, Promulgation, No Retroactive Laws, The Clarity of Laws, No Contradictions in the Laws, No Laws Requiring the Impossible, Constancy of the Law Through Time, and Congruence between Official Action and Declared Rule. These eight principles are interrelated and are means to an end. Fuller argues that deviation from one desideratum requires an adjustment of the others.

## III. METHOD

This legal research uses a statutory approach. Legal research is conducted to solve legal issues that arise. The statutory approach is examining all regulations related to the issue under study.[17] This approach will examine whether there is consistency and compatibility between laws and regulations or basic laws with laws and regulations that are hierarchically below them. The research is prescriptive in nature. Primary legal materials used in this research are Law 30/2007 on Energy as the legal basis for the use of solar energy, Law 79/2014 on KEN

which is a reference for the formation of Presidential Regulation 22/2017 on RUEN, Law 30/2009 on Electricity as the legal basis for the use of solar energy in the electricity sector, Government Regulation 62/2012 on Electricity Support Services Business, Government Regulation 14/2012 on Electricity Supply Business Activities in conjunction with Government Regulation 23/2014, that Minister Regulation 26/2021 on Rooftop PV Connected to Power Grid of Business License Holder for Public Power Supply, and that Minister Regulation 2/2024. Meanwhile, secondary legal materials in this research are books, journals, proceedings, and scientific articles related to the issue. The technique of collecting legal materials is library research in accordance with the research approach conducted.

#### IV. RESULT AND DISCUSSION

##### A. Regulation of Rooftop Solar Power Plant Connected to the Electricity Network of IUPTLU Holders

Heat and light energy from the sun is one of the most promising renewable energies because it is inexhaustible, sustainable, and has high potential. Popular solar energy technologies are solar power plants and solar thermal systems. In short, solar power plants utilise solar energy with PV which is a special semiconductor diode that converts sunlight into direct current electricity. It is then connected to the electricity grid and powers the appliances in the house. It can be installed anywhere including on the roof.[12] The use of renewable energy to generate electricity is a viable alternative to protect the environment.[18] This is because electricity is a vital energy that can be used for social and even for the economic development in the modern era but must also minimise environmental pollution.[19] This means that the planning and management contained in the regulations also need to be considered well.

Factors causing rooftop solar power to be prioritised to boost Indonesia's total renewable energy mix [20] is because it is faster to build than hydro and geothermal power plants [21]; has the lowest death rates per unit due to accidents and air pollution compared to other energy sources. The average number of deaths due to solar energy sources is 1 person per 50 year; nuclear 1 person per 33 year; wind 1 person per 25 year; water 1 person per year; natural gas 3 people per year; and coal 25 people per year [22]; and solar power play a strategic role in accelerating the energy transition and reducing carbon emissions,[23] so that it is expected to reach the Net Zero Emission target 2060 faster [24]; sunlight is an abundant source of energy [25] and high because Indonesia is located on the equator line [14]. Therefore, sunlight is the 'backbone' of the New Renewable Energy mix and is even relied on by many 49% of countries in the world to reduce the 2030 climate change risk. Meanwhile, wind, geothermal, and nuclear energy are even less, namely 35%, 7%, and 5% of 166 countries that have updated their Nationally Determined Contributions or NDCs or state commitments to reduce carbon emissions and adapt to climate change, respectively.[26] Not only that, rooftop solar panels are also able to reduce PT PLN (Persero) electricity bills by around 25-35% per month, fast installation, easy application and maintenance because they can function properly even without cleaning for 3 years, and so on. This demonstrates the strategic role of solar power in accelerating energy transition efforts.[23]

Regulations related to solar power plant in Indonesia begin with Law 30/2007 on Energy, Law 30/2009 on Electricity, Government Regulation 62/2012, Government Regulation 14/2012, and that Minister Regulation 2/2024 on Rooftop Solar Power Plant Connected to the Electricity Network of IUPTLU Holders. Some of the provisions from that Minister Regulation 26/2021 that are deleted in that Minister Regulation 2/2024 are: *First*, related to capacity limitation, Article 12 of that Minister Regulation 2/2024 determines that the capacity of Rooftop Solar Power Plant in the business area of IUPTL holders for public interest is no longer 100%, but is adjusted to the needs of prospective customers based on development quotas. The development quota is a new provision in this ministerial regulation. This means that the development quota for rooftop solar power plants can now no longer be 100% of PLN's electricity capacity, but in accordance with the needs of potential customers based on the development quota according to the cluster that has been determined by the IUPTL holder based on the development quota set by the Director General of Renewable Energy or called *Direktorat Jenderal Energi Baru Terbarukan dan Konservasi Energi* (Dirjen EBTKE) and Energy Conservation and also the Director General of Electricity.

*Second*, the elimination of the electricity import-export calculation mechanism. So, that Minister Regulation 26/2021 contains regulations regarding Rooftop Solar Power Plant Systems which include safety systems, solar modules, electrical connections, inverters, and export-import kWh meters. The export-import kWh meter is a static or electronic meter capable of detecting and also measuring export-import, and net energy and electricity quantities in accordance with the net metering principle [27][28]. The export kWh or export Kilowatt-hour is the electrical energy transmitted from the Rooftop PV customer installation system to the IUPTL holder's network system recorded on the export-import kWh meter. Conversely, import kWh is the amount of electrical energy received by Rooftop PV customers from the IUPTLU holder's grid system which is also recorded on the import-export kWh meter.

The mechanism for calculating the export-import of electrical energy is a calculation based on the value of export and import kWh recorded in the export and import kWh meter and then multiplied by 100%. This calculation is carried out per month based on the difference in the value of imported kWh with exported kWh. If

the amount of exported electrical energy is bigger than the imported energy in the current month, then the excess difference will be accumulated and then will be calculated as a deduction from the following month's electricity bill, which benefits Rooftop Solar Power Plant customers. The calculation of the excess difference as a deduction from the electricity bill in the following month is valid for 6 months and is carried out in the period: January-June and netted in July of the current year; and July-December and netted in January of the following year. Then, the IUPTL holder is obliged to report the use of rooftop solar power plant to the minister through the Director General of EBTKE with a copy that will be send to the Director General of Electricity for each tariff class in each electricity system area. The report shall be submitted per month containing data on the number of customers; data on the number of applications and total capacity of the Rooftop Solar System; total exported and imported electrical energy. The Minister through those Directors shall provide guidance and supervise the implementation of Rooftop Solar Power Plant System.

*Third*, the elimination of capacity fees. Under that Minister Regulation 26/2021, Rooftop Solar Power Plant systems built and installed by customers are not subject to the capacity fee which is part of the parallel operation fee. However, if the rooftop solar power plant is built and installed by a rooftop solar power plant customer from the tariff group for industrial use, it is still subject to a capacity fee which is part of the parallel operation fee. The fee is paid monthly and is calculated based on the calculation of the total inverter capacity in kW times 5 hours times the electricity tariff. The elimination of the capacity fee is an effort to increase the attractiveness of the community to continue using rooftop solar power plants through that Minister Regulation 2/2024. In addition, there is also the elimination of parallel operation fees in it.

*Fourth*, as mentioned earlier, the additional provision of rooftop solar power system development quota is related to IUPTLU holders who are obliged to prepare rooftop solar power system development quota for each system. This development quota is compiled for a period of 5 years which is detailed per month. This development quota is proposed to the Director General of Electricity with a copy of the Director General of EBTKE equipped with a technical study. The proposed development quota is then evaluated by Director General of Electricity by involving Director General of EBTKE and may also involve related ministries/institutions and/or local government. Then, the Director General of Electricity shall determine the quota of rooftop solar PV system development within 1 month since the quota proposal is submitted and in December before the current year after the quota proposal is submitted. The quota determination is then submitted to the IUPTL holder. The IUPTL holder then compiles the rooftop solar PV system development quota based on clustering (PLN UP3 or city/district level). The development quota must be reported to those Directors and published to the official website, application, and/or social media of the IUPTL holder within a maximum period of 10 working days after the Rooftop Solar System development quota is determined. IUPTL holders can actually propose changes to the development quota with the same proposal mechanism. Then, if the rooftop solar PV system development quota at the end of the current year is still available, it will be added the following year. However, this attraction has been eliminated by a new regulation that revokes that Minister Regulation 26/2021, namely that Minister Regulation 2/2024. The electricity import-export calculation mechanism was abolished because of the oversupply of electricity faced by PT PLN (Persero), which has increased costs. This change is likely to reduce public interest in the use of rooftop solar power in household sector.

With regard to this description, it is necessary to further identify the validity of the enactment of that Minister Regulation 2/2024 with 8 principles of legality by Lon L. Fuller so that it can be known that the regulation of rooftop solar power plants has the inner morality of law or not. In relation to the *first* principle, The Generality of Law, Lon L. Fuller said that the general requirement to subdue human behavior is the existence of rules. Such rules must be definable, fair, extensible, generally applicable, and purposeful. In the inner morality of law, the obligation to be just or not is secondary to the existence of rules [16], [29] The that Minister Regulation on Rooftop Solar Power Plant Connected to the Electricity Network of IUPTLU Holders fulfills this first principle. This is because the regulation has been established, is fair, can be developed, applies to the public, and has the aim of continuing to implement the Rooftop Solar Power Plant program targeted at 3.6 GW in 2025 which is adjusted to the ability of the community and PLN to accommodate it.[30]

With regard to the *second* principle, Promulgation, Jeremy Bentham said that although understanding the law is difficult for some people, at least the government should strive for it as much as possible. Lon L. Fuller asserted that the law should be given adequate publication space as well as possible so that it can be criticized by the public.[31] Otherwise, there will be no oversight of the disregard of the law by the authorities. The ministerial regulation on rooftop solar power plants has fulfilled this principle. This is because it has been published as well as possible so that the public can easily access it, including the customers of the rooftop solar power plant.

The *third* principle is No Retroactive Laws, which means that retroactive laws are a bad thing. This is because the law is to regulate human actions in the future. Fuller said, this retroactive effect undermines the principle of legality, becomes a means of arbitrariness, and an empty narrative because it regulates human behavior yesterday and punishes humans with tomorrow's rules.[32] This regulation on Rooftop Solar System has fulfilled this principle. This means that it does not apply retroactively so that it does not contradict the principle of legality and does not constitute empty prose or narrative.

The *fourth* principle is The Clarity of Laws. The principle of clarity is the most important principle. Unclear and incoherent rules make them unenforceable, or at least unenforceable in the absence of illegal changes (against the rules) and that undermines the validity of the law. Rules must be very well understood and clear. Because dubious clarity can be more damaging than outright vagueness. Sometimes the best way to achieve legal clarity is to incorporate common standards of judgment that grow in society into it.[32]

Clarity in the regulation of Rooftop Solar Power Plant Systems in Indonesia contains uncertainty. This means that this principle is not fulfilled, so the regulation of Rooftop Solar Power Plant in Indonesia does not have the inner morality of law. This can have an impact on other principles because Fuller said that ignoring one desideratum can burden other desideratums. The reason this principle is not fulfilled by the regulation of rooftop solar power plants in Indonesia is that it has contradictory objectives with Indonesia's energy mix target contained in Presidential Regulation 22/2017 on RUEN 2017-2050 which determines that Indonesia's energy mix target in the form of New Renewable Energy is 23% by 2025 and has the potential to thwart it. The contradictory regulation is the elimination of the electricity export-import calculation mechanism that benefits the public.

This elimination also contradicts the principles of energy management in the form of the principle of usefulness which must meet the community's needs, and the principle of equitable efficiency which emphasizes that in managing energy must achieve equitable access to energy at economical and also affordable price, the principle of increasing added value, namely in managing energy must achieve optimal economic value, the principle of public welfare, namely energy management must achieve the greatest public welfare, and then the principle of national resilience, namely in managing energy must achieve national capabilities because even if it is enacted, the state is still able to implement it. If this regulation is still enforced, then this regulation contradicts the objectives of National General Energy Plan or RUEN 2017-2050 as well as these principles.

The *fifth* principle is No Contradictions in the Laws. This principle explains that contradictions in a law may be difficult to detect or one cannot define a contradiction. Fuller considers the easiest way to identify it is in the logic of thinking. Contradiction is a violation of the law of identity, which is when A cannot be A and must be A. To overcome contradictory laws, Fuller said to use *lex posterior derogat legi priori*. But what needs to be understood is that legislative carelessness is very detrimental to legality and it is not easy to undo the damage it causes.[16]

In regulating rooftop solar PV systems, the adage *lex posterior derogat legi priori* cannot be used. This is because, although that Minister Regulation 2/2024 is more recent, Law 30/2007 contains principles of energy management that are actually opposed in the regulation of that Minister Regulation 2/2024. This contradiction in regulation has also been described in the previous principle related to legal ideals. The that Minister Regulation 2/2024 wants to continue to implement the use of rooftop solar PV including in the household sector in accordance with the country's 'ability', but National General Energy Plan or RUEN 2017-2050 has goals that can be hampered or even failed to be achieved by the that Minister Regulation 2/2024. This contradiction in objectives is such that the level of Indonesia's primary energy mix in the form of New Renewable Energy may not increase significantly.

The sixth principle is No Laws Requiring the Impossible, which means that when the law requires the impossible, it is absurd. This kind of law creates arbitrariness and helplessness that makes the legal subject know there is nothing that can be demanded from it. The regulation is impossible to comply with, incomprehensible, has not been promulgated so it cannot be complied with, etc.[16] The regulation of rooftop solar power plants does not demand the impossible. Although there are changes in the form of deleting provisions regarding capacity limits, export-import of electrical energy, and capacity fees, as well as adding provisions for quotas for the development of rooftop solar power plants, and differences in objectives and potentially hampering the objectives of other laws and regulations, namely Perpres 22/2017 concerning National General Energy Plan or RUEN 2017-2050, this can still be enforced.

Next is the *seventh* principle, Constancy of the Law Through Time. This is through time is an important principle. This is because laws that change frequently will cause great harm. Laws that change too often and that apply retroactively are 'legislative impermanence'. [32] The regulations regarding rooftop solar systems do not change too often. Rooftop PV was initially regulated more specifically in that Minister Regulation 49/2018 and then amended by that Minister Regulation 13/2019, that Minister Regulation 16/2019 revoked by that Minister Regulation 26/2021 and revoked again by that Minister Regulation 2/2024. This regulation does not change often as changes only occurred twice in 2019, once in 2021, and once in 2024. Therefore, the Rooftop Solar Power Plant regulation fulfills this principle.

The last or eighth principle is Congruence between Official Action and Declared Rule. This principle is the most complicated one. This is because congruence between government action and legislation cannot take place when there is misinterpretation, unavailable law, lack of insight into what is needed to keep and maintain the objectives of the law, prejudice, bribery, differences, personal interests, and so on.[31] Therefore, Fuller says, deviations from one desideratum affect the others and require adjustment. Fuller states that if the law is to achieve its purpose, it must fulfill the requirement of "conformity". It means, there's consistency between the actions of the enforcers and the norms promulgated. If the lawgiver's pronouncements are not enforced, either due to the incompetence or even intention of those charged with enforcing the law, then the law lacks inner morality.

The regulation on Rooftop Solar Power Plant Systems in Indonesia has not fulfilled this principle. This is because there are different objectives between one law and another. The government also does not understand what is needed to maintain these legal objectives. The difference in interests between the benefits obtained by PT PLN (Persero) is one of the bases for the formation of that Minister Regulation 2/2024 because instead of prioritizing the achievement of the level of primary energy mix in the form of Indonesia's New Renewable Energy, the government actually provides a loophole for this goal to be achieved more slowly or even fail and prioritize the income received by PT PLN (Persero). Whereas it can be known that the use of rooftop solar power plants is also more environmentally friendly than the use of coal.[33]

## V. CONCLUSION

Based on this description, it can be seen that the Minister Regulation of the Rooftop Solar System in Indonesia has not fulfilled the 8 principles of legality, which means that it does not have the inner morality of law, so it does not have the validity to be enforced. The regulation of Rooftop Solar Power Plant Systems in Indonesia does not fulfil the principles of clarity of law, no contradictions in the laws, and congruence between the official action and declared rule because of the unclear objectives of the contradictory objectives between one legislation and other laws and regulations, not yet comprehensively following the principles of energy management, and the government that does not understand the need to maintain these objectives, thus passing laws and regulations with contradictory objectives. The government does not have to abolish the electricity import-export calculation mechanism but can still apply it with percentage or capacity provisions. This will be able to significantly boost the level of the primary energy mix in the form of New Renewable Energy in Indonesia.

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