

# Roof Top Solar Power and Legal Certainty of the Renewable Energy for the Society

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**Abstract:** Indonesia is a country that is given the gift of solar energy that shines throughout the year which provides many benefits for the community. With the abundance of solar energy, it is an asset for the community to develop cheap and environmentally friendly types of energy. Rooftop PLTS is here to provide a solution as an alternative to the use of conventional electrical energy. However, the use of Rooftop PLTS cannot be implemented properly because the legal regulations are not clear. There is a conflict of norms that occurs between the interests of promoting new and renewable energy with the interests of PLN, which is oriented towards fulfilling the profits of SOEs. Reject This interest will result in losses for the community and will not break energy dependence on electricity supply from fossil fuels. Therefore, legal certainty is needed for the community regarding the need for achieving clean, environmentally friendly, and sustainable energy as the G-20 vision.

## 1 INTRODUCTION

Indonesia is a very potential electric power market considering the vast area and large population with high activity and mobility. With the high activity in a developing country, Indonesia requires a very large amount of energy, especially electrical energy that is able to support human daily activities. However, the national electricity needs are often not sufficient and tend to become a cost center for the community and the business world.

So far in Indonesia, the scope of electrical energy supplied from PLN is the conventional energy output produced from fossil fuel power plants, namely coal. In the concept of new and renewable energy, the emission from fossil combustion is very unprofitable. Therefore, the Government of Indonesia began to launch the One Million Solar Roof Program to become an alternative source of clean and environmentally friendly energy.

The government gives freedom to the community to install PLTS Roof while still regulating its use. It aims to increase the role of new and renewable energy (EBT) in the national energy mix. In addition to accelerating the increase in the use of solar energy, encouraging the development of the solar panel business and industry, and reducing

greenhouse gas emissions (Setiawan,2020).

Rooftop PLTS can be a strategic solution for the government to provide quality, sustainable energy access and not burden the state budget. The cumulative installation of 1 GWp of rooftop PLTS can absorb 20,000-30,000 workers per year and is able to create demand for the development of the domestic solar industry. Also, reduce greenhouse gas emissions by 1.05 million tons per year. The government, he said, could replace electricity subsidies for households or other subsidy recipient groups with rooftop solar panels so that they can use enough electricity for productive activities and even don't have to pay for electricity. PLN will benefit from the excess electricity that can be exported, in the long term the electricity subsidy will disappear completely (Syahni, 2021)

Minister of Energy and Mineral Resources Regulation No. 26/2021 concerning Rooftop Solar Power Plants Connected to the Electric Power Network, the holder of a Business Permit for the Provision of Electricity for Public Interest, has actually been effective since August 20, 2021. However, it turns out that the One Million Roof Solar program has not been able to run optimally because the regulation and implementation is still difficult. Public. The process of replacing the kWh meter is the most common problem experienced by

users of PV mini-grid roofs in the residential sector. A brief survey by the Institute for Essential Services Reform (IESR) on PV mini-grid engineering, procurement and construction (EPC) companies showed that more than 60% had to wait at least one month and many more than three months. If many residents use PLTS, there is concern that PT PLN will reduce its income. The IESR simulation shows that if there is a total installation of 1 GWp PLTS roof, PLN's income will only decrease by 0.25% with a net metering rate of one to one and 0.58% at a rate of one to 0.65%. Commercial and industrial customers are also experiencing difficulties regarding the demand to upgrade to the premium customer level without clear basis and the application of SLO for installations below 500 kWp. In some locations, PLN has even asked to upgrade to more expensive electricity to get the net metering. So you have to pay more. In addition to the load, only 65% of electricity will be purchased, the request for an upgrade from PLN practically invalidates the PLTS economy. (Setiawan, 2020).

Interestingly, the motive for saving PLN electricity financing for people who want to install Rooftop PLTS is sometimes hampered by electricity regulations from PLN. As experienced by Aji, a Balinese resident who installed PLTS Roof, when he was going to take care of Kwh export-import to PLN, it was even more difficult. The electrical power of Aji's house, which was originally 1600 watts, was requested to be upgraded to 7700 watts to be able to install PLTS Roof. In addition to having to upgrade electrical power, PLN also has to be surveyed as a condition for obtaining an SLO (Operational Worthy Standard) permit. Then some time later, when trying to take care of it from PLN, he said that it was permissible to upgrade to 2200 watts so that he finally installed PLTS Roof. But later on, it turned out that Aji actually got a warning and was asked to pay a fine because the installation of the Rooftop PLTS had affected the Kwh calculation because the excess power produced by the Rooftop PLTS made the electricity meter backward so he was fined approximately 18 million for 9 months of use (Ajikonline, 2022).

This condition has raised doubts and distrust of the public when they are about to switch to PLTS Roofing, faced with the high costs of preparing for installation and upgrading power that exceeds the ability of the community. Whereas Article 19 of the ESDM Ministerial Regulation states that the Rooftop PLTS System built and installed by Rooftop PLTS Customers is not subject to a capacity charge and the cost of purchasing emergency electricity

(emergency energy charge) which is part of the parallel operating costs. Seeing this condition, there is legal uncertainty in the regulation of PLTS Roof which is detrimental to the community, furthermore, the government's target to create clean and environmentally friendly energy is hampered. Furthermore, the regulations governing the use of PLTS Roofs for the community have not yet been implemented due to political factors and the refusal of interest between PLN and the Ministry of Energy and Mineral Resources. Based on the background of the problem above, the writer is interested in researching the legal certainty of PV mini-grid arrangements for the community to support the achievement of new and renewable energy fulfillment.

## 2 LITERATURE REVIEW

Since the beginning of the twentieth century, a new conception of the rule of law has emerged, namely the *welvaart staat* or the welfare state. Where according to the concept of the *Welvaart staat* or welfare state, the State actually needs and even has to intervene in various social and economic problems to ensure the creation of shared welfare in society (Asshidiqie, 2004: 222-223).

In the concept of the welfare state, the state is required to expand its responsibilities to socio-economic problems faced by many people, the personal role to control the lives of many people is eliminated. It was this development that provided legislation for the interventionist state in the twentieth century. The state actually needs and even has to intervene in various socio-economic problems to ensure the creation of shared prosperity in society (Muntoha, 2013: 7).

The right to control from the state is the delegation of public authority, consequently the authority is only public. (Santoso, 2008: 78). According to Muhammad Bakri who explained the notion of "controlled by the state", which must be interpreted to include the meaning of state control in a broad sense which is sourced and derived from the conception of the sovereignty of the Indonesian people over all sources of earth, water and natural resources contained therein, including the notion of public ownership. by the people's collectivity for the sources of wealth in question. The collective people are constructed by the 1945 Constitution of the Unitary State of the Republic of Indonesia giving a mandate to the state to carry out its functions in implementing policies (Beleid) and management

actions (Bestuursdaad), regulation (Regelenddaad), management (Begeersdaad) and supervision (Toezichthoudensdaad) by Country (Achmad Sodiki, 2012).

State intervention in economic business as a consequence of one of the functions of the state as a guarantor (provider) and in charge of people's welfare. The direct involvement of the state in economic business as an entrepreneur is intended to be able to carry out efficiency and effectiveness in the exploitation of natural resources that are intended for the greatest prosperity of the people (Abrar Saleng, 2004: 34).

The right of state control as stated in Article 33 of the 1945 Constitution positions the state as a regulator and guarantor of the people's welfare. The functions of the state cannot be separated from one another, meaning that releasing a business field over natural resources to cooperatives, the private sector must be accompanied by special forms of regulation and supervision, therefore the obligation to realize the greatest prosperity of the people can still be controlled by the state (Tri Haryati, 2005: 17)

Talking about legal norms, Hans Kelsen's opinion cannot be abandoned regarding the order of legal norms (Stufentheorie). Hans Kelsen argues that legal norms are not a system of norms that are coordinated with one another standing parallel or equal but are stratified in a legal system that has a relationship of superordination and subordination. The formation of one (lower) norm is determined by another higher norm, henceforth the formation of this legal norm ends at the highest basic norm so that it becomes the highest basic norm of the entire legal system that forms the unity of this legal system. (Hans Kelsen, 2007:55)

According to Hans Kelsen, the hierarchy of legal norms consists of (i) fundamental norms, (ii) general norms, and (iii) concrete norms. "Fundamental norms" are contained in the constitution, "general norms" are contained in laws, "statutes" or "legislative acts", while "concrete norms" are contained in court decisions (vonnis) and decisions of state administration officials. (Asshiddiqie, 2006: 38). Hans Nawiasky then perfected his teacher's theory (stufen theory) that legal norms in addition to being tiered and layered are also grouped, namely:

a. *Staats Fundamental Norm* or *Norma Fundamental Negara* *Staats Fundamental Norm*. (norma fundamental negara) according to Hans Kelsen is the same as the Grundnorm (basic norm) as previously described in the stuffen theory. However, the form of staats fundamental

norm has not yet been shown as a real legal norm.

b. *Staats Grund Gesetz* or *Aturan Dasar Negara*. *Staats Grund Gesetz* (Basic Rules of the State) where the legal norms have begun to be seen when compared to the staat fundamental norm which contains a series of sentences and contains elements of legal norms. In Indonesia are the articles of the 1945 Constitution.

c. *Formell Gesetz* or *Aturan Formal*.

*Formell Gesetz* is also known as Formal Act. However, Indonesia does not recognize formal laws or material laws. Get to know material law and formal law. Material law is a law that contains the contents of the law. The contents of the law are in the form of orders or prohibitions. Its properties are:

1. Forcing / imperative is a rule that cannot be ruled out. In general, most of it is in public law and conversely a small part is in private law.
2. Regulating / facultative are rules that can be ruled out. In general, most of it is in private law and conversely a small part is in public law.

d. *Verordnome And Autonome Satzung*. *Verodnome satzung*

*Verodnome satzung* is the implementing regulation of the regulations above it (for example in Indonesia it is a law, the regulation above it is a Government Regulation). *Verodnome satzung* was born because it was ordered by the regulations above it, either directly ordered or authority born from implementing regulations because it has been determined by the constitution (staat ground gezets). *Verodnome satzung* is the authority of Distribution/Delegation.

### 3 METHODS

The research method use in this paper is normative juridical, namely legal research which is carried out by examining library materials (Soekanto, S., & Mamudji, S. (1985). The approach used in this study is the statute approach. The statute approach is carried out by examining all laws and regulations that are related to the legal issue that is being in discussion. (Marzuki, P. M. 2006).

## 4 RESULTS AND DISCUSSION

Since the beginning of the development of legal theory and philosophy, especially since the teachings of legal ideals (*idee des recht*) developed by Gustav Radbruch as quoted by Sudikno Mertokusumo, it is stated that there are 3 (three) elements of legal ideals that must exist proportionally, namely legal certainty (*rechssicherheit*), justice (*gerechtheit*), and expediency (*zweckmasigkeit*). (Sudikno Mertokusumo, 1999:88). The three elements of the above legal objectives should receive proportional and balanced attention. However, in practice it is not always easy to get all three to appear in a balanced way. (Sudikno Mertokusumo dan A. Pitlo, 1993: 2).

Rooftop PLTS is the process of generating electricity using photovoltaic modules, which are placed on roofs, walls, or other parts of buildings owned by PLN customers. The benefits of installing rooftop PLTS include saving on electricity bills for PLN customers, new renewable energy applications replacing fossil energy, helping to reduce the impact of climate change because it is more environmentally friendly. (Kementerian Energi dan Sumber Daya Mineral, 2020).

In accordance with article 5 paragraph 1 (Regulation of the Minister of Energy and Mineral Resources of the Republic of Indonesia No. 49 of 2018 concerning the Use of Rooftop Solar Power Generation Systems by Consumers of PT. PLN (Persero), 2018), it is stated that "The capacity of the rooftop PLTS system is limited to at least high 100% (one hundred percent) of the connected power of PT. PLN (Persero)". The main benefit of installing rooftop PLTS by PLN customers is electricity savings, because electricity using a rooftop PLTS system will reduce the number of kWh of electricity that PLN subscribes to each month. Meanwhile, the export scheme of excess kWh of electricity from PV mini-grid customers to the PLN network is not intended for commercial buying and selling of electricity, but as a backup for electricity savings that can only be accumulated for 3 months. The electricity reserve in the calculation of PLN's electricity bill is only 65% of the PLN's basic electricity tariff (TDL). (Handoko Bayu & Jaka Windarta, 2021: 131)

Regarding PLTS Roof, the Minister of Energy and Mineral Resources Regulation No.26/2021 concerning Rooftop Solar Power Plants that are connected to the Electric Power Network is regulated by the holder of a Business Permit for the Provision of Electricity for Public Interest, hereinafter referred to as MEMR Regulation

No.26/2021. ESDM Ministerial Regulation No. 49 of 2018 which revised the scope of the rules regarding PLTS Roofs. The main substance of the Minister of Energy and Mineral Resources Regulation Number 26 of 2021 is:

1. The terms of export of electricity kWh are increased from 65% to 100%.
2. Excess accumulated difference in claims is eliminated, extended from 3 months to 6 months;
3. The application period for Rooftop PLTS is shorter (5 days without an adjustment to the Electricity Purchase Agreement (PJBL) and 12 days with an adjustment to the PJBL);
4. Application-based service mechanism for the convenience of submitting applications, reporting, and supervising the PLTS Rooftop program;
5. The opening of carbon trading opportunities from Rooftop PV mini-grid;
6. Availability of the PLTS Rooftop Complaint Center to receive complaints from PLTS Rooftop customers or IUPTLU holders; and
7. Expansion of regulation not only for PLN customers but also for customers in non-PLN Business Areas (IUPTLU holders)

This change is certainly an improvement in the direction of the national energy policy that should be appreciated. However, so far, this regulation has not been implemented properly. One of the reasons is because the Government is still considering the impact on the PLN electricity system.

In fact, with the intensification of the Rooftop PLTS program, quite a lot of people are interested in installing it. The community in this case is industry players and non-industrial communities (household electricity consumers). Considering that it can save on electricity usage and financing, Rooftop PLTS can be a cheap, clean, and sustainable energy alternative. However, when in the field there is a confusion of information and unclear authority between PLN and the government, it is ultimately the people who are harmed.

This needs to be looked at in depth regarding Indonesia's involvement in the Paris Agreement. G-20 countries including Indonesia in the energy sector agreed and took action steps for energy efficiency. Therefore, in order to support energy efficiency, the Rooftop PLTS program is a means of creating a fair, affordable and safe transitional energy. The Paris Agreement as the latest international legal instrument in the environmental field adopted by Indonesia determines quantitative guidelines for each member country in terms of reducing the amount of emissions, by converting from fossil-



based energy and other steps, in order to achieve the target of the Electricity Law establishing the priority of using new and renewable energy. Electricity Law, Law no. 32 of 2009, it is stated in Article 6 paragraph (2) that the utilization of primary energy sources as referred to in paragraph (1) must be carried out by prioritizing new energy sources and renewable energy.

However, the mandate of this law has not been implemented optimally, considering: (1) the fact that the General National Energy Plan (RUEN) and its derivative documents still budget for the use of renewable energy in the mix portion of less than 25% in 2025, and (2) the reality of the realization of renewable power plant development projects which are still below 10% of the total number of power plants for public use. From this it can be seen that the Government has not prioritized the use of renewable energy. (Modjo, 21)

Thus in the implementation of government policies need to be based on the legal basis of proper regulation in order to be able to meet the desired goals. In the electricity sector, the existence of PLTS Roof is a polemic in itself because the Government (Ministry of Energy and Mineral Resources) has issued regulations that are not in line with the object of the field that has been previously regulated in the Electricity Law.

In terms of energy efficiency, the Electricity Law stipulates the priority of using new and renewable energy. UU no. 32 of 2009, it is stated in Article 6 paragraph (2) that the utilization of primary energy sources as referred to in paragraph (1) must be carried out by prioritizing new energy sources and renewable energy. However, the mandate of this law has not been implemented optimally, considering: (1) the fact that the General National Energy Plan (RUEN) and its derivative documents still budget for the use of renewable energy in the mix portion of less than 25% in 2025, and (2) the reality of the realization of renewable power plant development projects which are still below 10% of the total number of power plants for public use.

From this it can be seen that the Government has not prioritized the use of renewable energy. The planned capacity of PLTS with batteries in the General National Electricity Plan (RUKN) is only targeted at 200 MW (out of a total need of 127 GW) in 2025. (Rencana Umum Ketenagalistrikan Nasional Tahun 2019 Sampai Dengan 2038, Keputusan No. 143 K/20/MEM/2019, hlm. 119).

Thus, it can be understood that PLN's target to increase the energy mix from PLTS in the Electricity Supply Business Plan (RUPTL) by 3,200 MW in

2025-2028 mainly relies on consumers installing solar panels and not from the national plan for commercial PV mini-grid development. (Menteri Energi dan Sumber Daya Mineral, *Pengesahan Rencana Usaha Penyediaan Tenaga Listrik PT Perusahaan Listrik Negara (Persero) Tahun 2019 Sampai Dengan 2028*, Keputusan No. 39 K/20/MEM/2019, hlm. V-64).

The PLTS planned in PLN's RUPTL actually does not include self-help facilities built by the community or business actors to fulfill their own interests. This is very unfortunate, considering the data from the Ministry of Energy and Mineral Resources indicates the potential use of new and renewable energy is 442 Gigawatt Peak (GWp), with the hope that PLTS can contribute 207.8 GWp while the realization of new utilization is 0.092 GWp. (IDZ/BIR, "Energi Terbarukan Bisa Bikin Pemerintah Hemat Puluhan Triliun," (CNN Indonesia, 2019).

Dependence on fossil energy sources as fuel for power generation still dominates most systems to meet the needs of electrical energy in Indonesia. Efforts to reduce fossil fuels for power generation and switch to new and renewable energy are pursued by the government with the issuance of regulations concerning the National Energy Policy. Currently, the use of renewable energy in the electricity sector is still dominated by the use of hydropower, followed by the use of geothermal, biomass, biodiesel, and solar power. (Handoko Bayu, 2021).

As with other power plants, the RUPTL only regulates PLTS built for the public interest. The PLTS in question is a large-scale project that was built as an industry for selling electricity to PLN's transmission lines for distribution to general customers. Rooftop PLTS is not included in the capacity planned in the RUPTL because it is self-sufficient and follows the needs and abilities of the owner. (Modjo, 23)

When the arrangement regarding the permit for the installation of the Rooftop LPTS is regulated in the ESDM Ministerial Regulation, both in the Ministerial Regulation No. 49 of 2018 and the ESDM Ministerial Regulation No. 26 of 2021 creates legal ambiguity and confusion, so it is necessary to revisit the rules regarding electricity as the main object that is regulated. Legal problems also arose related to the assignment of PLN from the ESDM to grant a PLTS Roof permit. The authority of the Central Government (ESDM) according to the Electricity Law that can be delegated to PLN is limited to certain electricity facilities. When it is related to regional autonomy, the regional

government has the authority to make arrangements related to Rooftop PLTS because it is micro and does not support national electricity supply.

Based on Article 5 of Law no. 12 of 2011 which in its explanation requires statutory regulations to be established by taking into account the principles of appropriate institutions or forming officials and the principle of conformity between types, hierarchies, and content materials. Based on this, the head of the regional government itself is authorized to assign business entities or other agencies to carry out their functions. This principle is also explicitly stated in the Electricity Law, which separates the authority for providing electricity to each Central, Provincial, and Regency/City Government units equally in accordance with the extent of exploitation and connection of the power plant to the network.

Bagir Manan explained that every statutory regulation has natural defects and artificial defects, where this is a consequence of the written law which results in the regulation having a limited reach, only hospitalization moments from the political, economic, social, cultural and defense elements that were most influential at the time of formation, because it was easy to be "out of date" when compared to the changes in society that were getting faster and faster. (Ridwan,2014:5).

In the General explanation of Paragraph 2 of the Electricity Law Given the importance of electric power for the state in realizing public welfare in all fields and in line with the provisions in Article 33 paragraph (2) of the 1945 Constitution of the Republic of Indonesia, this Law states that efforts to provide electric power is controlled by the state and used for the greatest prosperity of the people whose implementation is carried out by the Government and regional governments.

The authority for administering the provision of electricity by the Government broadly includes the authority to establish policies, regulate, supervise, and carry out the business of providing electricity. Article 5 of the Electricity Law states that the authority to determine policies, regulate and supervise electricity supply remains with the Government and local governments which in practice include:

- a. stipulation of electricity supply business license (for generator owners for public purposes);
- b. determination of operating license (for generator owners for their own interests); and
- c. stipulation of approval for the sale of excess electricity from the holder of the operating license

In accordance with Article 10 paragraph (1) of the Electricity Law, the scope of business of PLN as a BUMN appointed by the Government as the provider of electricity supply for the public interest includes only:

- a. power generation;
- b. electric power transmission;
- c. distribution of electric power; and/or
- d. electricity sales.

That the assignment of PLN does not include the granting of a permit as regulated by the Minister of Energy and Mineral Resources regarding the Use of the Rooftop PLTS System by PT PLN Consumers. includes "the implementation of business activities" and the nature of the activities is very specific for business as described in Article 10. Other powers of the Government in the form of "policy setting", "regulation", and "supervision" are not also delegated in the Electricity Law.

Consequently, the Government is not authorized to assign PLN to carry out these functions even though the assignment is carried out through the ESDM Ministerial Regulation. In theory, the laws and regulations, the ESDM Ministerial Regulation violates the legal basis for its issuance because the assignment is not permitted by the Constitution and the Electricity Law which expressly limits the scope of functions of business entities as implementers of electricity supply. (Zaka Firma Aditya dan M. Reza Winata, 2018).

Judging from the nature of the permits required by the ESDM Ministerial Regulation as mentioned above, ESDM also appears to have created a new category of licensing that is not based on the Electricity Law. Ministerial regulations are not allowed to conflict with the basic regulations. In the Electricity Law and Government Regulation No. 14 of 2012 concerning Electricity Supply Business Activities, there are only two types of permits for the construction of power generation facilities, namely the Electricity Supply Business Permit (IUPTL) which is intended for power plants for commercial purposes. general, and Operating Permit (IO) for power plants for their own use with a certain capacity. The two permits are required before the construction of the power plant can be carried out, so that they are similar in nature to the PLTS Roof permit which is required by Article 10 paragraph (1) of the Minister of Energy and Mineral Resources regarding the Use of the Rooftop PLTS System by PT PLN Consumers.

Theo Huijbers expressed Radbruch's opinion that the legal system loses its meaning as law at all if the

legal system no longer recognizes equal rights before the courts. This can no longer be called fair because here the legal system loses what is the essence of law, namely being the embodiment of justice. (Theo Huijbers, 1982: 162). If you pay attention to the opinion of Gustav Radbruch, it can be concluded that when there is a conflict between the principle of legal certainty and the principle of justice, the principle of justice must be prioritized. Therefore, in terms of setting up PLTS Roof, it is necessary to review the business license for providing electricity as regulated in the Electricity Law.

## 5 CONCLUSION

The regulation on PLTS Roof which is carried out in the Minister of Energy and Mineral Resources Regulation No. 26 of 2021 has not provided legal certainty for the community. This ESDM Ministerial Regulation needs to be re-examined regarding the content of the regulation that is not properly regulated in the Ministerial Regulation. This creates a conflict of regulations and violates the provisions of making applicable laws because in fact the regulation is more appropriate to be carried out in the Electricity Law. In connection with the interests of accelerating the new and renewable energy mix from Rooftop PLTS, it is necessary to revise the Electricity Law which is able to accommodate the regulation on licensing of Rooftop PLTS both for industry and for household electricity. In addition, in order to be able to fulfill the mandate of the Paris Agreement and the commitments of the G-20, the scope of management and implementation of Rooftop Solar Power Plants needs to be supported by the role of local governments to encourage community participation in creating a wider new energy mix.

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