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Fiscal Support for the Financing of Renewable Energy (RE) in Electricity Sector

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BOOT	: Build Own Operate Transfer
BPDLH	: Environmental Fund Management Agency
CEF	: Credit Enhancement Facility
EPC	: Engineering Procurement and Construction
MEMR	: Ministry of Energy and Mineral Resources
GHG	: Greenhouse Gas
IIGF	: Indonesia Infrastructure Guarantee Fund
IO	: Operational License
IPP	: Independent Power Producer
PPP	: Public-Private Partnership
PDF	: Project Development Facility
Permen	: Ministerial Regulation
Perpres	: Presidential Regulation
PISP	: Geothermal Sector Infrastructure Financing
PPA	: Power Purchase Agreement .
PP	: Government Regulation
PPU	: Private Power Utility
PT PLN	: Perseroan Terbatas Perusahaan Listrik Negara
PT SMI	: Perseroan Terbatas Sarana Multi Infrastruktur
RE	: Renewable Energy
RIDF	: Regional Infrastructure Development Fund
BVGL	: Business Viability Guarantee Letter
UPTLSK	: Small Scale Electricity Supply Business

FOREWORD

First of all, we would like to convey our gratitude God Almighty, the study report on Fiscal Support for the Financing of Renewable Energy Infrastructure in the Electricity Sector has been successfully compiled because of His grace and blessings.

This study was conducted to support government programs to increase the role of renewable energy as an effort to achieve energy security. The government continues to encourage the acceleration of renewable energy infrastructure development to support the renewable energy mix target and achieve energy security in the future. In addition, the acceleration of renewable energy infrastructure development is also in line with Indonesia's international commitment to reduce greenhouse gas emissions as a climate change mitigation effort.

This study aims to optimise the fiscal support and the role of relevant institutions to increase private financing in the provision and utilisation of renewable energy in the electricity sector. This optimisation is necessary because the available fiscal support still needs to be adjusted to the characteristics of the schemes for the provision of RE infrastructure in the electricity sector. There are still gaps in providing the necessary fiscal support under these schemes. Private financing is expected to increase by optimising fiscal support under the existing schemes. The fiscal support optimisation is carried out by considering several aspects, such as the availability of private financing schemes in the provision of RE infrastructure in the electricity sector, availability of fiscal support arrangements to date, and the capacity of the agencies involved in RE infrastructure development.

The study concludes that the Government can still optimise the available fiscal support, including by optimising the role of the institutions involved in providing such support. The type of fiscal support to be optimised are: (1) Project Development Facility (PDF) to overcome the low quality of the project, (2) Credit Enhancement Facility (CEF) to overcome (perception) risks, and (3) Viability Gap Funding (VGF) to improve project financial feasibility. On the other hand, the role of the following institutions will be optimised: PT SMI, IIGF and BPDLH. The optimisation of fiscal support and the role of the relevant institutions mentioned above is carried out through: (1) adjusting or adding relevant regulations, (2) aligning the key performance indicators of these institutions in accordance with the targets of providing fiscal support, and (3) developing the organisational capacity of these institutions.

FOREWORD

Based on the conclusions above, this study recommends the following: (1) Accelerating the implementation of PPP schemes for potential infrastructure projects (RE power plants) in PLN's business area and in the UPTLSK (electrification) area; (2) Enhancing the role of existing Funds, namely the PISP Fund and the Environmental Fund; (3) Expanding the scope of fiscal support - PDF, CEF and VGF - for RE infrastructure provision schemes in the electricity sector; (4) Adjustment or addition of BPDLH regulations for involvement in providing fiscal support (PDF, CEF and VGF); and (5) Capacity building of institutions - PT SMI, BPDLH and IIGF - to have the ability to achieve the targets set to provide fiscal support.

We are aware that this study was successfully completed due to the support given by various parties. We would like to extend our appreciation and gratitude to the Coordinating Ministry for Economic Affairs, the Ministry of Energy and Mineral Resources, the National Development Planning Agency (Bappenas), the Ministry of Environment and Forestry, PT Sarana Multi Infrastruktur, PT Perusahaan Listrik Negara (Persero), GIZ ExPLORE and other parties who have given their inputs during the discussions that have been carried out.

Jakarta, November 2019

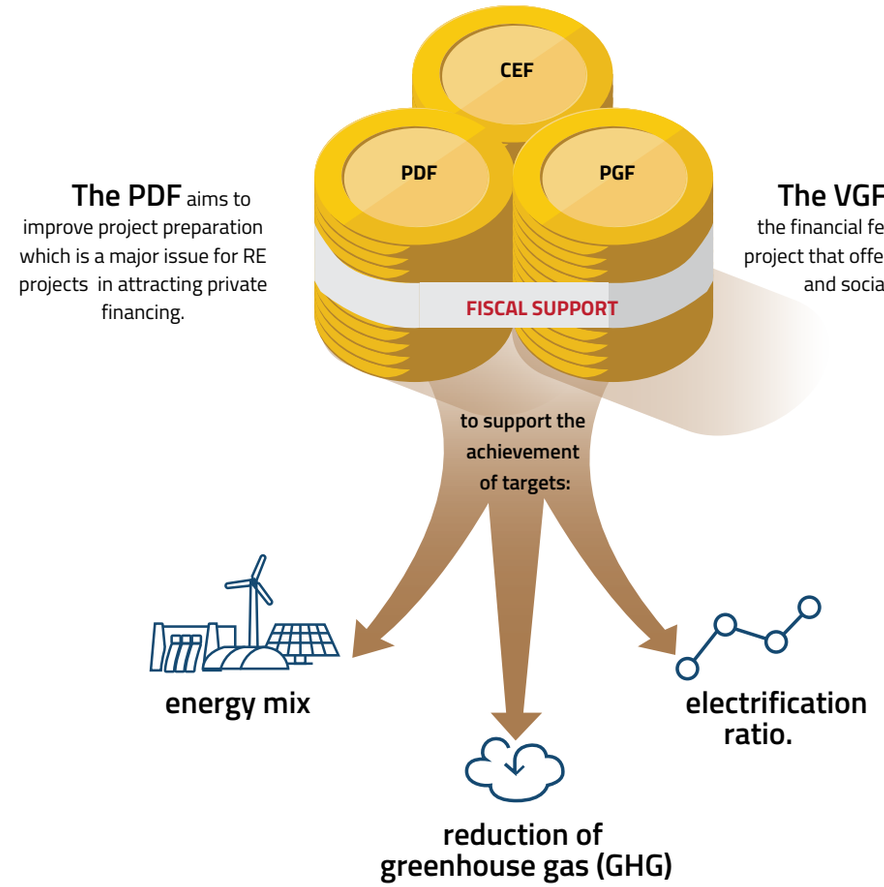
Ubaidi Socheh Hamidi, S.E., M.M.
Head of the State Budget Policy Centre

EXECUTIVE SUMMARY

This study intends to formulate an appropriate method to provide fiscal support to increase private sector financing in the provision of RE infrastructure in the electricity sector. The performance of private financing in this sector needs to be improved to support the achievement of targets set by the Government in relation to the energy mix, reduction of greenhouse gas (GHG) emissions and electrification ratio.

Fiscal support refers to the Project Development Facility (PDF), Credit Enhancement Facility (CEF) and Viability Gap Funding (VGF). These types of support are used to overcome issues that hinder private financing.

FIGURE 1: General Functions of the PDF, CEF and VGF Fiscal Support



To accelerate the provision of the fiscal support mentioned above, this study proposes to optimise the fiscal support and the role of existing relevant institutions. This optimisation is carried out by considering the availability of private financing schemes in the provision of RE infrastructure in the electricity sector. Another consideration is the availability of existing fiscal support arrangements to date. The institutions that have been involved in providing fiscal support - namely PT Sarana Multi Infrastruktur (PT SMI), Indonesia Infrastructure Guarantee Fund (IIGF) - and the newly established Environmental Fund Management Agency (BPDLH), need to have their role further optimised. The implementation will also benefit from the learning curve that these institutions have undergone over the years. However, the capacity building of these institutions still requires attention.

In the short term, this study recommends immediate dissemination of the Public-Private Partnership (PPP) scheme to the Ministry of Energy and Mineral Resources (MEMR), PT Perusahaan Listrik Negara (PLN) and local governments. Compared to other available schemes, the PPP scheme offers more comprehensive fiscal support, which is needed.

RE stakeholders in the electricity sector do not have sufficient understanding of this scheme. To date, PT PLN only has a single experience with PPP scheme when the fiscal support available was not as comprehensive as it is today. The implementation of the PPP scheme for the provision of RE infrastructure in the electrification program and in the business area of PT PLN can be accelerated through the information dissemination above. With a better understanding,, accommodating procurement through the PPP scheme can be relatively straightforward based on relevant regulations of the Ministry of Energy and Mineral Resources.

Short Term
this study recommends immediate dissemination of the Public-Private Partnership (PPP) scheme to the Ministry of Energy and Mineral Resources (MEMR), PT Perusahaan Listrik Negara (PLN) and local governments.

In the medium term, adjustments to the current fiscal support arrangements also need to be made. This aims to close the availability gap in existing schemes. This study recommends expanding the scope of PDF and CEF services to also make it available for non-PPP schemes. The expansion of PDF coverage also covers the RE project planning stage, both for PPP and non-PPP schemes. Whereas the CEF expansion also includes the types and sources of risk that can be guaranteed such as credit risk for business entities of Independent Power Producer (IPP). With regards to the VGF, this study proposes that this support can be given to projects less than Rp. 100 billion and the support provided can include non-construction cost components.

Adjustments to the fiscal support arrangements above require adjustments to relevant sector regulations. This includes regulations related to the selection of RE power plant PPL by PT PLN and the selection of business entities holding Small Scale Electricity Supply Business License (UPTLSK). In addition, in the medium or long term - in accordance with regulatory developments - adjustments or additional regulations are needed to involve the BPDLH in providing fiscal support. The involvement of the BPDLH remains in the corridor of environmental financing, especially for climate change mitigation and/or adaptation.

Parallel to the medium-term recommendations above is the optimisation of direct financing instruments - and relevant fiscal support - provided by the Government, namely the Geothermal Infrastructure Financing Fund (PISP Fund). Optimisation is done by expanding the scope of utilisation so that it can include RE technology, in addition to Geothermal. Therefore, the funds that were previously specifically allocated to the Geothermal sector was expanded for all types of renewable energy.

In connection with direct financing, in the medium term, it is necessary to prepare the instruments needed for the BPDLH for direct financing - in the form of grants and/or loans - in RE infrastructure projects in the electricity sector. These instruments include: baseline GHG emissions, verification procedures for the results of the GHG emission reduction study of a RE project plan and monitoring procedures for the realisation of GHG emission reductions compared to baselines.

Medium Term *Adjustments to the current fiscal support arrangements also need to be made. This aims to close the availability gap in existing schemes.*

Paralel Term *Recommendations above is the optimisation of direct financing instruments - and relevant fiscal support - provided by the Government, namely the Geothermal Infrastructure Financing Fund (PISP Fund).*

Last but not least, this study recommends that, if the costs and time required to make changes and additions to existing regulations are relatively significant, new regulations that specifically regulate the Acceleration of electricity infrastructure development using RE shall be considered. The regulation stipulates about the granting of fiscal support to each scheme, with the mandate to regulate the procedure for provision and further implementation by the Minister of Finance.

The recommendations given by this study aim to encourage the development of the RE market in the electricity sector. However, further strengthening of the market requires an enhancement in sectoral regulation which further improves the investment climate to: (1) improve the economics of RE based on the performance of domestic supporting industries and (2) increase the attractiveness of RE in the electricity sector by reducing the sources of market failure.

CHAPTER 1

Introduction

1.1 Background

Indonesia as a developing country, needs significant energy sources to support its targeted economic growth. According to Statistics Indonesia's (BPS) data, Indonesia's energy consumption is proportional to its economic growth. However, the majority of Indonesia's energy consumption is still supplied by fossil energy.

Indonesia's national energy mix is still dominated by coal, oil and gas. The impact is an increasing need for fossil energy. According to BPS' data, the production of fossil energy resources owned by Indonesia, especially oil, has declined very significantly in the last twenty years. Indonesia strongly needs to import oil to meet domestic energy needs. As a result, Indonesia has been a net oil importer since 2003.

This is certainly very ironic considering the massive renewable energy resources potential available in Indonesia. The utilisation of renewable energy to replace fossil energy will benefit Indonesia, for its economy and environment. Economically, the use of renewable energy can reduce oil imports which will reduce the trade balance deficit. In terms of the environment, the use of renewable energy can reduce environmental costs incurred by fossil energy through reducing emissions.

The study report "Renewable Energy (RE) Fund Scheme as an Incentive to Accelerate Renewable Energy Utilisation" prepared by the Fiscal Policy Agency (BKF) in 2018 concluded the need for fiscal support, specifically for renewable energy, to be able to improve the performance of the electricity sector. The performance improvement of the electricity sector aims to achieve the targets set by the Government, namely:

PRIMARY ENERGY MIX: Government Regulation No. 79/2014 concerning the National Energy Policy mandates the optimisation of the energy mix with one of the targets being the achievement of the energy mix target by having 23% contribution from new and renewable energy by 2025. Further details in the Presidential Regulation No. 22/2017 concerning the National Energy General Plan stipulates that the electricity sector's contribution to the target is 75% or equivalent to 45.2 GW of new and renewable energy generating capacity in 2025.

REDUCTION OF GREENHOUSE GAS EMISSIONS: Law No. 16/2016 concerning the Ratification of the Paris Agreement to the UN Framework Convention on Climate Change (UNFCCC) stipulates the national contribution to the global effort to reduce Greenhouse Gas (GHG) emissions, i.e. reducing emissions by 29% by own efforts or 41% if there is international cooperation by 2030 compared to the business as usual scenario. The figures for the energy sector are 11% and 14% in 2030. Approximately 50% of emissions reductions in the energy sector are expected to come from new and renewable energy power plants.

ELECTRIFICATION RATIO: The electrification ratio has reached 99%, but sustainability is not guaranteed, because this ratio was achieved by merely providing energy-efficient solar lamps in isolated areas.

The report identifies three issues hindering efforts to increase the utilisation of RE in the electricity sector:

1. The high risk and transaction costs involved due to low quality project preparation as a result of the developer and banking sector's lack of capacity,

2. high risk perception among banks and financial institutions, and

3. lack of project financial feasibility because PT PLN's purchase tariff being lower than the economic price of RE.

Private financing is needed, particularly to take advantage of market discipline which can promote value for money[1] in the provision of RE infrastructure in the electricity sector. To address these issues, based on previous studies, the recommendation is to make the provision of fiscal support instruments attractive for the private sector. The fiscal support instruments consist of:

1. **Project Development Facility (PDF):** provided to improve the quality of RE projects in the electricity sector. At present, the PDF is a facility provided by the Minister of Finance to the Party in charge of the Project (PJPK) from the Government's side to improve the quality of project preparation and project transactions . The quality improvement is expected to produce a project structure that provides financial feasibility for private financing.

2. **Viability Gap Funding (VGF):** provided to improve the economics of RE which is still relatively low compared to PLN's electricity production price. VGF refers to cash assistance given to reduce the amount of private financing needed so the project can be financially viable

3. **Credit Enhancement Facility (CEF):** provided to increase the creditworthiness of RE projects.

Fiscal support in the form of CEF is intended to improve the quality of risk allocation through guarantees of risks allocated to the Government, e.g. PT PLN's failure to pay electricity payment liabilities in accordance with the Power Purchase Agreement.

The report proposes the use of existing institutions to accelerate the provision of fiscal support, rather than establishing a new institution. The institutions proposed for providing fiscal support are PT Sarana Multi Infrastructure (Persero) (PT SMI) and the Environmental Fund Management Agency (BPDLH).

1 In this study, value for money refers to the efficient utilisation of available fiscal space to provide general services in accordance with the pre-determined service standards

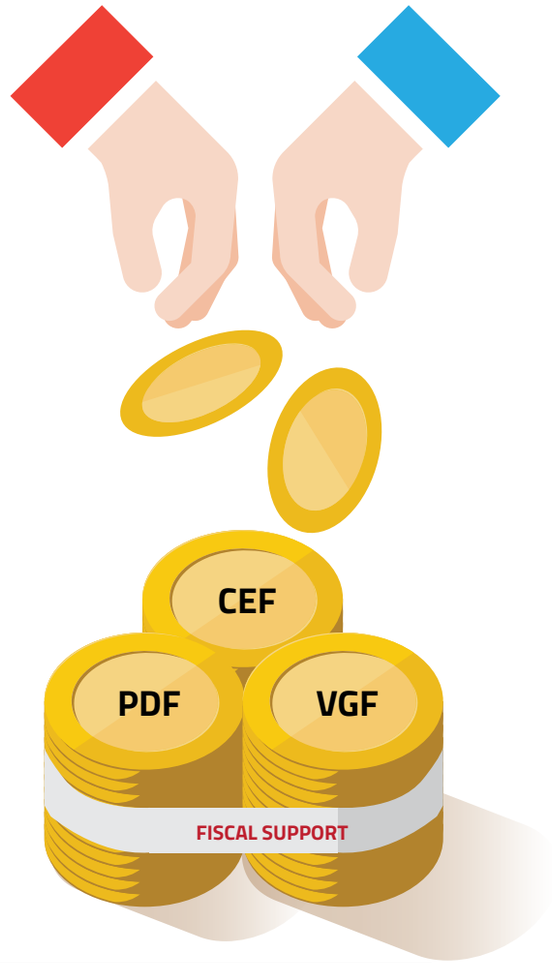
The Study on Fiscal Support for the Financing of RE Infrastructure in the Electricity Sector is a follow-up of the 2018 BKF report. In the report, RE Fund is defined as a fund that is collected, invested, allocated and channelled to provide incentives for accelerating RE investments in the electricity sector and energy efficiency investments in all sectors, especially in the industrial sector.

The challenge to quickly establish the RE Fund is a prerequisite for regulations governing the "RE Fund" nomenclature. For effectiveness - in addition to the three reasons given below - this year's study focuses more on the implementation of fiscal support for RE Financing rather than the implementation of a RE Fund.

In this study, RE Financing is defined as the provision of funds needed to finance programs/ activities to maximise the utilisation and/or use of RE in the electricity sector carried out by the:

1. **Central government and/or local government** through instruments provided in the State Budget (APBN) and/or Local Budget (APBD), and/or

2. **Non-government parties**, both individuals and/or business entities, through grants and/or equity investment, and/or financial institutions in the form of banks and/or non-banks through loans and/or other financing instruments.



2. Furthermore, the context of fiscal support in this study is specifically intended to overcome the three issues previously mentioned. This is separate from the taxation and import duty facilities. Fiscal support can be in the form of financing or in-kind facilities.
3. The quality of project preparation is reflected in the quality of the (pre)-feasibility studies conducted and the supporting documents.
4. The quality of the transactions is reflected in the quality of the tender documents, the draft cooperation agreement (in this case the draft Power Purchase Agreement) and the procedure for selecting the successful bidder.

RE financing is carried out through the existing schemes for the provision of RE infrastructure in the electricity sector. The shift of focus was mainly caused by the following three matters:

1. **The lack of authority granted by the regulations** that underlies the establishment of the BPDLH to be able to provide fiscal support for RE infrastructure projects in the electricity sector. The BPDLH is mandated to manage environmental funds for the conservation of environmental functions that are part of climate change mitigation and/or adaptation. Nonetheless, this study also discusses and provides recommendations on how to involve the BPDLH in providing fiscal support, in the form of PDF, CEF and VGF; within the limits of their authority.

2. **The government already has arrangements and institutions** in relation to providing fiscal support in the form of PDF, CEF and VGF; especially the Public-Private Partnership[5] (PPP) scheme. This study believes that the optimisation of existing fiscal support - to increase RE financing, especially from the private sector - will allow a quicker implementation than creating a new mechanism. This is also driven by the use of learning curves [6] gained from relevant institutions.

3. **The government has also established the Geothermal Sector Infrastructure Financing Fund (PISP Fund)** which has similar concepts with the RE Fund developed last year. The government may consider to optimise this fund to support non-Geothermal RE financing, or serve as a RE Fund.

Considering the three points above, the focus of this study is to find measures to optimise the types of support and roles of existing institutions - PT SMI, Indonesia Infrastructure Guarantee Fund (IIGF) and BPDLH - to increase RE financing by taking into account the special characteristics of the provision of RE infrastructure in the electricity sector.

5 Based on the Presidential Regulation No 38/2015, PPP is defined as a cooperation between the government and business entities in the provision of infrastructure for public use by referring to the specifications that have been predetermined by Ministers / Regional Heads / State Owned Enterprises / Locally Owned Enterprises, which partially or fully use Business Entity resources by considering the distribution of risk between the parties.

6 The implementation of fiscal support, either PDF, CEF or VGF; requires a period of study at the personnel and institutional organisation level to have a good understanding of the concepts and process of implementing them. Having such understanding will improve efficiency and effectiveness in providing similar fiscal support to subsequent projects.

1.2 Problem Formulation

The government has a vision to ensure the availability of energy for the public - especially electricity - in a sustainable manner. Sustainability is related to energy security and preservation of environmental functions. In this regard, the objective that the government should achieve is to provide appropriate fiscal support to attract private financing for RE projects.

As the deadline set for achieving the targets is approaching and the government's budget is constrained, the need to attract private financing for RE projects is increasingly pressing. The right fiscal support strategy needs to be designed, with their value for money needs to be considered.

In this context, the government intends to optimise the existing fiscal support arrangements, including the role of relevant institutions in providing fiscal support. The PDF can be given to PT PLN, the Minister of Energy and Mineral Resources and the local government. Whereas the CEF can be given to PT PLN and independent power producers (business entities). Last but not least, the VGF is given to business entities implementing the PPP project. In addition to the Ministry of Finance, other institutions that have been involved in providing fiscal support are PT SMI (for PDF) and IIGF (for CEF and PDF for PPP). Optimisation of fiscal support arrangements and the role of relevant institutions needs to be done by considering schemes or pathways for the provision of RE infrastructure in the electricity sector involving private financing.

Based on the background above, the problems to be addressed in this study are as follows:

01 How can the existing fiscal support instruments be optimised to encourage the acceleration of the use of RE, specifically in the provision of RE generation infrastructure in the electricity sector?

02 What role do the existing institutions play in optimising the fiscal support planned?

03 How are the environmental economic instruments provided through the BPDLH utilised in optimising the instruments and institutional roles above?

1.3 Purposes And Objectives

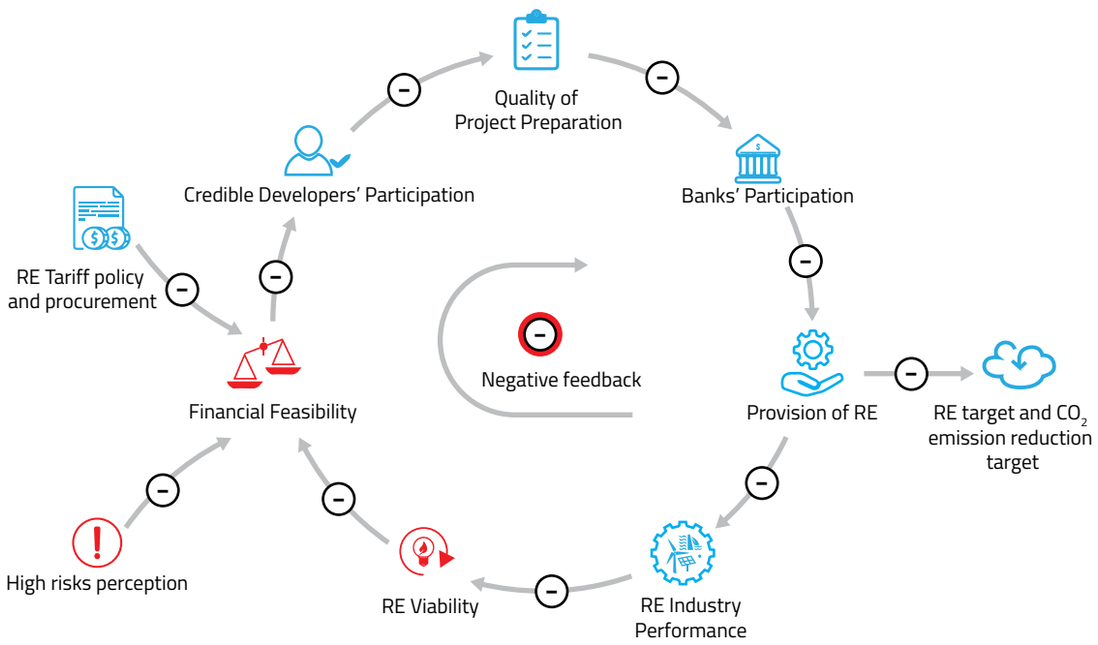
This report intends to present the results of a study on optimising the provision of fiscal support along with optimising the role of relevant institutions to increase private financing in the provision and utilisation of RE in the electricity sector. This optimisation is necessary because the available fiscal support still needs to be adjusted to the characteristics of the schemes for the provision of RE infrastructure in the electricity sector. There are still gaps in providing the necessary fiscal support under these schemes. Private financing is expected to increase with the provision of fiscal support under the existing schemes.

Furthermore, this report provides recommendations for optimisation options to improve the effectiveness of fiscal support for this sector. This optimisation is carried out by making adjustments to the relevant regulations (changes or additions), including by increasing the role of institutions such as PT SMI, BPDLH, and also IIGF. Recommendations regarding the stages and options for optimising fiscal support are provided so the government can increase private financing in accelerating the use of RE in the electricity sector at the soonest.

1.4 Framework

The government is aware of the need for interventions to encourage the provision and utilisation of RE in the electricity sector. FIGURE 2 shows market failures that can potentially increase the risk of not achieving the vision of sustainable energy supply by achieving the energy mix and emission reduction targets in this sector.

FIGURE 2: Negative Feedback on the Provision and Utilisation of RE in the Electricity Sector



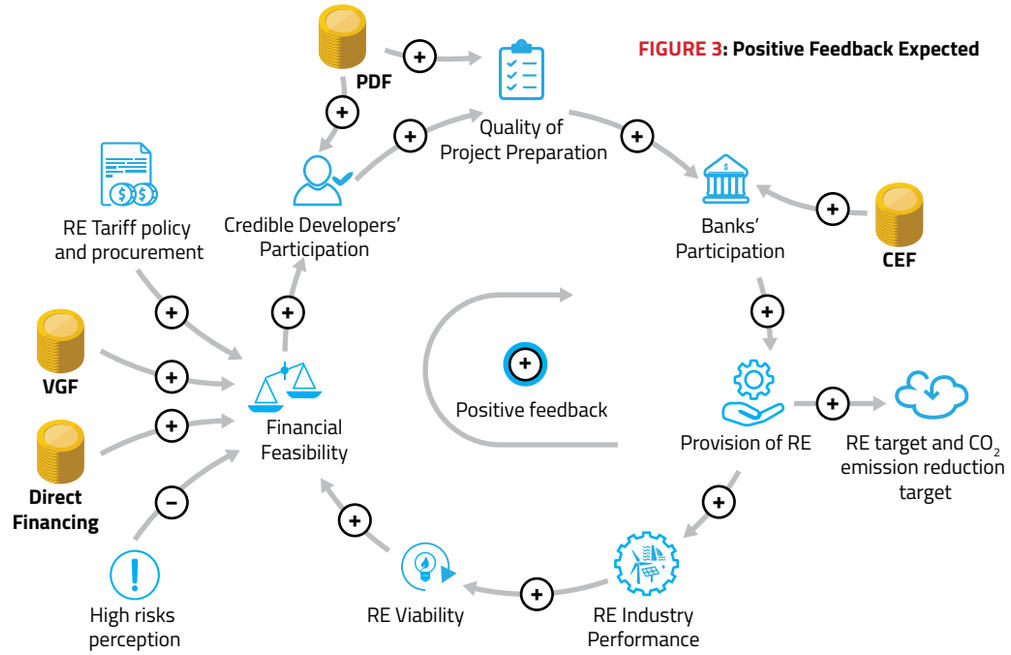
The economics of RE is still low, the sector has high perceptions of risk in the eyes of investors, lack of supporting tariff and procurement policies from RE power plants; resulting in limited financial feasibility offered by this sector. The limited financial feasibility has led to credible developers' decreasing interest to participate. The lack of credible developer participation has resulted in low quality of project preparation. This has become a barrier for the banking sector to participate further in this sector. The low performance of RE provision and utilisation has also reduced the performance of RE supporting industries. With low utilisation, the supporting industry does not have sufficient power to improve the economics of RE. The matters above are interlinked hence resulting in negative feedback which sets this sector further away from the targets set by the government.

The intervention carried out by the government aims to stop the negative feedback. Fiscal support in the form of PDF, CEF and VGF is a part of this intervention. The general functions of the three types of fiscal support instruments are shown in FIGURE 1. Fiscal support - and financial support can also be provided in line with the provision of fiscal support for a specific project - aims to improve: the feasibility of RE projects, increase the participation of credible RE developers, improve the quality of project preparation and increase banking sector participation. This improvement will encourage accelerated provision and utilisation of RE in the electricity sector. This is expected to stop negative feedback. Fiscal support is provided so the RE market can start to develop. FIGURE 3 shows the positive feedback that is expected to occur. The "?" and "-" signs indicate that fiscal support within the scope of this study does not intend to directly address issues in these sections.

However, further strengthening of positive feedback a revision of sectoral regulation which further improves the investment climate to:

1. improving the economics of RE based on the performance of domestic supporting industries and;
2. increasing the attractiveness of RE in the electricity sector by reducing the sources of market failure.

FIGURE 3: Positive Feedback Expected



Based on the explanation above, the following framework is used in this study:

1. The government needs to encourage renewable energy financing in general, specifically the mobilisation of private financing through the provision of appropriate fiscal support;
2. Although the government currently has provided fiscal support for the infrastructure sector and the electricity sector, existing instruments must be further optimised to increase their effectiveness in attracting private financing for the provision and utilisation of RE in the electricity sector;
3. The budget mechanism carried out in the provision of fiscal support and direct financing for this sector must consider Value for Money in an effort to achieve targets in the electricity sector related to: (1) electricity service, (2) optimal energy mix, and (3) GHG emission reduction;
4. The government does not need to establish new institutions to support RE financing in the electricity sector, but the government needs to broaden the scope of instruments and the involvement of existing institutions through adjustments to the underlying regulations;
5. More specifically, this study also explores the roles that can be carried out by the BPDLH as an institution that manages the Environmental Fund to participate in the provision of fiscal support for RE power plant infrastructure projects.

1.5 Scope

This study discusses fiscal support to attract private financing, especially in the context of providing RE infrastructure in the electricity sector. The intended fiscal support[7] is specifically aimed at answering the three issues identified in the BKF study last year, namely: PDF, CEF and VGF. However, in addition to that, this study also discusses fiscal support in the form of direct financing such as grants, loans and equity in the context of RE Funds. Fiscal support in the form of tax facilities and import duties is not included in the scope discussed in this study.

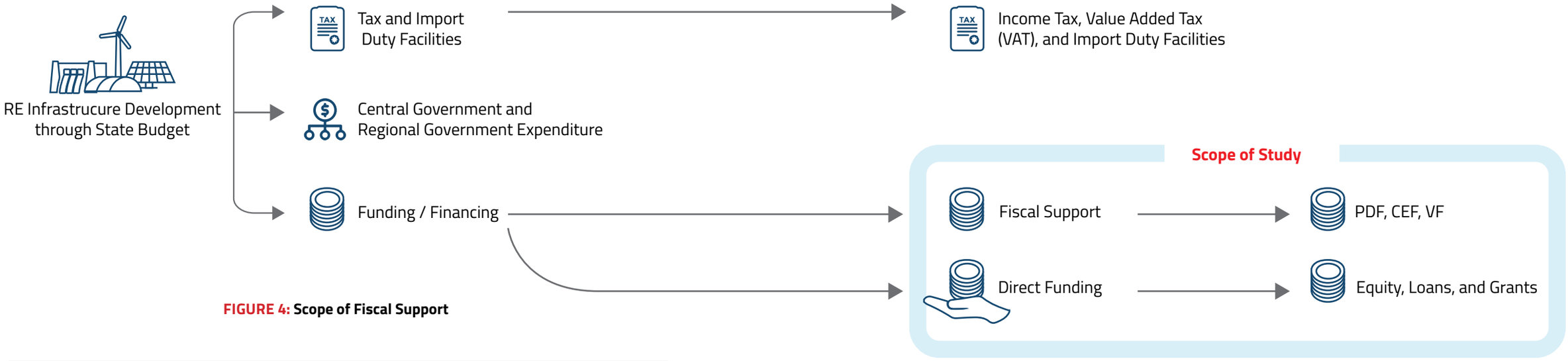


FIGURE 4: Scope of Fiscal Support

7. In addition to fiscal support, the government can also provide non-fiscal support. Some examples of non-fiscal support are: identification of pipeline projects that are potentially financially feasible, licensing support, land acquisition support and access infrastructure support.
8. Based on Law No. 30/2009 concerning Electricity and related implementing regulations

The focus of the discussion in this study is the optimisation of fiscal support and the role of relevant institutions in the provision of fiscal support. Optimisation is carried out to maximise private financing in RE infrastructure provision schemes in the electricity sector, which are generally categorised as: 1) Self-operated by PT PLN, 2) Independent Power Producer (IPP), 3) Private Power Utility (PPU), 4) Operating License (IO) and 5) Small Scale Electricity Supply Business (UPTLSK).

Out of the mentioned schemes, this study focuses on the IPP scheme and the UPTLSK scheme; both PPP and non-PPP. Optimising the role of relevant institutions, in addition to providing fiscal support, also includes support in the form of direct financing from both the PISP Fund and the BPDLH.

The provision of fiscal support is expected to help achieve energy mix targets, GHG emission reduction and electrification ratios; by still considering the value for money for the government budget. The limitations applicable for optimising fiscal support and the role of relevant institutions based on the regulations, including:

1. electricity sector[8] (especially for RE),
2. infrastructure sector in general[9] and
3. the environmental sector, especially environmental economic instruments[10] .

The schemes for providing renewable energy infrastructure which has been targeted for optimising fiscal support are:

1. PPP IPP
2. PPP UPTLSK
3. Non-PPP IPP
4. Non-PPP UPTLSK

9. Based on Presidential Regulation no. 38/2015 concerning Public-private partnership for the Provision of Infrastructure and its implementing regulations
10. Based on Government Regulation No. 46/2017 concerning Environmental Economic Instruments and implementing regulations

CHAPTER 2

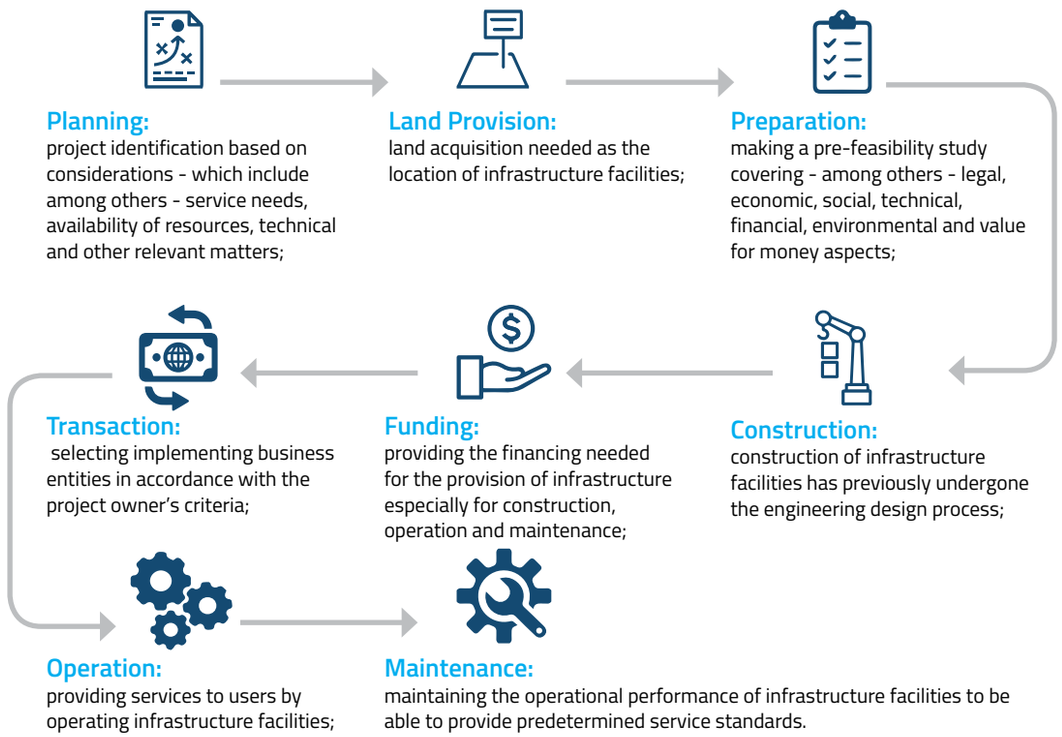
RE Infrastructure Provision Scheme

Various infrastructure provision schemes in the electricity sector are in place and private financing for RE infrastructure in the electricity sector can be carried out through these schemes. The provision schemes can be divided into two groups:

	Provision scheme outside the business area of PT PLN, consisting of:
a. Self-operated by PT PLN; b. Non-Public-Private Partnership (Non-PPP) Independent Power Producer (IPP); c. PPP IPP,	a. Private Power Utility (PPU); b. Operational License (IO); and c. Small Scale Electricity Supply Business (IUPTLSK).

Provision in the PT PLN business area is carried out by PT PLN or a business entity that has a contract with PT PLN. Whereas provision outside the PT PLN business area is carried out by a business entity holding an electricity supply business license. **TABLE 1** shows the characteristics of each scheme based on the provision of infrastructure, instruments and ownership of power generating assets. The provision is carried out through a series of activities required to be able to deliver electricity services from the RE infrastructure to the user. These activities include:

FIGURE 5: General Electricity Infrastructure Project Scheme



CHAPTER 2
RE Infrastructure Provision Scheme

Each provision scheme has the characteristics of sharing responsibility for the activities above, as shown in the second column of TABLE 1.

TABLE 1 Characteristics of RE Infrastructure Provision Scheme in the Electricity Sector)

Scheme	Procurement Process	Instrument	Plant Ownership
Self-Management PT PLN[1)]	▪ PT PLN plans, prepare land, arrange funding, and operates the plant. ▪ The EPC contractor carries out detailed design, procurement and construction	▪ Corporate finance using PT PLN internal funds (can originate from state equity participation or electricity payments) and / or direct loans and / or bonds. ▪ Subsidiary Loan Agreement (SLA) through the state budget mechanism	PT PLN
IPP – non PPP[2)]	▪ PT PLN plans and implements the IPP procurement process. ▪ Business entities arrange funding, prepare land and projects, follow the procurement process, carry out construction and operate / maintain power plants.	▪ Corporate or project finance using equity from business entity sponsors, loans from banks and / or grants from other parties	Business entity and transfer to PLN at the end of PPA
IPP – PPP[3)]	▪ PT PLN plans, prepares land (except un-solicited), and implements the IPP procurement process. ▪ Business entitiesarrange funding (equity and loans), prepare land (if un-solicited), follow the procurement process, carry out construction and operate / maintain power plants.	▪ Project finance using equity from business entity sponsors, loans from banks and / or grants from other parties	Business entity and transfer to PLN at the end of PPA
Private Power Utility (PPU)[4)]	▪ Business entities plan, prepare, submit IUPL applications / business areas, arrange funding, construction, operation / maintenance, conduct sales and operate power plants	▪ Corporate or project finance using equity from business entity sponsors, loans from banks and / or grants from other parties	Business entity holding IUPL
Operating License[5)]	▪ Business entities plan, prepare, submit an application for an Operating License, construct, and operate the power plant	▪ Corporate or project finance using equity from business entity sponsors, loans from banks and / or grants from other parties	Business entity holding Operating License
Small-Scale IUPTL6)	▪ The governor determines the area of business and the selection process of business entities. ▪ The Minister of Energy and Mineral Resources assigns assignments to Business Entities. Business entity plans, prepares, can prepare land, follows the selection process, conducts construction, operates and sells electricity.	▪ Corporate finance using business entity internal funds (equity), and grants and / or loans	Business entity

1. EPC procurement is carried out in accordance with PT PLN's procurement of goods and services procedures
2. IPP procurement is conducted according to PP 23/2014, PP 14/2012, ESDM Regulation 50/2017, ESDM Regulation 1/2006, ESDM Regulation 4/2007, ESDM Regulation 3/2015, and PLN SOP
3. The procurement of IPP is carried out in accordance with Perpres 38/2015 and Permen Bappenas No. 4/2015 concerning Collaboration between the Government and Business Entities (KPBU), Perka LKPP 19/2015
4. Electricity Supply Business License (IUPL) holders for the public and Business Area permit holders
5. Holder of Electricity Supply Business License for his own needs
6. Procurement of business entities in accordance with Minister of Energy and Mineral Resources Decree 38 // 2016 concerning the acceleration of electrification in underdeveloped, remote, border, and small island populations through the implementation of small-scale electricity supply businesses (UPTLSK)

In general, there are 2 types of financing, namely: (1) corporate financing, which uses the balance sheet of the party responsible for financing and (2) project financing which uses the capacity of infrastructure project structures to generate cash flow to provide financing. The financing instruments for both types of financing may include: equity, loans and grants.

Another characteristic of the provision scheme as shown in Table 1 and Table 2 is the ownership of assets, particularly power plants. The ownership of power plants within the PT PLN business area ultimately belongs to PT PLN. The power purchase agreement for IPP projects will cover the transfer of assets at the end of the agreement period. In more detail, an explanation about each of the electricity infrastructure supply schemes are as follows.

2.1 PT PLN'S SELF-Operated Scheme

Private financing through this scheme is done on a limited basis - i.e. in accordance with the Engineering-Procurement-Construction (EPC) contract. EPC refers to a contract that assigns a business entity contractor to prepare the engineering design, procurement of equipment and equipment needed, carry out construction, and generally conduct testing and commissioning. Under this scheme, the private business entity can be involved as an EPC contractor who carries out detailed engineering design (DED), construction procurement and construction implementation. PT PLN acts as the principal carrying out the planning, land provision, financing, and the operationalisation of power plants.

The financing by PT PLN is provided through corporate financing sourced from internal cash or from external sources. The internal cash is generated from electricity sales operating income - including electricity subsidies - as well as from state capital injection. On the other hand, external sources can be in the form of direct loans from banks or non-bank financial institutions, as well as bonds. Other financing instruments that can be used in this scheme are Subsidiary Loan Agreements (SLA) through the state budget scheme or direct loans from Multilateral Development Banks guaranteed by the government. The ownership of power plants under this scheme belongs to PT PLN.

2.2 NON-PPP and PPP IPP Scheme

Private financing plays a role in the subsequent schemes. In the non-PPP IPP scheme[11] , PT PLN plays a role in the planning and procurement of business entities. The business entity selected will be responsible for the financing, land preparation, project preparation, participation in the procurement process, construction execution, as well as the operation and maintenance of power plants. The procurement mechanism of business entities for RE power plants by PT PLN is direct selection, and the cooperation pattern is Build-Own-Operate-Transfer (BOOT)[12] .

11. The procurement of a business entity that is a developer is based on Government Regulation No. 23/2014 & Government Regulation No. 14/2012 concerning Electricity Supply Business Activities, MEMR Regulation No. 50/2017 concerning the Utilisation of Renewable Energy Sources for Electricity Supply, MEMR Regulation No. 4/2007 & MEMR Regulation No. 1/2006 concerning the Procedure for Purchasing Electricity and/or GriD Leasing for the Business to Supply Electricity for Public Interest, MEMR Regulation No. 3/2015 concerning the Procedures for Purchasing Electricity and Benchmark Prices for Purchasing Electricity from Mine Mouth Power Plant, Coal Power Plant, PLTG/PLTMG, and PLTA through Direct Selection and Direct Appointment, and the standard operating procedures of PT PLN

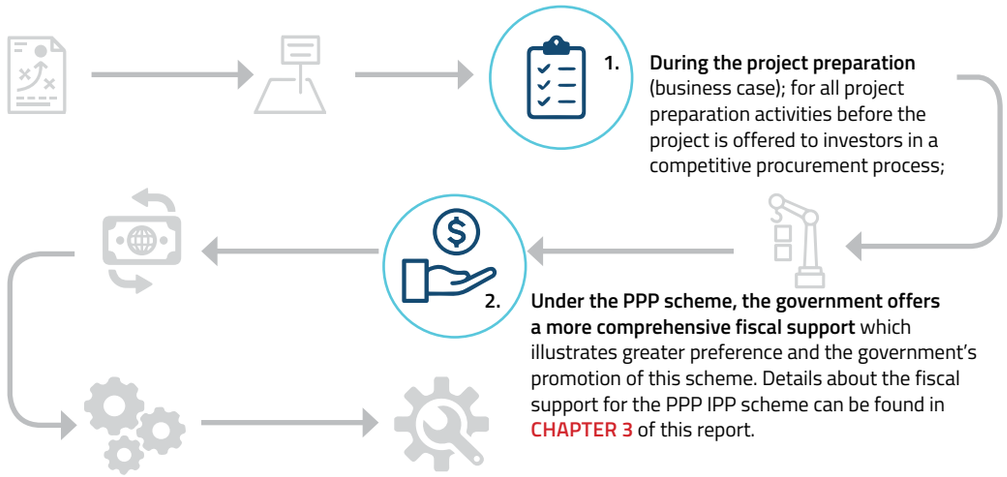
Under the PPP IPP scheme, PT PLN acts as the Party in Charge of the Cooperation Project (PJPK) carrying out planning, project preparation (business case), land preparation (with the exception of unsolicited projects), and carrying out the IPP business entity procurement process.

On the other hand, business entities play a role in the provision of financing, land preparation (on unsolicited projects), participation in the procurement process, construction execution, and the operation and maintenance of power plants.

The business entity procurement process under this scheme uses a competitive tender mechanism as stipulated in Presidential Regulation No. 38/2015. This is different from the direct selection mechanism set forth in MEMR Regulation No. 50/2017. Adjustments to harmonise the two regulations need to be made for the PPP IPP scheme to be used for the provision of RE power plant infrastructure. To date, the PPP IPP scheme has never been used for the provision of RE power plant infrastructure in the electricity sector.

The direct financing instruments used by business entities in the non-PPP IPP and the PPP IPP schemes are equity and loans. Based on the Power Purchase Agreement (PPA) with PT PLN, the power plant assets are owned by the business entity until the end of the PPA. The power plant assets are then transferred from the business entity to PT PLN upon the expiry of the PPA.

The non-PPP IPP scheme and the PPP IPP scheme basically have substantial similarities, i.e. the contracting parties - namely PLN and IPP - and the use of PPA (Power Purchase Agreement) with the requirement for a transfer of facilities at the end of the agreement period. **On the other hand, there are differences between the two:**



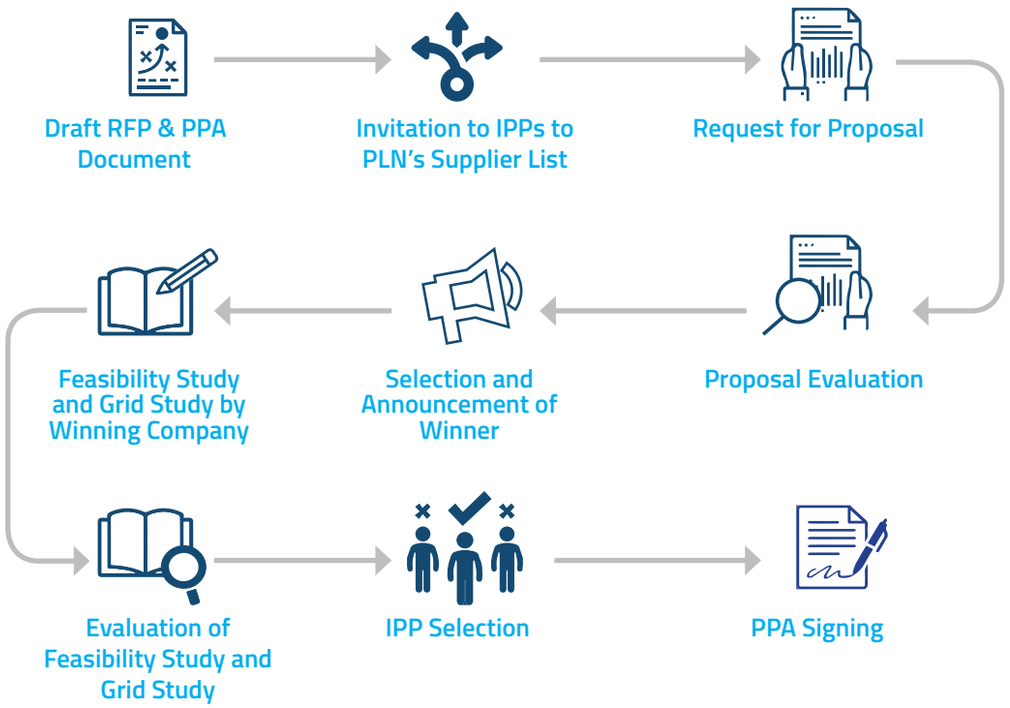
During the project preparation (business case); for all project preparation activities before the project is offered to investors in a competitive procurement process;

Under the PPP scheme, the government offers a more comprehensive fiscal support which illustrates greater preference and the government's promotion of this scheme. Details about the fiscal support for the PPP IPP scheme can be found in CHAPTER 3 of this report.

12. In accordance with MEMR Regulation No. 50/2017. The regulation also stipulates that the procurement of solar and wind power plants can be carried out if: the local electricity system can receive electricity supply from the power plant, reduce the BPP for the local electricity system or meet the electricity needs in locations where there is no other primary energy source.
13 Unsolicited project refers to a project initiated by a Business Entity. The initiative was proposed to PT PLN - as a representative of the government - and if approved, the project will be referred to as an unsolicited project.
14 As one of the measures to ensure value for money under this scheme.

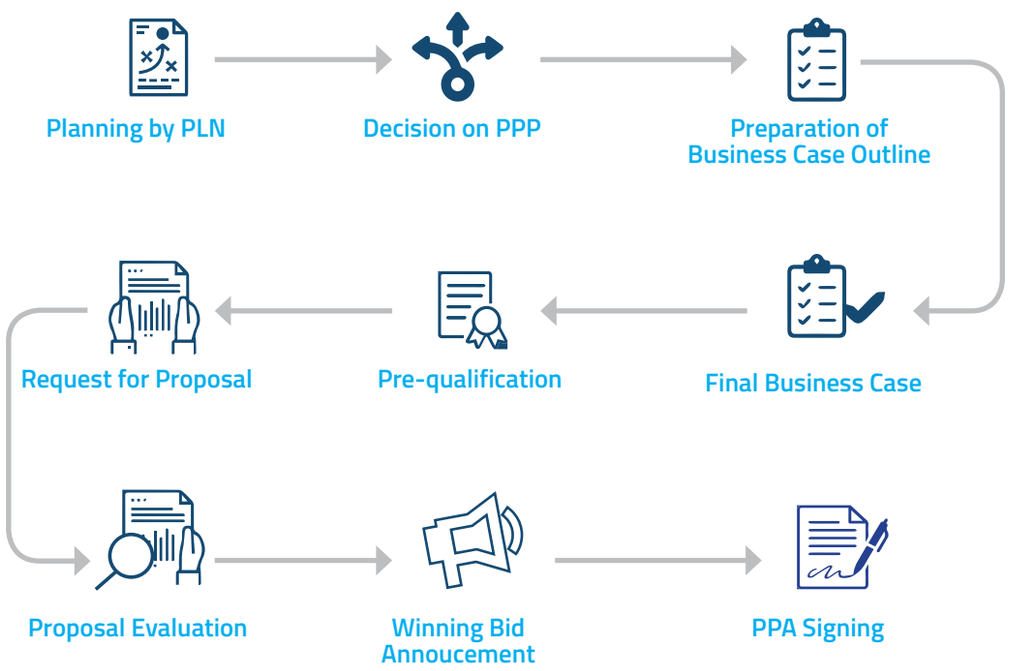
Details about the fiscal support for the PPP IPP scheme can be found in CHAPTER 3 of this report.

FIGURE 6 : Non-PPP IPP Procurement Process



The FIGURE 6 above shows the procurement process for non-PPP RE IPP. At present, the direct selection procedure reduces the incentive for the developer to conduct a preliminary study and then propose it to PT PLN. Developers who have invested in the preliminary study costs will incur losses if the developer is not selected in direct selection. The feasibility study and the grid study conducted by developers who already have a PPA do not necessarily make the RE project bankable. This is hindering the provision of RE power plant infrastructure in the PLN Business Area. The poor quality of the PPA also contributes to a lack of bankability for RE power plant projects that have undergone this process.

FIGURE 7: PPP IPP Procurement Process



The government has support facilities for PPP projects, including fiscal support, which can be utilised to provide RE power plant infrastructure. Bappenas can provide facilitation for PLN as a PJPK candidate to conduct a preliminary study during the planning stage and business case outline during the initial preparation stage. The Minister of Finance has a Project Development Facility which can be used for preparing the Final Business Case, tender documents and transactional assistance.

In addition, Infrastructure Guarantees to reduce risk for business entities - and ultimately to lenders – can also be made available through the Indonesia Infrastructure Guarantee Fund. The Viability Gap Fund, in the form of partial support for construction costs, is available for projects that are economically feasible but not financially feasible.

Although this process can potentially improve the quality of project preparation and PPA bankability, PT PLN has not utilised this scheme for the provision of RE power plant infrastructure to date. The PPP scheme also provides opportunities for unsolicited projects (prepared by the proponent).

2.3 PPU and IO Schemes

The PPU and IO schemes do not involve PT PLN as the party that distributes or purchases electricity produced from RE power plants. The first scheme is the Private Power Utility (PPU) scheme. In this scheme, business entity refers to the party holding a general Electricity Supply Business License (IUPL) and a Business Area License . The provision process that the business entities shall undergo under this scheme are: planning, preparation, submission of the application for an IUPL and business area license, financing, construction, operation and maintenance of the power plant and power grid; and electricity sales services. The commercial financing instruments used are equity and loans. Financing contributions in the form of grants for the PPU project with RE may also be a possibility. The assets built are owned by the business entity holding an IUPL.

The second scheme is the Operational License scheme. Under this scheme, the business entity must obtain an Electricity Supply Business License for its own interest. The scope of work provided by the business entity includes: planning, preparation, submission of the application for an Operational License, construction, and operation of power plants. The direct financing instrument and ownership of power plant assets are similar as the PPU scheme above.

2.4 IUPTLSK Scheme

The Small-Scale Electricity Supply Business License (IUTPLSK) scheme is related to the government's electrification program c.q. MEMR Regulation No. 38/2016 concerning the Acceleration of Electrification in Under-Developed Villages, Remote Villages, Border Areas and Populated Small Islands through the Implementation of Small-Scale Electricity Supply Businesses (<50 MW). Under this scheme, the Governor shall submit a proposal to the Minister of Energy and Mineral Resources regarding the relinquishment of PT PLN's Business Areas. The Minister of Energy and Mineral Resources shall approve or reject the proposal based on the recommendation of the technical team that verifies the Governor's proposal documents. Upon obtaining approval from the Minister of Energy and Mineral Resources, the Governor shall offer and select the UPTLSK business entity. The Minister of Energy and Mineral Resources assigns the selected business entity to supply electricity for the public . The scope of responsibilities of the business entity under this scheme include: project planning, preparation, land preparation, participation in the selection process, construction, operation and maintenance of power plant assets and power grid, as well as electricity sales services. The direct financing instruments used can be in the form of equity, loans and grants. The assets used for services is owned by the business entity.

The role of public services for infrastructure provided through the IUPTLSK scheme opens opportunities to utilise the PPP scheme with a Party in charge of the Cooperation Project who has the authority to contract with business entities. However, the PPP scheme has never been used for this electrification program.

15. Business licenses are issued by the Minister of Energy and Mineral Resources, Governors, District Heads/Mayors in accordance with their authority.
16 The scope of business of a business entity that holds a Business Area License can be integrated (including power generation, transmission, distribution and sales) as well as distribution and/or sales.

FIGURE 8: The UPTLSK Procurement Process

The UPTLSK arrangement is intended for a power system capacity of up to 50 MW for undeveloped villages, remote villages, border areas and/or small populated islands. The Governor's proposal is supported with: location information, analysis of potential local RE sources, analysis of the electricity demand, analysis of the community's capacity and willingness of to pay, and an estimate of the average price of materials, services and transportation. The Minister can also determine the business area without a proposal from the Governor and inform the determination to the Governor.

In the event that the Governor's offering of a Business Area fails to attract the interest of the Business Entity, the Governor may assign a local BUMD to organise the UPTLSK.

The assigned business entities must: (1) prepare a business plan for electricity supply, (2) supply electricity, (3) achieve an electrification ratio of 95% within 5 years, (4) build electricity infrastructure and operate it in no later than 1 year upon being assigned, (5) meet safety and environmental requirements.

If there is a difference in tariffs, the electricity tariff can be determined by utilising the Subsidy Budget (APBN). However, in implementation, the utilisation of the Subsidy Budget requires a relatively complex budgeting process, both in terms of transactions and discussions in the parliament.

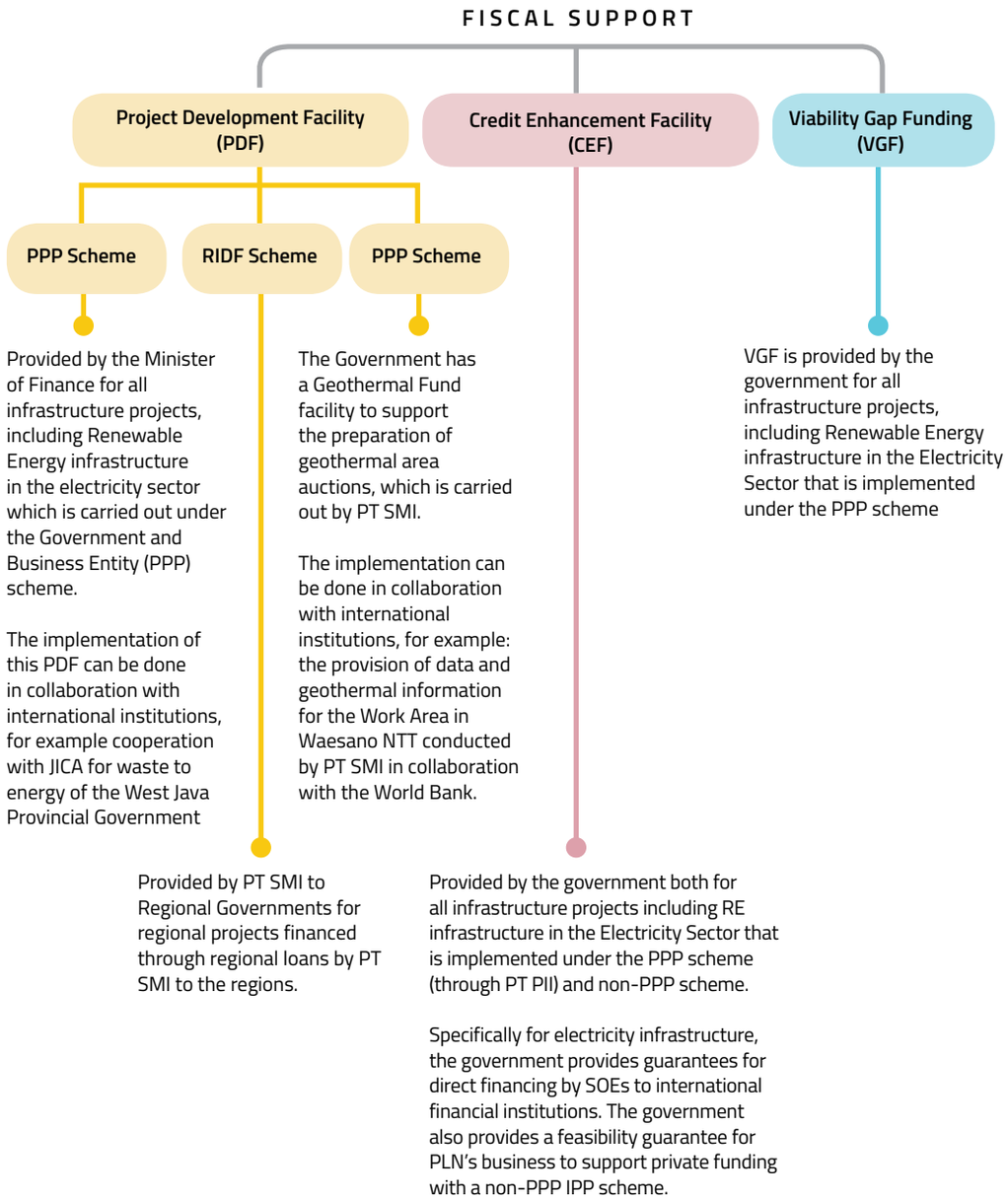
17 There are no provisions regarding the risk allocation for assignments under this scheme. In addition, there are complexities in relation to determining electricity tariffs and providing subsidies to regions that have the willingness and ability to pay below the financial feasibility. In accordance with the MEMR Regulation No. 38/2016, the subsidy mechanism still needs to be tested for its practical implementation

CHAPTER 3

General Availability of Fiscal Support

The government has provided fiscal support in the form of PDF, CEF and VGF to accelerate the provision of general infrastructure (not only electricity). However, the structure and availability depend on the needs and limitations when the provision is initiated. FIGURE 9 shows a map of the available fiscal support instruments.

FIGURE 9: Map of Fiscal Support Currently Available



3.1 Under the PPP Scheme

Referring to **FIGURE 7**, the PPP scheme[18] has all of the three types of fiscal support needed. Under this scheme, the PDF[19] is provided to the allocated to the Party in Charge of the Cooperation Project representing the government. Cooperation Project (PJPK) to improve the quality of project preparation and implement transactions offered to business entities to meet the required quality and time frame. This facility is expected to produce a project with an optimal risk allocation structure[20], including the provision of appropriate CEF and VGF instruments. This facility also aims to select the right business entity[21] so the provision of public services through the infrastructure built can be provided in a timely manner and in accordance with predetermined service standards. Under this scheme, the PDF can be implemented by assigning SOEs - e.g. assigning PT SMI or IIGF - or through collaboration with international agencies.

Under the PPP scheme, the CEF was provided through IIGF[22] in the form of an Infrastructure Guarantee[23]. Guarantees are given to business entities that are parties to the PPP agreement. The guarantee is provided based on the risk[24] allocation principle applied to the Party in Charge of the Cooperation Project and the Implementing Business Entity in a cooperation agreement between the two parties. Therefore, prior to providing a guarantee, IIGF shall ensure that the infrastructure risk in the draft PPP agreement has been allocated to the party most capable of managing, controlling, preventing or absorbing them. Infrastructure guarantees are then used to improve the quality of risk allocation by providing guarantees for specific infrastructure risks allocated to the Party in Charge of the Cooperation Project representing the government.

On the other hand, the VGF under the PPP scheme is currently provided in the form of Viability Gap Funding for partial construction costs. The instrument was provided based on Minister of Finance Regulation No. 223/2012 on Viability Gap Funding for Partial Construction Costs of PPP Projects in the Provision of Infrastructure and Minister of Finance Regulation No. 143/2013 on the Guidance for Providing Viability Gap Funding for Partial Construction Costs of PPP Projects in the Provision of Infrastructure, as amended by Minister of Finance Regulation No. 170/2015. This fiscal support is in the form of financial (cash) fiscal contributions made to the PPP project for the provision of infrastructure to a portion of the project's construction costs. This support is only given to projects that are economically feasible but not financially feasible. VGF is the 'last resort', meaning that it is only given if the optimisation of revenues and costs during the preparation stage via PDF does not produce a financially feasible project. The amount of support serves as a financial parameter in determining the successful bidder of the tender which is decided by the Party in Charge of the Cooperation Project.

18. Based on the Presidential Regulation No 38/2015, PPP is defined as a cooperation between the government with business entities in the provision of infrastructure for public use by referring to the specifications that have been pre-determined by Ministers / Head of Agencies/ Regional Heads / State Owned Enterprises / Locally Owned Enterprises, which partially or fully use Business Entity resources by considering the distribution of risk between the parties. The procedures for implementing the PPP are regulated by the Minister of National Development Planning Regulation No. 4/2015 concerning the Procedures for Implementing Public-Private Partnership in the Provision of Infrastructure.
19 This is currently set forth in Minister of Finance Regulation No. 73/2018 concerning the Facilities for Preparing and Implementing Public-Private Partnership Project Transactions in the Provision of Infrastructure
20 There are many complaints from developers and financial institutions about the quality of risk allocation in the PPA for RE projects under the non-PPP IPP scheme.

To date, the PPP scheme is the only scheme to offer fiscal support in the form of VGF. In the study conducted last year, the VGF can be given in the form of investment grants or tariff incentives (top-up premium). The type of VGFs currently available are investment grants. The tariff incentive model cannot be made available in the near future because it is interlinked with the tariff policy under the authority of the MEMR sector. Therefore, this study concludes that there will be no changes to the existing VGF model in the near future. However, VGF is only provided through the PPP scheme, for both IPP and UPTLSK.

3.2 Under the non-PPP IPP Scheme in the Electricity Sector

In order to accelerate the development of electricity infrastructure, the government is providing CEF support in the form of a Business Viability Guarantee Letter (BVGL). This guarantee is given to non-PPP IPPs in the PT PLN's approved Project Developers List. The government guarantees PT PLN's ability to fulfil its obligations in accordance with the PPA through the BVGL.

3.3 Under the SOE Direct Lending Scheme

On the other hand, fiscal support in the form of CEF is also provided by the government for direct loans from international financial institutions to SOEs for infrastructure financing[25] . This guarantee is provided in the form of a credit guarantee. An example is the government guarantee for PT PLN's loan from the Asian Development Bank to finance transmission infrastructure. This instrument can be used for the provision of RE infrastructure under the self-operated scheme.

3.4 Under the RIDF Scheme

In addition to the PPP scheme, other schemes also offer fiscal support in the form of PDF. PDF facilities are also available through the Regional Infrastructure Development Fund (RIDF) scheme managed by PT SMI[26]. The aim of this fund, among others, is to provide assistance during project preparation for the local government. This facility can be utilised by local governments who have initiatives to provide RE infrastructure in their regions. The activities undertaken by PT SMI under the RIDF scheme include: local loans, project development facilities and consultation/advisory. The PDF can be provided by PT SMI to the local government for local projects financed through local loans by PT SMI to the regions.

21 The selection of business entities under this scheme is not done using a direct selection mechanism - as stipulated by MEMR Regulation No. 50/2017 - but is instead done using a competitive tender. Opportunities are also available for business entities with RE project initiatives to be provided through unsolicited PPP schemes.
22 IIGF was established through Government Regulation No. 35/2009 concerning Indonesian State Investment for the Establishment of a Company in the Infrastructure Guarantee Sector as amended by Government Regulation No. 50/2016.
23 Infrastructure Guarantee refers to the provision of guarantees for the financial liabilities of the Party in Charge of the Cooperation Project implemented under the Guarantee Agreement, as stipulated in Presidential Regulation No. 78/2010 concerning Infrastructure Guarantee in PPP Projects through the Infrastructure Guarantee Entity (BUPI) and Minister of Finance Regulation
24 Infrastructure Risk is defined as events that may occur in a cooperation project during the implementation of the PPP agreement which can negatively affect business entity investment, including equity and loans from third parties.
25 This is implemented based on Presidential Regulation No. 82/2015 concerning Central Government Guarantees for Infrastructure Financing through Direct Loans from International Financial Institutions to SOEs and Minister of Finance Regulation No. 189/2015 concerning Procedures for Providing and Implementing Government Guarantees for Infrastructure Financing through Direct Loans from International Financial Institutions to SOEs and Minister of Finance Regulation No. 101/2018 concerning Procedures for Providing and Implementing Joint Government Guarantees or through Infrastructure Guarantee Entity against Risk of Failure to Pay for State Owned Enterprises Receiving Loans and/or Issuance of Bonds for Infrastructure Financing.

FIGURE 10: Regional Infrastructure Development Fund Scheme

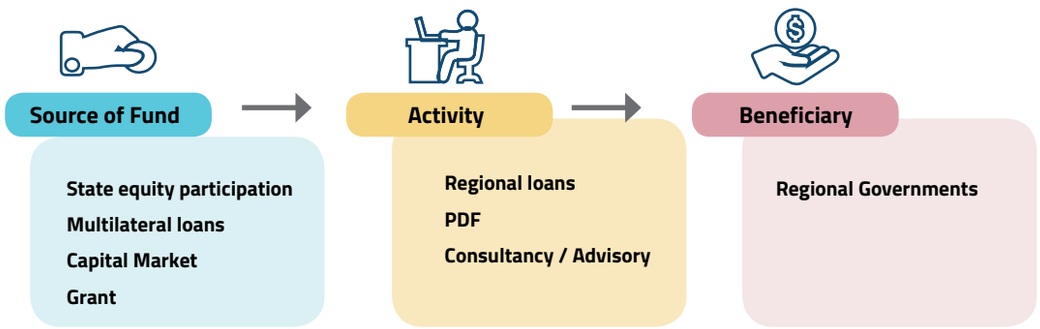


FIGURE 10 shows the source of funds, activities and beneficiaries of the RIDF scheme. In addition to the government investment originating from the transfer from the Government Investment Centre to PT SMI; PT SMI can also distribute multilateral loans, capital markets or grants from third parties for a regional infrastructure project. The characteristics of the RIDF are as follows:

- The equity capital structure from the government to PT SMI is to obtain loans and grants from donor agencies and/or participation from the capital market,
- Is a revolving fund
- Financing decisions are made based on local government fiscal capacity and project feasibility.

Local governments can submit local loan proposals to PT SMI. Based on the evaluation of the proposal, PT SMI can provide lending, PDF, and consultation/advisory activities. The last two activities are carried out to ensure the project quality and the project's ability to repay the loan. Local governments also have the opportunity to develop RE infrastructure projects in their regions through this mechanism - which involves PDFs and direct financing in the form of loans.

3.5 Under The PISP Scheme

The PISP Scheme is provided based on Minister of Finance Regulation No. 62/2017 concerning the Management of the Geothermal Sector Infrastructure Financing Fund in PT Sarana Multi Infrastruktur. The PISP serves as financing support for the exploration, exploitation and development of geothermal projects, including the provision of data and information on working areas. The PISP Fund Scheme has a PDF component to support the preparation of Geothermal Area tenders carried out by PT SMI. The implementation can also be done through cooperation with international institutions. An example is the provision of Geothermal data and information for Waesano Working Area, East Nusa Tenggara carried out by PT SMI in cooperation with the World Bank.

26 PT SMI was established through Government Regulation No. 66/2007 concerning Indonesian State Investment for the Establishment of a Company in the Infrastructure Guarantee Sector. PT SMI obtained a license to operate as an Infrastructure Financing Company in 2009 through Minister of Finance Regulation No. 396/2009. In 2015, the Government transferred Government investment from the Government Investment Centre to PT SMI through Government Regulation No. 95/2015 concerning Indonesia's State Investment to PT SMI's Share Capital. The RIDF scheme and the Geothermal Infrastructure Development Fund are further developments of the State Investment in 2015.

FIGURE 11: PISP Fund Management by PT SMI

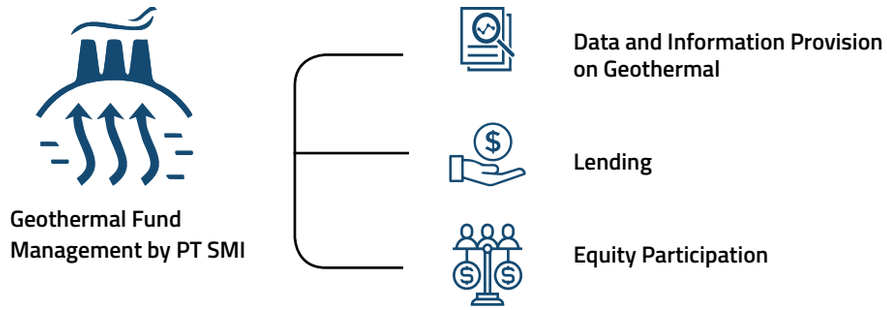


FIGURE 11 shows the management of PISP funds by PT SMI. The funds can be utilised for the following purposes:

1. **Provision of Geothermal Data and Information:** based on a proposal from the Minister of Energy and Mineral Resources or the President Director of an SOE/subsidiary of an SOE involved in the geothermal sector; the Minister of Finance may assign PT SMI to provide geothermal data and information which include exploration activities. In implementing this, PT SMI can collaborate with international financial institutions,

2. **Lending for exploration, exploitation and/or development of geothermal power plant (PLTP) projects**. The type of business entities that may submit loan proposals are:
   a. SOEs that carry out indirect utilisation (geothermal utilisation business activities through the conversion of heat and/or fluid into electricity),
   b. Business entities (the majority of shares are held by SOEs) that carry out indirect utilisation,
   c. State-owned electricity company, and/or
   d. Business entities that hold a geothermal license

3. **State equity participation in:**
   a. Establishment of new business entities that implement indirect utilisation,
   b. Business entities that carry out indirect utilisation and PT SMI does not own any shares of the business entity, or
   c. Business entities that carry out indirect utilisation and PT SMI holds shares of the business entity

The first point above can be categorised as a component of a PDF. On the other hand, the second and third points are direct financing[27] in the form of loans and equity. With the implementation of the PISP scheme, there is an opportunity for the government to expand the scope of the types of technology that can be supported by this fund. In other words, these funds can be expanded into a RE Fund which will offer fiscal support in the form of a PDF and direct financing in the form of loans and equity.

27 Direct financing can be in the form of loans, equity or grants. Funding with a repayment requirement - including a repayment of capital costs - is referred to as financing. Direct financing, in the form of loans and equity, refers to financing directly provided to the project company.

CHAPTER 4

Fiscal Support Gaps

Based on the explanations given in section 6 and 7, it can be concluded that the available scheme for private sector to contribute to RE infrastructure financing in the electricity sector, do not offer the same fiscal support options. Fiscal support gaps are found under certain schemes, this needs to be addressed to respond to the three issues specified in the introduction section of this report. **TABLE 2** shows the fiscal support gap.

4.1 UNDER THE SELF-OPERATED SCHEME

PDF support is not available under the self-operated scheme. The project preparation is done[28] by PT PLN as the project owner. The CEF under this scheme is available in the form of guarantee for PT PLN's loans to international financial institutions (direct lending). On the other hand, the unavailability of the VGF does not pose an issue for PT PLN due to the availability of a subsidy mechanism using the formula of the BPP + margin.

4.2 UNDER THE NON-PPP IPP SCHEME

The fiscal support available under the non-PPP IPP scheme is CEF in the form of a BVGL for projects handled by PLN's approved Project Developers List. In other words, availability is also limited. However, this scheme has been used by the private sector to be involved in RE financing through PT PLN's IPP. Three main issues were identified in last year's report, those issues mainly occurred under this scheme. At present, under this scheme, the private sector faces the risk of not being able to optimally allocate risk in the PPA and the possibility of not receiving cost recovery for the planning and preparation costs incurred if they are not selected in the direct selection conducted by PT PLN[29] . Fiscal support in the form of PDF which can be used to overcome this issue is unfortunately not available under this scheme. In addition, the VGF is also not available.

TABLE 2 Fiscal Support Gaps in Schemes for the Provision of RE Infrastructure in the Electricity Sector

Provision Scheme	PDF	CEF	VGF
Self-Management PT PLN	X 1)	√ 2)	X 3)
IPP - Non PPP	X	√ 4)	X
IPP - PPP	√	√	√
PPU	X	X	X
Operating License	X	X	X
UPLTSK	X 5)	X 5)	X

√ : Available X: Not yet available / Not always available
1): Done by PLN 2): Guarantee on direct lending 3): Through electricity subsidy 4): Business feasibility guarantee but limited only to projects contained in the Project Register 5): Depends on the donor program so it still needs Fiscal Support to accelerate the electrification program through the Small Scale Electricity Supply Business (UPLTSK)

28. This means that PT PLN shall be responsible, the risk arising from the implementation of the preparation shall also be borne by PT PLN as the main party in charge, eventhough PT PLN may subcontract the implementation to other parties.

At present, under this scheme, the private sector faces the risk of not being able to optimally allocate risk in the PPA and the possibility of not receiving cost recovery for the planning and preparation costs incurred if they are not selected in the direct selection conducted by PT PLN[29] . Fiscal support in the form of PDF which can be used to overcome this issue is unfortunately not available under this scheme. In addition, the VGF is also not available.

4.3 Under the PPP IPP Scheme

The PPP IPP Scheme offers fiscal support in the form of PDF, CEF and VGF as explained in the previous section. However, this scheme has never been used for the provision of RE infrastructure in the electricity sector. This is because the utilisation of this scheme requires a shift of paradigm by PT PLN regarding the provision of RE. Under the PPP scheme, PT PLN acts as the Party in Charge of the Cooperation Project that carries out project planning and preparation. This is not the case for the non-PPP IPP scheme. However, this 'additional work' can be reduced if PT PLN submits a proposal to obtain a PDF from the Minister of Finance. The PDF is expected to improve the quality of tender documents, such as the PPA design, to make it more attractive to the private sector, including prospective lenders.

4.4 Under the PPU And IO Schemes

The PPU[30] and IO schemes do not offer fiscal support. This is in line with its commercial nature, such as the sale of electricity to companies in industrial areas, mining areas and for their own use such as shopping centres and hospitals. The tariff can cover the costs required to supply electricity services due to the commercial nature of these schemes. Therefore, this study concludes that fiscal support is not yet needed for these schemes.

4.5 Under the UPTLSK Scheme

Fiscal support in the form of PDF, CEF and VGF is not yet available under the UPTLSK scheme. However, it is not uncommon for donor agencies to provide PDF and CEF - in addition to direct financing in the form of grants - for electrification projects based on the targeted impacts to be achieved. The current regulations stipulate a subsidy mechanism for business entities if the predetermined tariff cannot make the project financially feasible. However, this mechanism [31] may not be workable in practice.

Similar to the case of PT PLN's Business Areas, the PPP scheme can also be used in electrification projects. Therefore, the fiscal support available under the PPP scheme can be provided as needed. However, the scheme has never been used for electrification projects, as explained in the previous section.

29. This scheme presents three weaknesses that require attention. The first is that no party can ensure the quality of tender documents and the risk allocation set forth in the draft PPA. The second is the Direct Selection process. The lack of a no direct appointment mechanism reduces incentives for private companies to conduct preliminary studies. Companies that conduct preliminary studies may not be selected in the Direct Selection, hence the costs incurred for conducting the study cannot be recovered. Third, many projects with business entities that have signed the PPA was unable to reach financial close. In other words, these projects are not bankable despite having obtained a PPA.
30 The PPU may sell electricity to the general public who have low purchasing power. This is a special case that can be grouped with the Ministry of Energy and Mineral Resources' electrification program, hence the discussion about Fiscal Support becomes the same as the UPTLSK.
31 As stipulated in Article 19 and Article 20 of MEMR Regulation No. 38/2016.

CHAPTER 5

Optimising the Role of Relevant Institutions

A study conducted in 2018 recommends utilising existing institutions - namely PT SMI and BPDLH - for implementing the RE Fund. The study recommends that the following institutions increase their role, namely PT SMI, BPDLH and IIGF to support the acceleration of investment in the RE sector.

These roles can be divided into: roles in providing fiscal support and roles in providing direct financing. The intended fiscal support is PDF, CEF and VGF. On the other hand, direct financing consists of loans, equity and grants. TABLE 3 shows the potential for strengthening the role of each institution in direct financing and fiscal support.

TABLE 3 Summary about Optimising the Role of Relevant Institutions

Provision Scheme	Private Funding Gaps			Fiscal Support Gaps		
	Equity	Loan	Grant	PDF	CEF	VGF
IPP Non PPP	●**	●** ●**	●**	●** ●***	●*** ●**	
IPP PPP	●**	●** ●**	●**	●* ●*** ●*	●*** ●*	●***
UPLTSK Non PPP	●**	●** ●**	●**	●** ●***	●*** ●**	
UPLTSK PPP	●**	●** ●**	●**	●* ●*** ●*	●*** ●*	●***

● PT SMI ● BPDLH ● PT PII

* can be immediately implemented;
** existing regulations need to be adjusted;
*** need additional regulations or adjustments to existing regulations

5.1 PT SMI

PT SMI is a State-Owned Enterprise in the field of infrastructure financing, which has been assigned to manage geothermal funds [16] and has become an accredited institution for the Global Climate Fund mechanism. In addition, PT SMI has experience working with bilateral / multilateral agencies related to investment development in the RE sector such as the French development agency (AFD) and United Nations Development Program (UNDP). On 5 October 2018, the Ministry of Finance launched SDG Indonesia One (SDG One) as an integrated financing collaboration platform to support infrastructure development oriented towards achieving the SDGs.

5.1.1 Direct Financing

As the RIFD manager, PT SMI can provide loans to local governments that have RE infrastructure project initiatives. Based on the previous presentation, PT SMI can also channel financing in the form of grants from donor agencies for a regional infrastructure project through this RIFD scheme. However, these funds are not specifically provided for RE.

The PISP Fund is specifically provided to accelerate RE investment. By managing the PISP Fund, PT SMI can provide direct loans in the form of loans or equity. However, these funds only focus on Geothermal technology. The use of PISP Funds outside Geothermal technology need to be expanded to be used for other RE technologies by amending Minister of Finance Regulation No. 62/2017.

In addition, on the commercial side, PT SMI as an infrastructure financing institution can also provide financing for both equity and loans. This can be done in connection with the provision of RE infrastructure in the electricity sector, but this financing is not specifically directed at this sector.

The challenge in developing PT SMI's role is how the company can increase its capacity as a development agent. The following matters need to be addressed immediately, namely:

1. Conflict between its commercial interests and its expected role as a development agent. Alignment between key performance indicators implemented by PT SMI shareholders and the achievement of the mission as a development agent is a prerequisite for effectively increasing in the role of PT SMI in RE financing. If corporate indicators that are commercial in nature are more dominant, PT SMI's organisation will find it difficult to meet fiscal support targets;

2. The first thing to do is build organisational capacity in relation to the implementation of fiscal support assignments. Without appropriate key performance indicators, organisational capacity related to the provision of fiscal support in the PT SMI organisation will not be able to develop.

5.1.2 Fiscal Support

Under the RIDF scheme, PT SMI can carry out PDF activities in relation to the local loans. However, this is not specifically intended for the provision of RE infrastructure in the electricity sector. On the other hand - through the management of the PISP Fund - PT SMI can carry out part of the PDF related to the provision of Geothermal data and information. Increasing the role of PT SMI by managing the PISP Fund can be done by expanding the scope of the fund's services to include other RE technologies. This means that there needs to be an adjustment to the implementation of the PDF in accordance with the characteristics of other RE technologies, which are basically more simple than Geothermal technology.

PT SMI has currently assumed the role of the party assigned as the executor in providing fiscal support in the form of PDF through the PPP scheme. This role can be increased if the PDF's scope is expanded so it can be utilised by the non-PPP IPP scheme and the non-PPP UTPLSK scheme. This requires regulatory changes as discussed in the previous section of this report.

PT SMI can also play a role in providing CEF facilities to provide partial business entity loan guarantee under the non-PPP IPP and the non-PPP UPTLSK schemes. This role can be carried out commercially so it does not have to be in the form of fiscal support. The concern is that the commercial fees may be burdensome for business entities.

PT SMI's increasing role in providing fiscal support also faces the same challenges as in direct financing. The organisational capacity of PT SMI in carrying out this mandate depends on the compatibility of the company's key performance indicators with the targets of providing fiscal support.

5.2 BPDLH

BPDLH is a Public Service Agency mandated by Law No.32/2009 concerning Environmental Protection and Management, and Government Regulation No.46/2017 concerning Environmental Economic Instruments, and Presidential Regulation No.77/2018 concerning Environmental Fund Management mandates the environmental funds to be managed through fundraising, financing and fund distribution. Fundraising for preventing pollution and/or environmental degradation and restoration comes from the state budget, regional budget, and other legal and non-binding sources in accordance with the provisions of the law. On the other hand, the trust fund/conservation assistance comes from the state budget, regional budget, grants and donations. A non-echelon organisational unit was established to manage the environmental fund using the BLU financial management pattern. The non-echelon organisational unit was established by the Minister of Finance in accordance with the provisions of the applicable laws and regulations.

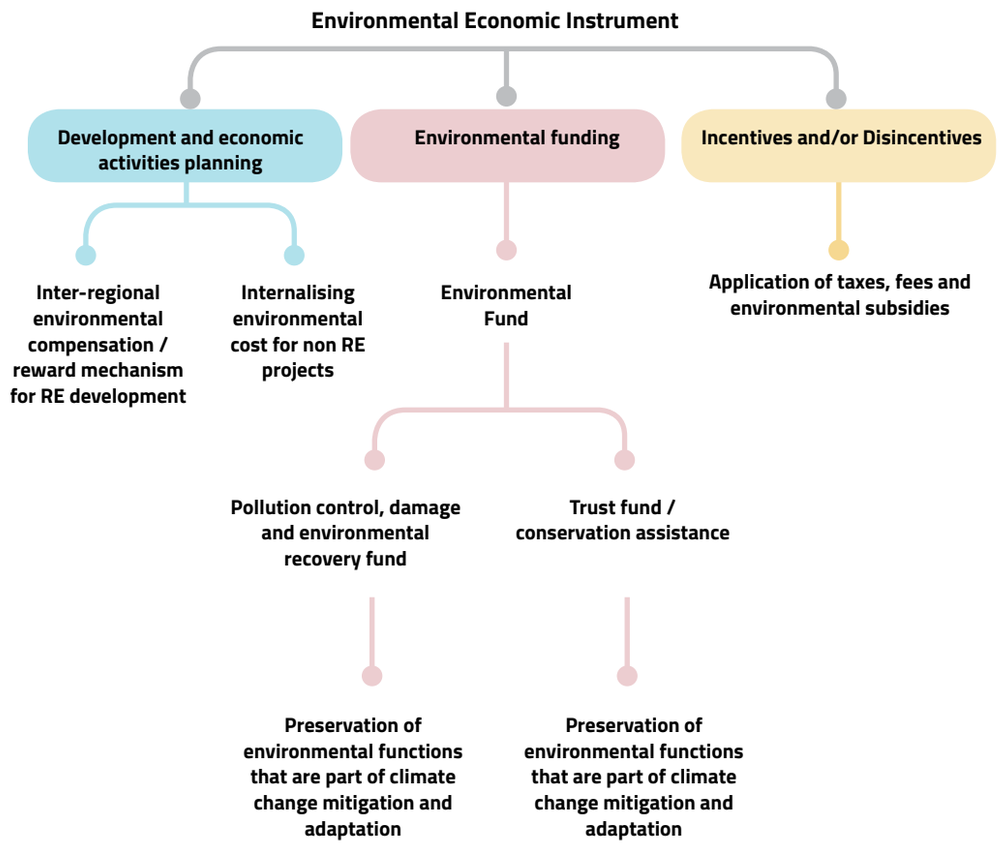
5.2.1 BPDLH involvement

The development of the role of the BPDLH in the provision of RE infrastructure in the electricity sector depends on the addition/adjustment of regulations in the future. This role is related to the intersection between the laws and regulations concerning Energy - especially

Electricity - and the Environment. Government Regulation No. 79/2014 on the National Energy Policy stipulates that instruments supporting RE must be provided by the government and local government to achieve an optimal energy mix target and implement priority energy development that supports environmental conservation. Environmental conservation is an intersection between laws and regulations in the energy sector and the environment sector.

According to Government Regulation No. 46/2017, the environmental sector has an Environmental Economic Instrument. The Environmental Economic Instrument consists of: (1) development planning and economic activities, (2) environmental financing, and (3) incentives. FIGURE 12 shows how the Environmental Economic Instrument can potentially support RE in the electricity sector.

FIGURE 12: Potential Support for RE in the Electricity Sector by the Environmental Economic Instrument



In development planning instruments and economic activities, support for RE can be provided through a compensation mechanism / environmental services between regions for RE development as well as internalisation of environmental costs for non-RE power plants. On the other hand, environmental financing can be given for the conservation of environmental functions that are part of climate change mitigation and adaptation. Last but not least, incentive and/or disincentive instruments consist of environmental subsidies which can also be utilised to support RE projects.

Environmental funds - which can be found in Figure 11 - are currently regulated using the financial management pattern of the Public Service Agency (BLU). The Environmental Fund Management Agency (BPDLH) has been established and is currently being prepared for implementation under the Minister of Finance. The management of funds by the BLU consists of the following activities: collection, fertilisation and distribution of funds. The distribution can be done through these instruments: carbon trading, loans, subsidies, grants and other instruments.

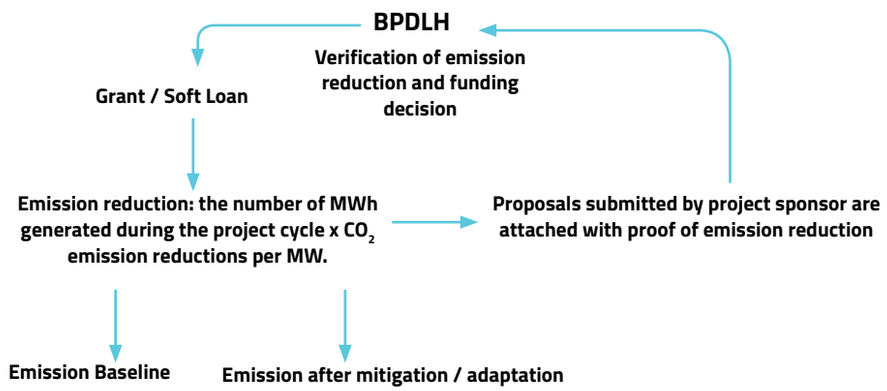
Environmental financing can be utilised in a RE project - specifically a RE power plant - based on the environmental conservation benefits offered by the project. In other words, the basis for Environmental financing is the great benefits of climate change mitigation and/or adaptation offered by the project. Environmental financing is not related to how much energy is generated by a RE power plant during its economic life, but based on the amount of GHG emission reductions (GHG) achieved by the RE power plant during its economic life.

At present, the DJK has a basis for calculating the amount of GHG emission reductions from each type of power plant used in preparing the National Greenhouse Gas Action Plan (RAN GRK).

5.2.2 Direct Financing

The BPDLH can be involved in providing support in the form of direct financing for a RE infrastructure project. FIGURE 13 shows a possible process scenario for the financing.

FIGURE 13: The Direct Financing Process from the BPDLH



CHAPTER 5
Optimising The Role of Relevant Institutions

The financing process starts by conducting a study in the context of project preparation. The study conducted during the project preparation must include a study of the amount of emission reductions resulting from the RE plant being developed. The calculation is based on the number of MWh generated during the PPA period, multiplied by GHG emission reductions per MW.

By calculating the benefits of reducing emissions, the project sponsor submits a proposal to the BPDLH for financing in the form of grants and/or soft loans. Based on the proposal received, the BPDLH firstly verifies the emission reduction calculation. Based on the verification results, the BPDLH decides to provide or not provide financing of certain types and amounts. Financing can be in the form of grants, soft loans or a combination of both. This financing can also be performance based to provide incentives for the implementation of the GHG emission reduction plan that has been prepared.

Several prerequisites are needed for this mechanism to work, namely:

1. For power plants in PT PLN's business area:
   - The Ministry of Energy and Mineral Resources and the Ministry of Environment and Forestry have an understanding of the baseline that will be used
   - There is clarity from the beginning about the party submitting a proposal to the BPDLH, either a business entity or PT PLN (PJPK)
2. There is an agreement between the Ministry of Energy and Mineral Resources and the Ministry of Environment and Forestry regarding the verification procedures to be adopted by the BPDLH
3. There are monitoring procedures carried out by the BLU BPDLH, including clarity of the mechanism and its stipulation.
4. There are mechanisms and procedures for the BPDLH to provide performance-based financing, including verification and monitoring mechanisms.

5.2.3 Fiscal Support

The involvement of the BPDLH in providing fiscal support requires more regulation beyond what it already has[32]. This involvement in the provision of fiscal support does not replace or compete with existing institutions:

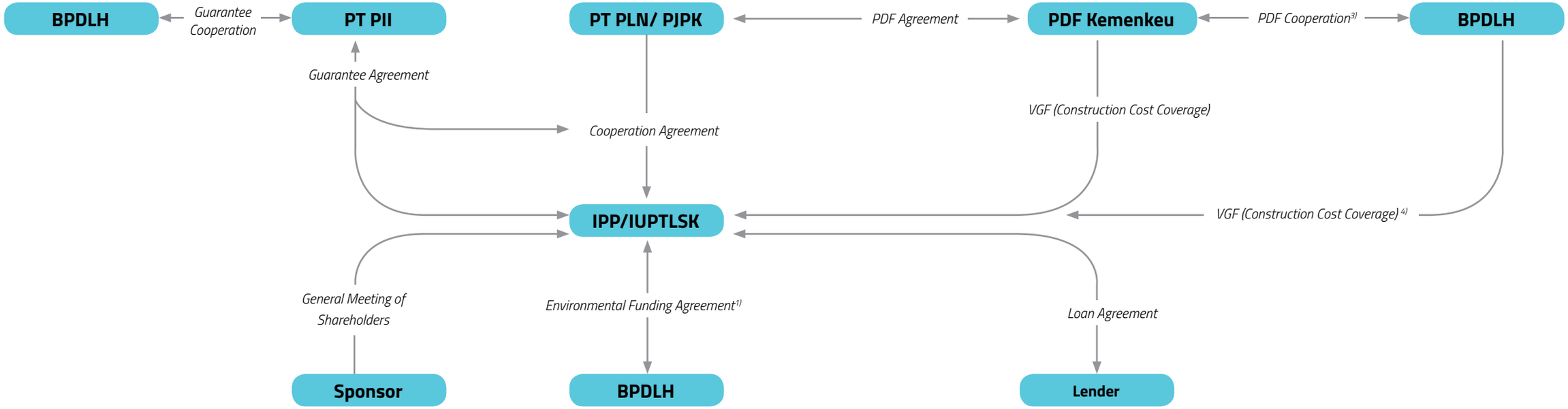
- The Environmental financing provided by the BPDLH supports the fiscal support provided by the existing institutions, i.e. PT SMI and IIGF.
- On the other hand, involvement in the provision of VGF related to environmental costs will follow the existing process for providing VGF.

Two type of efforts are needed to be able to do this. First by amending regulations related to existing fiscal support so it can accommodate environmental financing in the provision of fiscal support. The fiscal support includes PDF, CEF and VGF. The second effort is to make adjustments or add regulations related to the BPDLH so that it can be involved in providing fiscal support through changes to the fiscal support regulations mentioned above.

32 See Table 4 to table 7

FIGURE 14 summarises the potential involvement of the BPDLH in a normative structure of a PPP IPP/UPTLSK project. The necessary adjustments or additions to regulations are as described in TABLE 4 TO TABLE 7 and the previous section related to direct financing. In the context of IPP, a business entity has a PPA contract - or referred to as a Cooperation Agreement under the PPP scheme - with PT PLN. Whereas in the context of the UPTLSK, the PJPK can be the Governor or the Minister of Energy and Mineral Resources.

FIGURE 14: Scenario of the Role of BPDLH



1) Business Entity signing the Cooperation Agreement can submit a proposal for environmental funding in the context of climate change mitigation / adaptation completed with the calculation of GHG emission reduction to BP DLH. After verifying, BPDLH provides / does not provide funding in the form of grants / soft loans.
2) With additional regulations / regulatory adjustments, BPDLH can collaborate - to support - IIGF guarantees. Guarantees are given to projects that provide climate change mitigation / adaptation benefits..

The Environmental Fund can potentially be involved through the role of the BPDLH in direct financing or in providing fiscal support, namely:

1. Direct financing in the form of (soft) loans or grants is given to Business Entities signing a Cooperation Agreement (PPA) based on the benefits of reducing GHG emissions through the project compared to the baseline;
2. Cooperation with IIGF in providing guarantees to projects that provide climate change mitigation and/or adaptation benefits;
3. Cooperate with SOEs that are assigned as PDF executors, for example PT SMI, in the form of PDF financing contributions or the provision of Environment consultants;
4. Providing VGF contribution to a project related to the scope of costs required in connection with climate change mitigation and/or adaptation goals

The four potential roles mentioned above require the readiness of the BPDLH organisation. Therefore, in line with the development of regulations, the BPDLH also needs to prepare organisational development to be able to carry out its role in providing direct financing and fiscal support for RE infrastructure projects in the electricity sector.

3) With additional regulations / regulatory adjustments, BPDLH can collaborate with implementing PDF facilities - for example with PT SMI - to provide contribution support in the form of grants (conditional) for a portion of PDF costs and the provision of environmental consultants.
4) With additional regulations / regulatory adjustments, LW BPD can provide VGF for the scope of environmental costs - related to the achievement of LH mitigation / adaptation benefits - the process of following the existing VGF regulations

5.3 IIGF

IIGF is an SOE under the Minister of Finance which aims to provide fiscal support in the form of guarantees while at the same time acting as a ring fence for state finances. SOEs were established based on Government Regulation No. 35/2009 concerning Indonesian State Investment for the Establishment of a Company in the Infrastructure Guarantee Sector as amended by Government Regulation No. 50/2016. The guarantee is stipulated in Presidential Regulation No. 78/2010 concerning Infrastructure Guarantee in PPP Projects through the Infrastructure Guarantee Entity.

In addition, IIGF is also assigned to provide guarantees for infrastructure financing through direct loans from international financial institutions to SOEs as set forth in Presidential Regulation No. 82/2015 and Minister of Finance Regulation No. 101/2018 concerning Procedures for Providing and Implementing Joint Government Guarantees or through Infrastructure Guarantee Entity against Risk of Failure to Pay for State Owned Enterprises Receiving Loans and/or Issuance of Bonds for Infrastructure Financing.

5.3.1 Direct Financing

The IIGF is not involved in the direct financing of an infrastructure project.

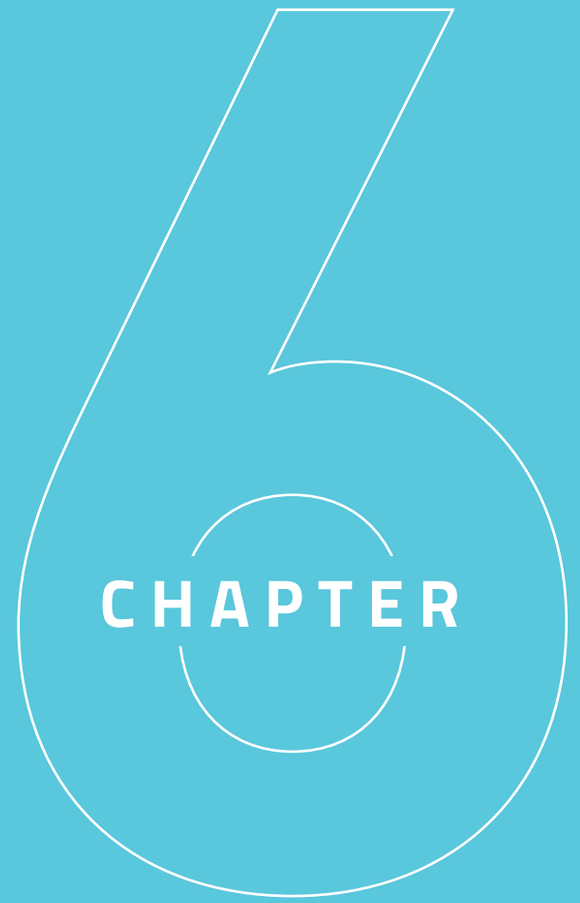
5.3.2 Fiscal Support

The IIGF currently has a mandate to provide infrastructure guarantees for PPP projects and credit guarantees for direct loans from international financial institutions to SOEs. However, the IIGF also plays a role as one of the SOEs that has been assigned to provide PDF to the PJPK. Therefore, the IIGF can be involved in the provision of infrastructure guarantees and PDFs on PPP RE projects, both IPP and UPTLSK.

The role of the IIGF can be enhanced in the provision of fiscal support as shown in **TABLE 4 TO TABLE 7** above. The regulation for granting credit guarantees to SOEs can be expanded so the IIGF can provide credit guarantees for a portion of the business entity loans under non-PPP schemes, i.e. IPP and UPTLSK. Fiscal support in this case is to provide guarantees by setting a fee that does not cause burden to attract private financing to enter the sector.

In the context of the guarantee above, IIGF provides guarantees to banks against the risk of default on some of the project executor's liabilities in accordance with the loan agreement. The guaranteed portion is determined after IIGF has carried out a credit risk assessment.

Issues related to organisational capacity building are also relevant for the IIGF. This is due to the fact that IIGF functions as a guarantee and also as a party assisting the PJPK in preparing the project. The issue of capacity building is not only related to the quantity of services but also the ability to reduce conflicts of interest between IIGF acting as project advisor and as guarantor.



Optimisation of Fiscal Support

In the last ten years, the government has invested in developing regulations and institutions to provide fiscal support for increasing private financing in infrastructure provision. Those organisations and relevant institutions have by now experienced a learning curve in relation to the provision of fiscal support. However, none of those experiences are related to the RE sector for electricity and therefore, the role of fiscal support and relevant institutions need to be increased to be able to encourage private financing in this sector more optimally.

In this study, optimisation can be carried out by adjusting or adding regulations so the needed fiscal support can be adjusted and provided under the RE infrastructure provision schemes in the electricity sector. This study observes the optimisation of fiscal support and relevant institutions under the IPP and UPTLSK scheme.

6.1 Optimising Fiscal Support Under the PPP IPP Scheme

The PDF currently - as explained in Chapter III - covers the project preparation and transaction stages. However, the issues faced during preparation stage of RE projects in the electricity sector are due to poor planning. Therefore, this study concludes that there is a need to expand the scope of PDF to also cover the planning stage. This can further ensure the efficiency and effectiveness of the preparation and transaction stages[33] .

To implement the PPP scheme fiscal support in the provision of RE infrastructure in the electricity sector under the IPP scheme, it is necessary to amend the MEMR Regulation No. 50/2017 concerning the Utilisation of Renewable Energy Sources for Electricity Supply, in order to accommodate procurement in accordance with competitive tenders according to Presidential Regulation No. 38/2015 concerning PPP. At present, based on MEMR Regulation No. 50/2017, the procurement of business entities is done through the direct selection mechanism. If PPP procurement can be used for business entity procurement (RE IPP), the fiscal support for PPP - in addition to PDF - will also be available. CEF support from IIGF in the form of infrastructure guarantees can be provided for RE projects. In addition, VGF instruments are also available to overcome financial feasibility issues.

The BPDLH regulation needs to be added or adjusted in relation to the role of the BPDLH in the provision of fiscal support so the agency can cooperate with institutions that have been directly involved in providing fiscal support. The involvement of the BPDLH must be in accordance with its scope as part of the Environmental Economic Instrument that supports environmental conservation activities which are a part of climate change mitigation and/or adaptation. In this context, the cooperation carried out by BPDLH with these institutions is related to environmental financing to produce benefits from climate change mitigation and/or adaptation resulting from the RE projects supported.

Referring to **TABLE 3**, for example, BPDLH can have cooperation with SOEs assigned as PDF executors. The cooperation is related to available Environmental financing instruments, such as financing a portion of the PDF costs for the procurement of environmental consultants. On the other hand, BPDLH can play a role in providing CEF by establishing cooperation with IIGF for projects that clearly provide climate change mitigation and/or adaptation benefits. Last but not least, the BPDLH can also participate in the provision of VGF, namely to contribute to the portion of costs associated with the environment This can certainly be done after the VGF coverage has been expanded to cover type of costs other than construction costs, particularly environmental-related costs.

TABLE 4 Optimising Fiscal Support Under the PPP IPP Scheme

Fiscal Support	Optimisation	Regulatory Adjustments
PDF	▪ Expanding the scope of PDF provided by the Minister of Finance to the planning stage ▪ Accommodate the collaboration of giving / implementing PDF with the Environmental Management Agency ▪ Amend the ET generator procurement process to be in accordance with the PPP scheme	▪ Perpres 38/2015 concerning PPP in the Provision of Infrastructure ▪ PMK 73/2018 concerning Facilities for the Preparation and Implementation of PPP Project Transactions in Provision of Infrastructure ▪ PMK 73/2018 and additional regulations / adjustments to the BPDLH regulations to be able to collaborate with the implementer of the PDF facility ▪ ESDM Regulation 50/2017 concerning Utilization of ET Sources for Electric Power Supply
CEF	▪ Accommodating guarantee cooperation between PT PII and BPDLH ▪ Amend the ET generator procurement process to be in accordance with the PPP scheme	▪ Additional regulations / adjustments to the BPDLH regulations to be able to collaborate to increase the IIGF's guarantee capacity ▪ ESDM Regulation 50/2017 concerning Utilization of ET Sources for Electric Power Supply
VGF	▪ Expanding current coverage (construction costs), for example, including environmental costs	▪ PMK 223/2012, PMK 143/2013 as amended by PMK 170/2015 ▪ Additional regulations / adjustments to the BPDLH regulations to be able to participate in the VGF granting process related to environmental cost coverage

33 Decisions made during the planning stage will affect the activities carried out during the preparation stage. If these decisions are formulated without sufficient consideration, there is a risk of a long and protracted preparation process.

6.2 Optimising Fiscal Support Under the PPP UPTLSK Scheme

The optimisation of fiscal support under the PPP scheme for electrification projects is shown in TABLE 4. With regards to the PDF, the government can specifically provide incentives for electrification projects by providing integrated PDF covering the planning stage to the provision of VGF. This fiscal support is expected to encourage electrification programs so the electrification ratios can be achieved on a continuous basis to meet the increasing economic and social growth due to electricity availability in accordance with established service standards.

The characteristic of the UPTLSK is that it is distributed and its capacity is limited to the electricity demands in the local area, hence there is a possibility that the value of a UPTLSK project will be less than Rp. 100 billion - which is currently the lower limit for the VGF. Therefore, the optimisation of VGF for this scheme can be done using two options. The first is to bundle several projects so the investment value reaches Rp. 100 billion or more. This is not impossible, especially if the area covers one province. The second option is to reduce the lower limit of the RE project value to be able to obtain VGF. In this context, the economic feasibility produced serves as the point of attraction of this project for the government to compensate for the VGF costs and relevant administrative costs.The involvement of the BPDLH in providing optimised fiscal support requires the addition or adjustment of BPDLH regulations as per the PPP IPP scheme above.

TABLE 5 Optimising Fiscal Support Under the PPP UPTLSK Scheme

Fiscal Support	Optimisation	Regulatory Adjustments
PDF	▪ Expanding PDF coverage provided by the Minister of Finance to the planning stage ▪ Provide special incentives for electrification programs (UPTLSK) by providing integrated PDF facilities from the planning stage to the provision of VGF ▪ Accommodate the collaboration of giving / implementing PDF with the Environmental Management Agency	▪ Perpres 38/2015 concerning PPP in the Provision of Infrastructure ▪ PMK 73/2018 concerning Facilities for Preparation and Implementation of PPP Project Transactions in Provision of Infrastructure, PMK 223/2012, PMK 143/2013 ▪ PMK 73/2018 and additional regulations / adjustments to the BPDLH regulations to be able to collaborate with the implementer of the PDF facility
CEF	▪ Accommodating guarantee cooperation between PT PII and BPDLH	▪ additional regulations / adjustments to the BPDLH regulations to be able to collaborate with implementing PDF facilities
VGF	▪ Expanding current coverage (construction costs), for example including environmental costs ▪ Accommodate project bundling to achieve the minimum value to get VGF or reduce the minimum value to get VGF	▪ Perpres 38/2015, PMK 223/2012, PMK 143/2013 ▪ Additional regulations / adjustments to the BPDLH regulations to be able to participate in the VGF granting process related to environmental cost coverage

6.3 Optimising Fiscal Support Under the non-PPP IPP Scheme

To increase the attractiveness of the Non-PPP IPP infrastructure provision scheme, fiscal support in the form of PDF can be provided to PLN. PDF facilities can be utilised to improve the quality of tender documents and the PPA design. However, amendments to the PDF regulation and the electricity sector regulation related to the procurement of non-PPP IPP is required to be able to implement this. The tender for this scheme does not provide the same level of competition as the PPP scheme. However, the quality improvement of these documents through the PDF is expected to have a positive impact on the quality of project preparation and the interest of investors acting as lenders.

Amendments in the electricity sector regulations - related to the electricity purchasing procedures - are needed for this to be implemented. Table 5 shows the regulations that need to be adjusted, especially those related to the drafting of documents for the procurement of business entities, either through public tender, direct selection or direct appointment.

On the other hand, the BVGL is available for the CEF under the non-PPP IPP scheme. However, this guarantee is only given to projects in PLN's approved Project Developers List and still projects often fail to achieve financial close. To overcome this, optimisation can be done by expanding the involvement of the IIGF and/or PT SMI to provide partial credit risk guarantee.

TABLE 6 Optimising Fiscal Support Under the Non-PPP IPP Scheme

Fiscal Support	Optimisation	Regulatory Adjustments
PDF	▪ Expanding pdf coverage provided by the minister of finance to the planning stage ▪ Expanding pdf coverage provided by the minister of finance so that it can be used for planning, preparation and transaction of non-PPP PPP projects ▪ Amended the procurement process for the non-PPP et generator so that the draft rfp and pjbtl documents were the result of a pdf facility provided to pt pln ▪ Accommodate the collaboration of giving / implementing pdf with the environmental management agency	▪ Perpres 38/2015 concerning PPP in the provision of infrastructure ▪ Pmk 73/2018 concerning facilities for the preparation and implementation of PPP project transactions in provision of infrastructure ▪ Perpres 54/2010 concerning procurement of government goods / services, was last amended by perpres 4/2015 ▪ Esdm regulation 50/2017 concerning utilization of et sources for electric power supply ▪ Pmk 73/2018 and additional regulations / adjustments to the BPDLH regulations to be able to collaborate with the implementer of the pdf facility
CEF	▪ Expanding the involvement of PT PII and / or PT SMI to provide guarantees for private loans of a certain value in the non-PPP IPP scheme ▪ Accommodate collateral cooperation between pt pii and / or PT SMI with BPDLH	▪ PMK 101/2019 concerning Provision of Government Guarantees for SOE Loans ▪ Additional regulations / adjustments to BPDLH regulations to be able to collaborate to increase the capacity of PT PII and / or PT SMI guarantee capacity

The VGF instrument is not available under this scheme because PT PLN's purchase tariffs are set by the Minister of Energy and Mineral Resources. The provision of VGF under this scheme will be contradictory to the tariff policy set by the sector. Therefore, this non-PPP IPP scheme would be more suitable for areas that have relatively high local electricity production cost.

The involvement of the BPDLH in the PDF and CEF under this scheme can be done in the same way as the previously discussed schemes.

6.4 Optimising Fiscal Support Under theUPTLSK (non-PPP) Scheme

To increase private financing under this scheme, the PDF can be optimised as outlined under the non-PPP IPP scheme, with the exception of the amended sectoral regulation i.e. MEMR Regulation No. 38/2016 because it is related to the electrification program outside PT PLN's Business Area. Likewise, the optimisation of fiscal support in the form of CEF is similar to that carried out in the non-PPP IPP scheme. However, the instrument under this scheme is intended to increase the creditworthiness of RE electrification projects.

Fiscal support in the form of VGF is not available under this scheme because the existing sector regulations seek to gain access to electricity subsidies for UPTLSK projects with tariffs set below the PLN electricity production cost plus the margins expected by the business entity. However, the implementation of this subsidy mechanism is foreseen to run into difficulties in its practical implementation.

TABLE 7 Optimising Fiscal Support under the UPTLSK Scheme

Fiscal Support	Optimisation	Regulatory Adjustments
PDF	▪ expanding PDF coverage provided by the Minister of Finance to the planning stage ▪ expanding PDF coverage provided by the Minister of Finance so that it can be used for project planning, preparation and transaction for UPTLSK - non PPP ▪ accommodate the collaboration of giving / implementing PDF with the Environmental Management Agency ▪ amended the procurement process of the UPTLSK ET generator so that the selection of business entities and assignment contracts is the result of the PDF facility provided to the PJPK	▪ Perpres 38/2015 concerning PPP in the Provision of Infrastructure ▪ PMK 73/2018 concerning Facilities for the Preparation and Implementation of PPP Project Transactions in Provision of Infrastructure ▪ Perpres 54/2010 concerning Procurement of Government Goods / Services, was last amended by Perpres 4/2015 ▪ PMK 73/2018 and additional regulations / adjustments to the BPDLH regulations to be able to collaborate with the implementer of the PDF facility ▪ ESDM Ministerial Regulation 38/2016 concerning Acceleration of Electrification in Undeveloped, Remote, Border and Small-Populated Villages Through the Implementation of Small Scale Electricity Supply Businesses
CEF	▪ Expanding the involvement of PT PII and / or PT SMI to provide guarantees for private loans of a certain value in the Non-PPP IPP scheme ▪ Accommodate collateral cooperation between PT PII and / or PT SMI with BPDLH	▪ PMK 101/2019 concerning Provision of Government Guarantees for SOE Loans ▪ Additional regulations / adjustments to BPDLH regulations to be able to collaborate to increase the capacity of PT PII and / or PT SMI guarantee capacity

CHAPTER 7

Steps for Optimising Fiscal Support

Optimisation options - as discussed in the previous section - have different levels of difficulty in its implementation. The level of difficulty depends on how many adjustments or additional regulations are needed and how many parties must be involved in the process. In addition, it is also influenced by the readiness of the organisational capacity of institutions whose role will be enhanced.

Based on the above, the optimisation steps can be divided into 3 groups, namely:
1. what can be immediately implemented (takes about 3 months - 6 months),
2. what requires more time for regulatory changes (takes about 6 months - 12 months), and
3. what requires more time for changes and additional regulations (takes about 12 months or more).

7.1 Target 3 Months - 6 Months

In terms of readiness, the provision of fiscal support through the PPP scheme can be directly carried out. This includes the PPP IPP scheme in PT PLN's business area as well as the PPP UPTLSK scheme in the electrification program business area (outside PT PLN's business area). Nevertheless, the current scope of fiscal support in the form of VGF does not cover projects with an investment value of under Rp. 100 billion. To overcome this matter, there needs to be an effort to bundle the project so the value can reach Rp. 100 billion. On the other hand, projects that cannot reach Rp. 100 billion in value expect amendments in the VGF regulation in terms of project criteria for obtaining the facility.

To immediately implement the PPP IPP scheme in the business areas of PT PLN and the UPTLSK in the electrification business area, information dissemination regarding the use of PPP and existing fiscal support needs to be carried out immediately at PT PLN, MEMR and the local government. This is expected to accelerate the adjustment of the MEMR regulation related to the procurement of RE IPP in the business area of PT PLN and the procurement of business entities in the electrification area.

The stakeholders who should be involved in this short-term optimisation step are:

1. **Ministry of Finance**
   a. Fiscal Policy Agency (BKF) and Directorate General of Budget Financing and Risk Management (DJPPR) to disseminate information on PPP schemes for IPP and UPTLSK
   b. BKF, DJPPR and DJKN shall align PT SMI and IIGF's performance indicators to develop the organisational capacity in providing fiscal support that generates greater impact on RE in the electricity sector
2. **Ministry of Energy and Mineral Resources:** to prepare the RE infrastructure pipeline projects and build capacity in understanding the PPP schemes for IPP and UPTLSK. In addition, the Ministry of Energy and Mineral Resources also needs to amend regulations, particularly MEMR Regulation No. 50/2017
3. **Local government:** to understand the UPTLSK PPP scheme and its implementation in UPTLSK projects
4. **PT PLN:** to gain better understanding about the PPP scheme and relevant fiscal support to then implement it for RE power plant projects already listed in PT PLN's RUPTL
5. The target is that there will already be UPTLSK or RE IPP infrastructure projects prepared using the PPP scheme within the next 6 months.

7.2 Target 6 Months - 12 Months

This optimisation requires a relatively longer time in adjusting the regulations compared to the previous one. The adjustment is related to regulations regarding PISP, PDF, CEF and BPDLH.

First, adjusting regulations regarding geothermal sector infrastructure financing (PISP) so PT SMI can:
1. provide direct financing, in the form of equity and loans, to business entities supplying electricity using non-geothermal renewable energy.
2. utilise the PISP Fund to provide PDF for non-Geothermal RE power plant projects.

Second, expanding the scope of PDF fiscal support which is currently only provided under the PPP scheme. This expansion allows the provision of PDFs to projects outside the PPP scheme. Through this expansion, PT SMI was able to be assigned to provide facilities for non-PPP power plant projects.

Third, expanding fiscal support in the form of CEF in non-PPP projects. As explained in the previous section, this expansion allows IIGF to provide credit guarantees for a portion of the business entity loans under non-PPP schemes. This guarantee can be in the form of a credit guarantee to the lender for the non-PPP IPP project executor.

The latter relates to the BPDLH providing direct financing for RE power plant projects. For this purpose, the provision of direct financing as explained in Chapter 5.2 must be prepared during this period so it can be effective in the next 6 months - 12 months.

The stakeholders who should be involved in this medium-term optimisation step are:

1. **Ministry of Finance**
   a. BKF and DJPPR to make changes to the PISP regulations
   b. BKF and DJPPR to
      i. expand the scope of PDF and CEF fiscal support for non-PPP schemes
      ii. additions or adjustments to BPDLH regulations for the provision of fiscal support
   c. BKF, DJPPR and DJKN shall align PT SMI and IIGF's performance indicators to develop the organisational capacity in providing fiscal support that generates greater impact on RE in the electricity sector
2. **Ministry of Energy and Mineral Resources:** for preparing a list of potentials/projects and adjusting regulations on non-PPP schemes so they can obtain PDF and CEF
3. **Local government:** for the readiness to implement amendments to the Minister of EMR Regulation regarding non-PPP UPTLSK
4. **PT PLN:** adjusting standard operating procedures for non-PPP IPP procurement in line with changes in the regulation for the non-PPP IPP scheme
5. **PT SMI and IIGF:** develop organisational capacity in providing fiscal support, in accordance with the directives of shareholders (DJKN) and regulators (DJPPR)

7.3 Target 12 Months or More

To provide a role in the provision of fiscal support, in addition to changes in regulations related to fiscal support, additional / adjustments to regulations related to the provision of fiscal support through the BPDLH are also required. The target set is that the BPDLH can play a role in providing fiscal support by 2021 as shown in FIGURE 13.

The stakeholders who should be involved in this long-term optimisation step are:

1. **Ministry of Finance**
   a. BKF and DJPPR monitor the utilisation of fiscal support in the electricity sector.
   b. BKF, DJPPR and DJKN shall align PT SMI and IIGF's performance indicators to develop the organisational capacity in providing fiscal support that generates greater impact on RE in the electricity sector

2. **PT SMI and IIGF:**
   develop organisational capacity in providing fiscal support, in accordance with the directives of shareholders (DJKN) and regulators (DJPPR)

3. **BPDLH:**
   develop organisational capacity in providing direct financing and to contribute in providing fiscal support (PDF, CEF and VGF).

CHAPTER

Conclusions and Recommendations

8.1 Conclusions

To be able to achieve the optimal energy mix target, a large amount of financing is needed to provide renewable energy infrastructure in the electricity sector. Due to the limited state budget, the government needs to utilise non-state budget financing sources. However, there are currently issues that hinder the mobilisation of financing from the private sector for the development and use of RE in the electricity sector.

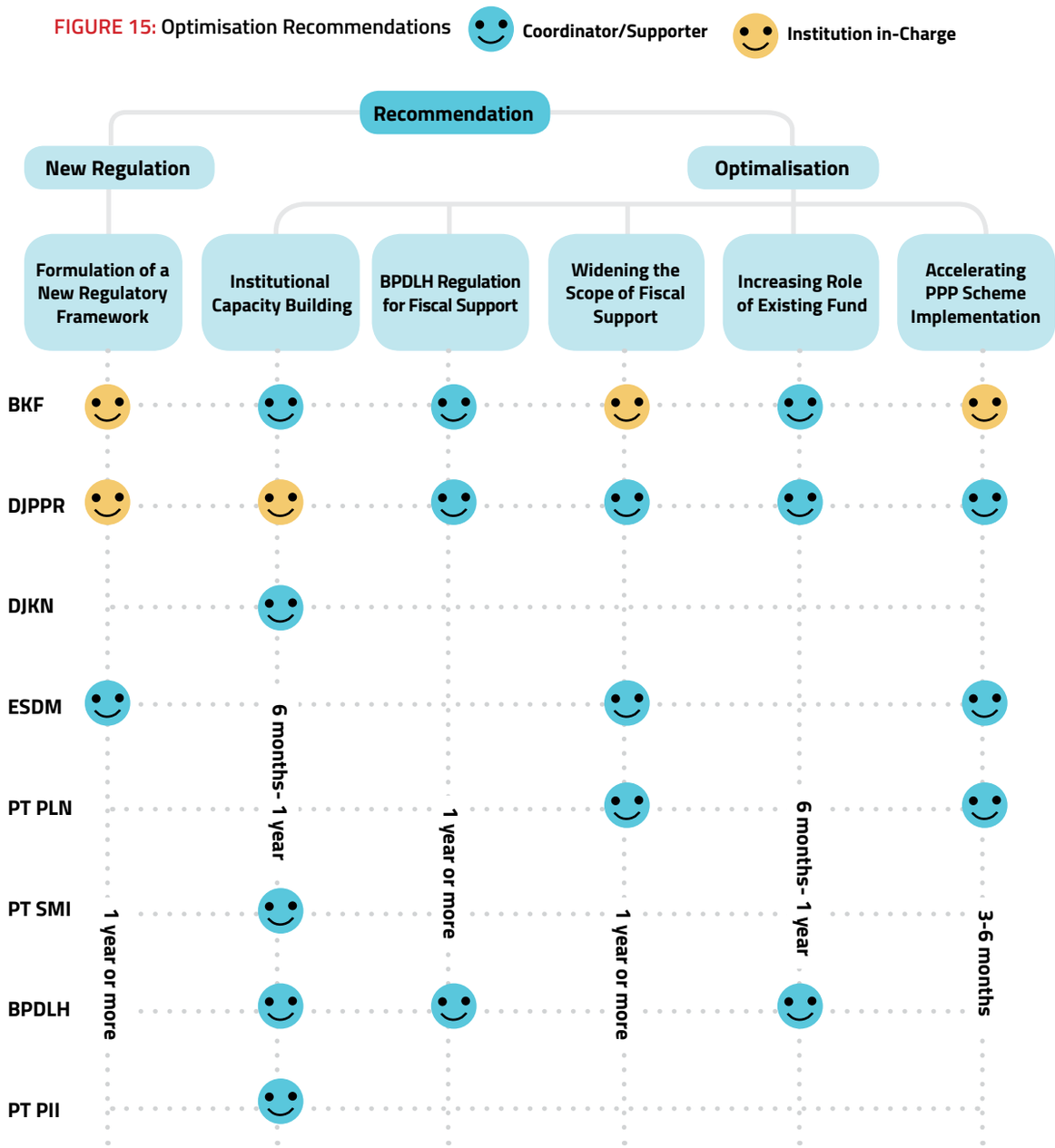
1. Private financing is needed, particularly to take advantage of market discipline which can promote value for money in the provision of RE infrastructure in the electricity sector.
2. To overcome some of the inhibiting factors, the government needs to optimise the available fiscal support, including by optimising the role of the institutions involved in providing such support. The type of fiscal support to be optimised are:
   a. Project Development Facility (PDF) to overcome the low quality of the project,
   b. Credit Enhancement Facility (CEF) to overcome (perception) risks, and
   c. Viability Gap Funding (VGF) to improve project financial feasibility. On the other hand, the role of the following institutions will be optimised: PT SMI, IIGF and BPDLH.
3. The optimisation of fiscal support is directed to support the provision of RE power plants, both through conventional procurement, PPP procurement, as well as the procurement of small-scale electricity supply entities (electrification programs). The optimisation of the role of the institutions above is also carried out in relation to direct financing support. This direct financing support can be optimised through: (a) expanding the scope of management of the PISP Fund to include non-geothermal RE technology, and (b) preparing financing instruments from the Environmental Fund provided by the BPDLH for RE infrastructure projects in the electricity sector.
4. The optimisation of fiscal support and the role of the relevant institutions mentioned above is carried out through:
   a. adjusting or adding relevant regulations,
   b. aligning the key performance indicators of these institutions in accordance with the targets of providing fiscal support, and
   c. developing the organisational capacity of these institutions.
5. To reduce regulatory changes that are too massive, a new regulation can be set up specifically to regulate the acceleration of electricity infrastructure development that uses RE, the provision of fiscal support for each scheme and further regulation on the procedure of providing and implementing it by the Ministry of Finance.

The optimisation can be carried out with short-term targets (achieved in 3 months - 6 months), medium term targets (achieved in 6 months - 1 year) and long-term targets (achieved in 1 year or more). The timing for achieving targets is adjusted to the complexity and magnitude of the commitments required from stakeholders to achieve them. The expectation is that there will be RE power plant projects in the short term, both IPP and UPTLSK, which have been provided using the PPP scheme. On the other hand, the expansion of the scope of the PISP Fund and the comprehensiveness of the BPDLH financing instruments for RE infrastructure is expected to be completed in the medium term. The long-term target is to expand the scope of fiscal support in the form of PDF and CEF as well as regulations for the involvement of BPDLH in providing fiscal support.

8.2 Recomendations

FIGURE 15 summarises the recommendation provided by this study. This study recommends optimising fiscal support and the role of existing institutions which will involve a relatively significant number of regulations. The recommendation are as follow:

FIGURE 15: Optimisation Recommendations



1. Accelerate the Implementation of the PPP Scheme:

a. **The Ministry of Finance** - in this case the DJPPR and BKF - conducted an information dissemination on the utilisation of the PPP scheme and the fiscal support available for the provision of RE infrastructure through the PPP IPP scheme and the PPP UPTLSK:
   i. **The PPP IPP Scheme:** conducted to the Ministry of Energy and Mineral Resources - specifically the Director General of NREEC and the Director General of Electricity - along with PT PLN
   ii. **PPP UPTLSK Scheme:** conducted to the Ministry of Energy and Mineral Resources, Ministry of Home Affairs and local government

b. **The preparation of the PPP IPP and the PPP UPTLSK** pipeline projects as a follow up of the information dissemination:
   i. **PPP IPP Scheme:** identification based on the list of RE projects in the RUPTL prepared by PT PLN
   ii. **PPP UPTLSK Scheme:** identification based on the RE roadmap prepared by the Ministry of Energy and Mineral Resources (Director General of NREEC) and local government plans

c. **Adjustments to the RE IPP and RE UPTLSK procurement regulations** to easily accommodate procurement using the PPP scheme by the Ministry of Energy and Mineral Resources:
   i. Adjustments to the RE IPP procurement regulation: MEMR Regulation No. 50/2017
   ii. Adjustments to relevant procurement regulations, if needed: MEMR Regulation No. 4/2007 and MEMR Regulation No. 1/2006, MEMR Regulation No. 3/2015
   iii. Adjustments to the UPTLSK business entity procurement regulation: MEMR Regulation No. 38/2016

2. Increasing the Role of Existing Funds for Direct Financing:

a. **PISP Fund:**
expanding its coverage so it does not only cover Geothermal technology but also other RE technologies, implemented by the DJPPR - Ministry of Finance

b. **Environmental Fund:**
preparing comprehensive instruments to be able to provide direct financing for RE IPP projects and RE UPTLSK projects, implemented by BKF and BPDLH:
   i. Standardisation of GHG emission reduction calculation for each type of technology and RE power plant location which can serve as a guideline for parties intending to calculate the estimated GHG emission reduction
   ii. Preparing verification procedures - by BLU BPDLH - on the implementation of the estimated GHG emission reduction estimates
   iii. Preparing procedures for monitoring emissions / GHG emission reduction by BLU BPDLH for the purpose of evaluating and providing performance-based environmental financing

3. Expanding the Scope of Fiscal Support

a. **Under the PPP scheme**
   i. **PDF:**
   Expanding the scope of the PDF to include the planning stage, by DJPPR
   ii. **VGF:**
   For the UPTLSK, lowering the minimum value of projects that can obtain VGF facilities, by the DJPPR

b. **Under the non-PPP scheme,** implemented by the DJPPR, the Ministry of Energy and Mineral Resources and PT PLN:
   i. **PDF:**
      1. Expanding PDF coverage for non-PPP IPP schemes, by DJPPR
      2. Expanding PDF coverage for non-PPP UTPLSK schemes, by DJPPR
      3. Accommodating the implementation of PDF under the non-PPP IPP scheme by the Ministry of Energy and Mineral Resources and PT PLN
      4. Accommodating the implementation of PDF under the non-PPP UTPLSK scheme by the Ministry of Energy and Mineral Resources
   ii. **CEF:**
   Expanding the scope of CEF so that it can guarantee business entity loans (PPL) to banks, by the DJPPR

4. Adjustments / Additions to BPDLH Regulations for Involvement in Providing Fiscal Support

a. Under the PPP Scheme:

i. PDF:

Accommodating cooperation with the BPDLH for PDF provision / financing, by DJPPR

1. Preparing regulations for the involvement of the BPDLH in providing / financing PDF, by BKF
2. Preparing regulations by the Head of the BPDLH for implementation, by the BPDLH

ii. CEF:

1. Accommodating cooperation with BPDLH to increase IIGF's guarantee capacity, by the DJPPR
2. Preparing regulations on the involvement of the BPDLH in cooperation with IIGF to provide guarantees, by BKF
3. Preparing regulations by the Head of the BPDLH for implementation, by the BPDLH

iii. VGF:

1. Including the scope of environmental-related costs in the VGF for RE power plan projects, by DJPPR
2. Accommodating VGF contributions from BPDLH, by DJPPR
3. Compiling regulations for the BPDLH's involvement in the provision of VGF, by DJPPR and BKF
4. Preparing regulations by the Head of the BPDLH for implementation, by the BPDLH

b. Under the non-PPP scheme:

i. PDF

1. Accommodating cooperation with the BPDLH for PDF provision / financing, by DJPPR
2. Preparing regulations for the involvement of the BPDLH in providing / financing PDFs, by BKF

ii. CEF:

1. Accommodating cooperation with BPDLH to increase IIGF's guarantee capacity, by the DJPPR
2. Preparing regulations on the involvement of the BPDLH in cooperation with IIGF to provide guarantees, by BKF

CHAPTER 8
Conclusions and Recommendations

5. Increasing Institutional Capacity

a. PT SMI:

i. Determining key performance indicators in relation to achieving the mission target of providing fiscal support (and direct financing) to accelerate RE infrastructure development in the electricity sector, by DJKN
ii. Preparing an organisational capacity development plan to achieve the pre-determined targets, by PT SMI
iii. Implementation of organisational capacity development, by PT SMI

b. IIGF:

i. Determining key performance indicators in relation to achieving the mission target of providing fiscal support (CEF) to accelerate RE infrastructure development in the electricity sector, by DJKN
ii. Preparing an organisational capacity development plan to achieve the pre-determined targets, by IIGF
iii. Implementation of organisational capacity development, by IIGF

c. BPDLH:

i. Determining key performance indicators in relation to achieving the mission target of providing fiscal support and direct financing (PDF, CEF and VGF)
ii. Preparing an organisational capacity development plan to achieve the pre-determined targets, by BPDLH
iii. Implementation of organisational capacity development, by BPDLH

This study believes the implementation schedule of the optimisation can run as expected. However, there is a possibility that - taking into account the risks, costs and time - the option of drafting a new regulation specifically for accelerating the development of RE infrastructure can be chosen. The fiscal support needed will be derived from the regulation.

This is also an effort to fill the regulatory gap mandated in Law Number 30 of 2007 concerning Energy, whereby the supply and utilisation of energy and new energy sources and renewable energy sources carried out by business entities, permanent establishments, and individuals can obtain facilities and/incentives from the Government and/or local government in accordance with their authority for a certain period of time until the economic value is achieved. At the time of report writing, no implementing regulations are in place on this matter.

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APPENDIX

Indicative Schedule for the Implementation of Study Recommendations

Optimalisasi	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Mempercepat Implementasi Skema KPBU							---------- telah ada proyek yang disiapkan dengan skema KPBU ---------->											
Sosialisasi pemanfaatan skema KPBU beserta Dukungan Fiskal yang tersedia																		
Skema IPP KPBU																		
Skema UPTLSK KPBU																		
Penyusunan pipeline proyek IPP KPBU dan UPTLSK KPBU																		
Skema IPP KPBU																		
Skema UPTLSK KPBU																		
Penyesuaian Regulasi																		
Regulasi pengadaan IPP ET																		
Regulasi pengadaan UPTLSK																		
Meningkatkan Peran Dana (Fund) untuk Pendanaan Langsung										----------Dana PISP dapat disediakan untuk proyek ET non Panas Bumi ---->								
Perluasan Dana PISP																		
Kelengkapan instrumen BPD LH																		
Standardisasi perhitungan pengurangan emisi GRK																		
Pembuatan prosedur verifikasi																		
Pembuatan prosedur monitoring																		
Memperluas Cakupan Dukungan Fiskal																		
Dalam Skema KPBU									---------- PDF dapat disediakan untuk meliputi tahap perencanaan -------->									
PDF (cakupan perencanaan)																		
VGF (nilai minimum proyek)																		
Pada Skema non KPBU																		
PDF (cakupan perencanaan, IPP non KPBU & UPTLSK non KPBU)																		
CEF (penjaminan kredit PPL)																		
Memberi Peran BPD LH dalam Dukungan Fiskal																		
PDF (Skema KPBU dan non KPBU)															-- BPD LH dapat berperan dalam PDF -->			
Regulasi PDF : kerjasama pemberian / pendanaan dengan BPD LH																		
Regulasi BPD LH: kerjasama pemberian / pendanaan PDF																		
Peraturan Kepala BPD LH untuk kerjasama PDF																		
CEF (Skema KPBU dan non KPBU)															-- BPD LH dapat berperan dalam CEF -->			
Regulasi CEF: kerjasama penjaminan dengan BPD LH																		
Regulasi BPD LH: kerjasama penjaminan dengan PT PII																		
Peraturan Kepala BPD LH untuk kerjasama CEF																		
VGF (Skema KPBU)															-- BPD LH dapat berperan dalam VGF -->			
Regulasi VGF: biaya non kontruksi (lingkungan)																		
Regulasi VGF: kontribusi VGF dari BPD LH																		
Regulasi BPD LH: keterlibatan dalam pemberian VGF oleh BPD LH																		
Peraturan Kepala BPD LH untuk pemberian VGF																		
Meningkatkan Kapasitas Lembaga																		
PT SMI															-------- PT SMI memiliki kapasitas organisasi yang memadai -->			
Penetapan indikator kinerja kunci																		
Penyusunan rencana peningkatan kapasitas																		
Implementasi pengembangan kapasitas																		
PT PII															-------- PT PII memiliki kapasitas organisasi yang memadai -->			
Penetapan indikator kinerja kunci																		
Penyusunan rencana peningkatan kapasitas																		
Implementasi pengembangan kapasitas																		
BPD LH															-------- BPD LH memiliki kapasitas organisasi yang memadai -->			
Penetapan indikator kinerja kunci																		
Penyusunan rencana peningkatan kapasitas																		
Implementasi pengembangan kapasitas																		

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