



# ADMINISTRATIVE PROCEDURES

Rules and Processes for Off-Grid PV Project Development in the Philippines

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## Imprint

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## Currency

1 USD	=	PHP 42,4220 (10 June 2013)
1 €	=	PHP 56,0908,20 (10 June 2013)

## Measurement

W	Watt	Wp	Watt peak	Wh	Watt hour
kW	Kilowatt	kWp	Kilowatt peak	kWh	Kilowatt hour
MW	Megawatt	MWp	Megawatt peak	MWh	Megawatt hour
GW	Gigawatt	GWp	Gigawatt peak	GWh	Gigawatt hour

## List of Acronyms

ADB	Asian Development Bank
BMWi	German Federal Ministry of Economics and Technology
BSW	German Solar Association
COC	Certificate of Compliance
DIS	Distribution Impact Study
DOE	Philippine Department of Energy
DU	Distribution Utility
ERC	Energy Regulatory Commission
FIT	Feed-In Tariff
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
LCE	Local Chief Executive
LGU	Local Government Unit
NREP	National Renewable Energy Program
PDP	Project Development Programme
PV	Photovoltaic Energy
RE	Renewable Energy
RES	Renewable Energy Sources
U.S.	United States of America



# 1 Introduction

With Renewable Energy (RE) making up approximately 43 % of its Primary Energy Mix in 2010, the Republic of the Philippines outranks most other countries in the world in the usage of sustainable energies. Due to strong economic growth, however, the demand for energy is rapidly increasing and will require additional efforts to keep this position. One solution for this challenge would be the accelerated deployment of photovoltaic energy (PV). However, despite high irradiation levels, high electricity-prices and sharply falling prices for PV modules, PV contributed less than 0,001% to the Primary Energy Mix in 2010. As a consequence, international institutions such as the Asian Development Bank have pointed out that the current high share of RE in the Philippines might shrink to only 14% in 2035. The Government of the Philippines has expressed its commitment to overcome this situation. According to the current National Renewable Energy Program (NREP) the solar capacities shall increase by 285 MW until 2030. This target is based on existing RE Service/Operating Contracts awarded and being evaluated by the Philippine Department of Energy (DOE). At the same time the NREP defines an aspirational target of 1,528 MW solar power capacity. For this goal, several policies have been enacted and are being implemented. Among others, first steps have been undertaken to formulate comprehensive administrative processes to encourage an effective and efficient development of the PV sector.

Within the Project Development Programme (PDP) South-East Asia, the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH cooperates with the DOE to support the Philippine Government in this task. In order to facilitate a transfer of know-how and experiences from Germany and the EU, GIZ involved the German Solar Industry Association Bundesverband Solarwirtschaft e.V. (BSW-Solar) and the consultant company eclareon GmbH. These two organisations were involved in the European Project PV LEGAL in the period 2009-2012 and were thus able to share their experiences. PV LEGAL was initiated by 12 national and European solar associations and funded by the European Commission through the Intelligent Energy Europe program. The goal of this unique initiative was to analyze and assess the administrative processes for solar systems in 12 EU Member States, identify existing challenges and roadblocks for an accelerated development of PV systems and finally, propose and disseminate solutions for overcoming these barriers. Due to the great support from the national solar industry and the openness of national political decision-makers and grid operators, the PV LEGAL consortium managed to live up to the high expectations and to overcome several administrative barriers during the project period. The project was considered a great success and was consequently continued in the PV GRID project, which is assessing solutions for the integration of PV system in national grids. Moreover, parts of the methodology of PV LEGAL were integrated into the Solar Guidelines India Project. In this project eclareon researches, examines and presents on behalf of GIZ the processes and challenges for Solar projects in India.

The experiences from PV LEGAL and Solar Guidelines were used in a first workshop “Administrative Procedures and Regulatory Provisions for Solar PV Project Development in the Philippines,” which took place on October 5, 2012 in the framework of the German Solar Training Week, jointly organized by GIZ and the DOE. The workshop was a kick-off in the advisory process and embraced a very high variety of stakeholders involved in the implementation of solar development in the Philippines. The participants were introduced to the concept of administrative processes and barriers as it has been determined in Solar Guidelines and PV LEGAL. In a second part of the workshop, participants were then asked to report and discuss challenges that could be identified in the Philippines. The outcome of the workshop was considered by all participants a useful guide to implementing streamlined and efficient procedures for the development of PV projects.

Based on these results, GIZ and DOE organized a follow-up workshop “Administrative Procedures and Challenges for Solar PV Project Development in the Philippines” on April 24, 2013 to further evaluate the process and deepen the existing results. For this, single topics were identified and prepared: In preparation of the workshop, eclareon conducted several interviews to describe the identified processes and challenges in greater detail. During the workshop, the results of this research were presented and used as a starting point for a wider discussion with the audience on existing barriers. In addition, the workshop was used as a first attempt to get a first quantitative assessment of the existing administrative procedures in the Philippines. As in the first workshop, the interaction of the audience was very good. The participants gave a lot of input and used the workshop as a forum to exchange opinions and define solutions in a constructive and collaborative manner.

The following report will summarize the key findings of the two workshops and the interview series. In a first chapter, it will give an introduction to the general concept of administrative processes and the challenges that can be encountered within these processes. A qualitative and quantitative assessment will explain the reasons why administrative barriers ought to be resolved. The second chapter will be dedicated to the administrative processes and identified challenges in the Philippines. After a short introduction to the peculiarities of the Philippine case, the report will look at the sequence of processes for off-grid installations and outline identified challenges and possible recommendations.

This report has been made possible by the extensive input of stakeholders, in interviews and in the workshops. The author would like to thank all interviewed experts for their very valuable input and support for this study. Their expert knowledge and availability are highly appreciated.



## 2 Executive Summary

Despite a currently high share of domestically produced RE power the Philippines need to take further efforts if they want to keep up high national energy security and national energy independence. One option to achieve this goal would be the accelerated deployment of photovoltaic energy (PV). The vast potential of PV in the Philippines, however, is still untapped. This is to a large extent due to administrative barriers, i.e. rules and processes during the PV development process (i.e. permitting process as well as the grid connection process), which are set by public authorities or grid operators and which can hamper or even prevent the development of individual PV systems or overall PV markets.

Recent studies which compare PV system costs and the impact of administrative barriers in the United States and in European countries have shown a strong impact of administrative costs on overall system costs and a wide difference between administrative costs in these markets. Final numbers quantifying the costs of administrative processes in the Philippines are not available. Provisional figures, however, indicate that there is a great potential for measures that would drive down costs for PV development. Thus, making administrative processes more efficient should be one of the key priorities of national PV policy.

The study conducted in preparation to this report has identified several challenges and solutions to overcome them. Due to the importance of the off-grid sector that covers not only small stand-alone systems but also utility-scale systems connected to island grids, an additional examination of the off-grid sector was necessary. The following table summarizes the main challenges and solutions that were identified:

Process	Barrier	Proposed solution
<b>Administrative process</b>	Involvement of too many authorities	<ul style="list-style-type: none"> <li>• Reduce the number of required permits and thereby the number of authorities involved</li> <li>• Consider the establishment of a supportive desk for installation permitting</li> </ul>
	Insufficiently harmonized processes at local level	<ul style="list-style-type: none"> <li>• Prepare project developers to enter into close communication with Local Chief Executive (LCE)</li> <li>• Provide LCEs with information about PV projects and its advantages</li> <li>• Get League of Municipalities involved as moderators to convince single LCEs</li> </ul>
	Reassessment of real estate property tax	<ul style="list-style-type: none"> <li>• Establish specific guidelines</li> <li>• Introduce exemptions in the general tax regime</li> </ul>
	Unclear requirements for Certificate of Compliance (COC)	<ul style="list-style-type: none"> <li>• Monitor ERC's solution and examine its impact with stakeholders</li> </ul>
	Amount of paperwork	<ul style="list-style-type: none"> <li>• Prepare a complete list of required documents</li> <li>• Examine if permits can be waived without putting security of environment and public interests at risk</li> </ul>
	Insufficient regulation	<ul style="list-style-type: none"> <li>• Examine existing descriptions of processes and identify what specific information is lacking</li> <li>• Describe processes in a centralized database</li> </ul>

<b>Grid connection permit</b>	Insufficiently harmonized grid interconnection procedure/ rules and forms	<ul style="list-style-type: none"> <li>Describe the grid interconnection procedure in a flowchart and make it centrally available</li> </ul>
	Inadequate information about existing regulations and rules on priority dispatch and connection	<ul style="list-style-type: none"> <li>Development of a centrally available database on existing regulations on priority dispatch and connection</li> </ul>
	Limited coverage of Grid Code with respect to small systems, regional differences and intermittent nature of PV	<ul style="list-style-type: none"> <li>Continuation of ongoing amendment-process of electrical code and additional involvement of DUs in that process</li> </ul>
<b>Financing</b>	Challenges in bidding procedures	<ul style="list-style-type: none"> <li>Reduce the scale of the tenders</li> <li>Examine and if needed amend the requirements for becoming an eligible bidder</li> <li>Harmonize fees collected from the bidders</li> <li>Consider FiT as reference rate for the bidding process</li> </ul>
	Impeding factors for financing of PV systems	<ul style="list-style-type: none"> <li>Expand microfinance initiatives</li> <li>Develop a centralized database offering information on financing solutions and their conditions</li> <li>Monitor and probably amend the missionary electrification program</li> </ul>

## 3 Administrative Processes and Challenges – Experience from Previous Projects

### Defining Administrative Barriers

The term “administrative barriers” is not officially defined. Based on the experiences in the PV LEGAL project, the following definition is proposed:

*“Administrative barriers are rules and processes during the PV development process (i.e. permitting process as well as the grid connection process), which are set by public authorities or grid operators and which can hamper or even prevent the development of individual PV systems or overall PV markets.”*

The term “administrative barriers” covers the complete development process of a PV system and is not restricted to the steps when public authorities are involved. Most notably, it also concerns project steps in which interaction with grid operators – or, in the Philippines with distribution utilities – is foreseen. In general, these processes – the connection of PV systems to the distribution or even to the transmission grid – can cause several barriers also because of the interaction with the grid operators.

The proposed definition of “administrative barriers” does not differentiate between barriers which specifically apply only to the development of PV systems and administrative barriers that apply to any interaction with public authorities. Typical examples of the latter would be the administrative process taking a long time because the authorities do not react in a prompt manner; a high number of public authorities being involved; or a public authority using its discretion in an improper manner. Usually, such roadblocks do not appear only during the development process of PV systems but would also apply if the applicant interacted with the authorities for another reason, for example if the applicant applied for a driver’s-license. The differentiation between barriers that apply only to PV systems and those which apply to any other administrative activities becomes relevant when solutions for overcoming the roadblocks are sought. In the latter case, an overall reform of the administrative process would be necessary, a solution that is very difficult to realize.

### Relevance of Efficient and Effective Administrative Processes

Efficient and effective administrative processes for the development of PV projects can have a positive impact on the overall society. At the very least, they lower costs for the development of a national PV sector and can help to ensure national energy security.

### Financial Impact of Administrative Barriers

The discussion of efficient and effective administrative processes for the development of PV projects has spread in past years. This is partly due to studies that have shown the financial impact of administrative barriers on the overall system costs of PV systems. A study by Lawrence Berkeley National Laboratory and the National Renewable Energy Laboratory compared the system costs of PV installations in Germany and in the United States. The study broke down the cost categories prices for modules, inverter, other hardware and soft BoS + profit. The authors found that the overall system costs in the U.S. were twice as high as in Germany: in the U.S., the system costs amounted to \$6.19 per Watt while in Germany they were only \$3.00 per Watt. This striking result was mainly caused by the differing cost categories soft BoS + profit, which in Germany reached only \$0.62, while amounting to

\$6.19 in the U.S. In the second largest cost category (in Germany actually the largest), the module price, the two markets were almost even, and the cost for other technical components were not that significant. Given the fact that the module prices have globally continued to decrease in the past two years, it has to be expected that today, the impact of the soft BoS + profit will be even larger.

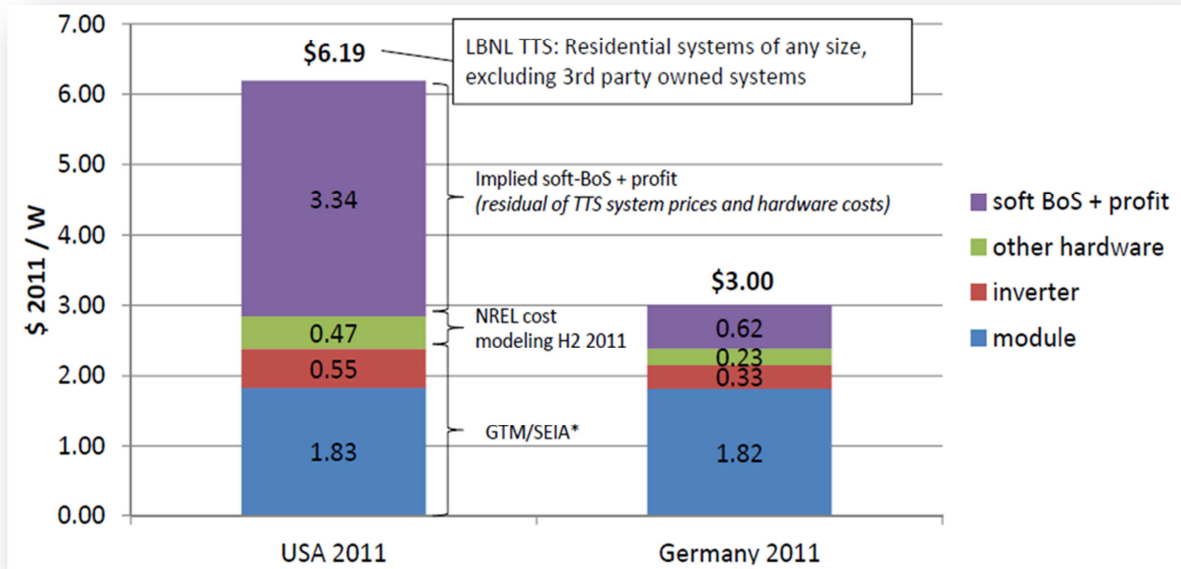


Figure 1: Soft cost, including administrative efforts, can significantly drive up PV systems costs. Source: Lawrence Berkeley National Laboratory & NREL 2013

It is evident that the cost category of “soft BoS + profit” consists of several components, many of them not related to administrative processes and barriers. Nevertheless, administrative barriers have a significant impact on the overall system costs.

First of all, the share of administrative costs can make up the bulk of overall system development costs. The following figure from the PV GRID project compares the share of legal administrative costs over total project development costs (excluding PV equipment and other materials) for PV projects in European markets. It shows that in some markets project developers have to spend a large part of their budget in order to secure the authorization needed to build and connect a PV system. This burden is normally reflected in national system prices.

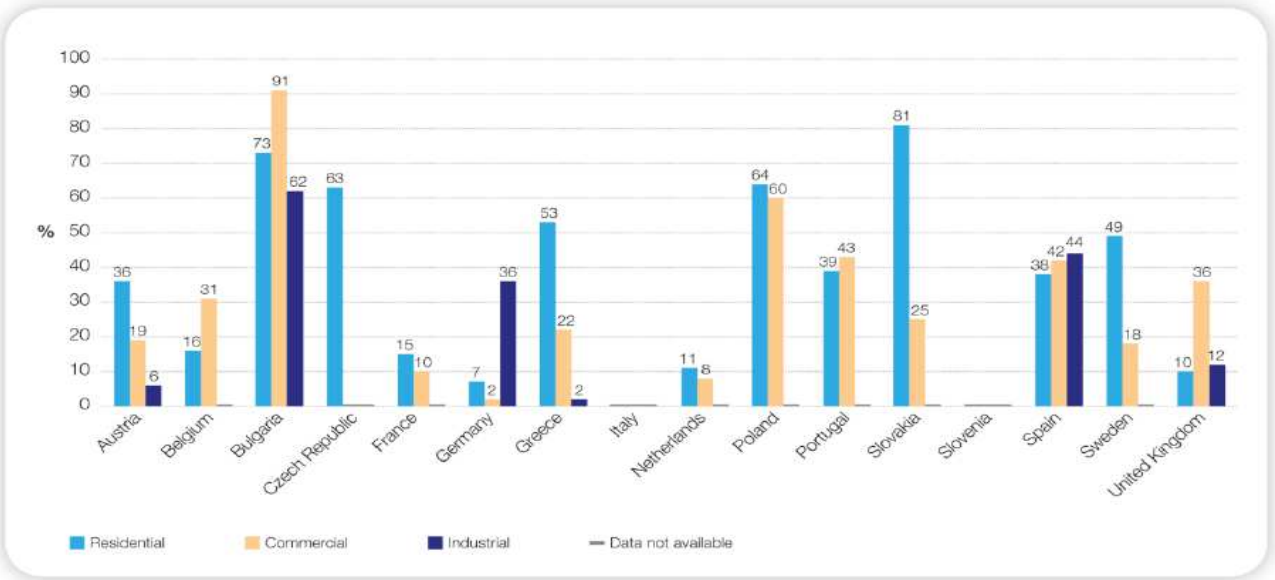


Figure 2: PV Project Development: Legal Administrative Cost Share – Source: PV GRID 2013

Moreover, administrative costs have an indirect effect on other soft costs components such as capital costs and profit. High administrative costs indicate inadequate administrative risks, which reduce the predictability and cost security of the overall PV project. As a reaction to increased risks, investors will usually demand a risk premium and, consequently, capital costs will increase. On the other hand, this also implies that governmental politics which increase investment security can drive down the costs for the development of the PV sector. Thus, the government can influence the PV sector a lot while the development of the prices of the PV modules depend more on the development of the world market.

**Impact of Administrative Barriers on National Energy Security**

A high share of domestically produced PV power can enhance national energy security and help increase national energy independence. This is in particular true for the Philippines. According to assessments by the Asian Development Bank (ADB), the contribution of RE sources to the country’s power supply is expected to shrink from a hefty 43% as of 2010, to only 14% by 2035, just when indigenous gas and coal reserves are expected to be depleted. As a consequence, the Philippines, like other Asian countries, would become increasingly dependent from oil imports, which the ADB expects to triple by 2035. Furthermore, oil imports into the Asian region stem more and more from the Middle East. The ADB found that already in 2010 48% of Asia’s oil imports came from the Middle East, while in 1990 only 33% was imported from that region. If this development continues, the Asian region and the Philippines in particular will run the risk of becoming dependent on one region for its energy supply, undermining its energy security.

An ambitious program to make administrative processes more efficient would result in lower PV system costs and can lead to an increased deployment of PV installations. The grown use of domestic energy sources would help contribute to a higher national energy security.

# 4 Administrative Processes in the Philippines

## Introduction

eclareon’s research with stakeholders has revealed an ambiguous picture of the Administrative Processes in the Philippines. On the one hand, the DOE has already established clear procedures for project development. On the other hand, with a still nascent PV market, the processes still have to be taken up and implemented by project developers. Nevertheless, the existing sources enable first observations and assessments.

Firstly, being the Philippines an archipelago, the segmentation of the PV markets has some very particular features. As in most European markets, there is a clear division between the off-grid and the off-grid segment, as reflected in legal texts and in the eligibility requirements of certain support schemes. In the Philippines, however, the term ‘grid’ is defined as the high voltage backbone system of interconnected transmission lines, substations, and related facilities, located in each of Luzon, Visayas, and Mindanao (Sec. 4 (v) Act 9513). Off-grid Systems are consequently defined as electrical systems not connected to this grid (Sec. 4 (jj) (kk) Act 9513). Given the many islands that are not connected to the Philippine main-grid but have their own grids, the off-grid segment is much larger than that of most European markets and can still have its own distribution grid. As a consequence, the off-grid sector encompasses a great variety of PV systems ranging from utility-scale systems connected to island grids to stand alone PV systems micro-systems in isolated areas. That variety can be summarized as follows: The off-grid segment encompasses on the one hand systems that are in fact connected to an island’s grid, spanning utility scale to smaller systems, which are connected to the island grid but do not feed in electricity. On the other hand there are standalone systems, which cover both hybrid solutions as well as PV only systems.

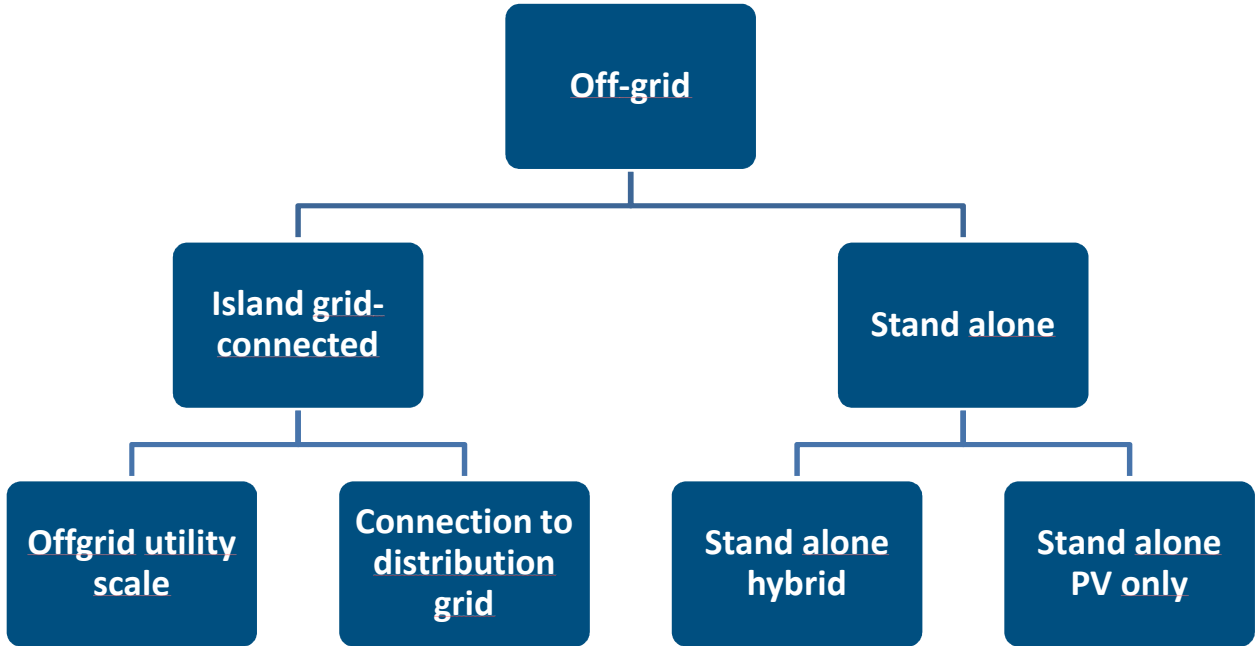


Figure 3: Overview on off-grid solutions in the Philippines. Source: eclareon

Due to those differences, challenges the project developers face and solutions that may have to be developed can vary a lot. The following text will take this into account when necessary.

Another important observation is that most of the support schemes for the off-grid sector do not apply to the off-grid sector. According to the Republic Act No. 9513<sup>1</sup>, the Renewable Portfolio Standard (Sec. 6 Act 9513), the Feed-In Tariff System (Sec. 7 Act 9513) and the Net-Metering (Sec. 10 Act 9513) only apply to off-grid renewable energy development. For off-grid there is a minimum percentage of RE electricity that suppliers have to produce, but a FIT or Net-Metering scheme are not foreseen. Instead, there is a special cash incentive of RE developers for Missionary electrification (Sec. 15 h Act 9513), which the ERC describes in more detail in a separate document, the Resolution 21<sup>2</sup>. One major requirement to receive the funding is to participate in and win a bidding process. The process for obtaining incentives can be described as follows:

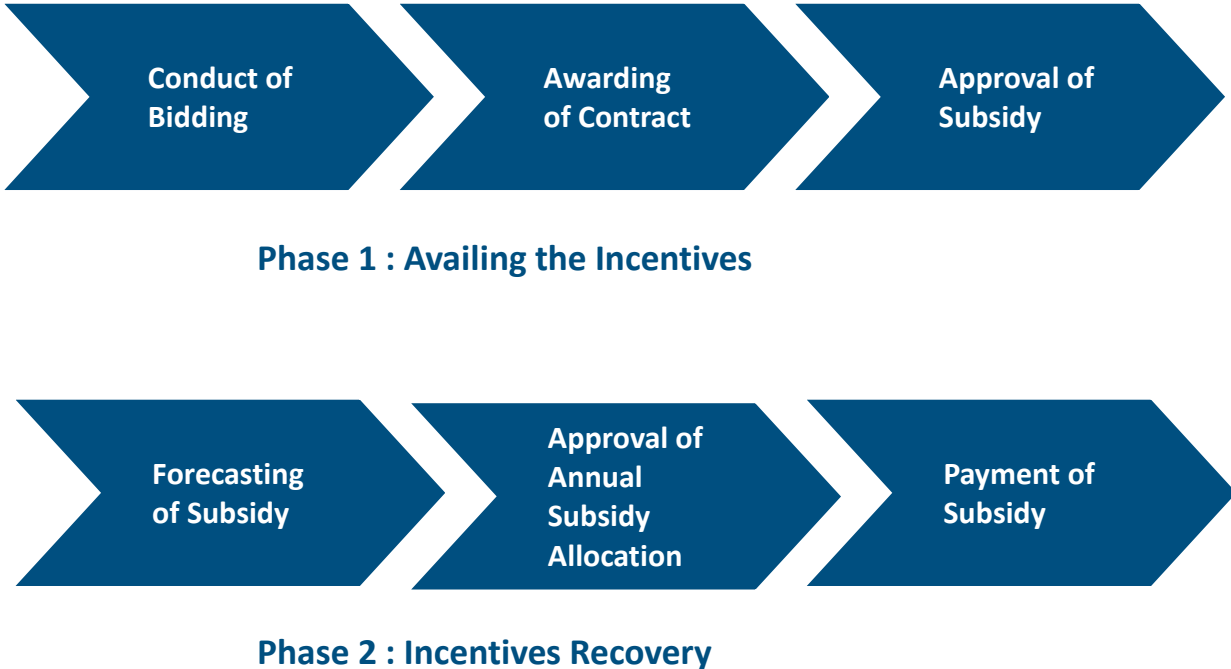


Figure 4: Eligibility process of incentives in off-grid areas. Source: REDC

### Sequence of the Administrative Process in the Philippines

The administrative procedure for RES systems in the Philippines is delineated in great detail in an official circular published by DOE<sup>3</sup>. The circular explains how applicants can be awarded a RE contract and become registered. The RE contract allows project developers to explore, develop and utilize a

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<sup>1</sup> Republic Act No. 9513 – An Act promoting the development, utilization and commercialization of renewable energy resources and for other purposes  
<sup>2</sup> Resolution No. 21, Series of 2011 – A resolution adopting the amended guidelines for the setting and approval of electricity generation rates and subsidies for missionary electrification areas  
<sup>3</sup> Guidelines governing a transparent and competitive system of awarding renewable energy service/ operating contracts and providing for the registration process of renewable energy developers – DOE Circular No. 2009-07-0011

## Administrative Procedures for Off-Grid PV Project Development in the Philippines

certain plot of land with means of Renewable Energy technologies. The circular outlines the process in two stages, pre-development and development, as well as the requirements for each of the steps. Furthermore, the circular defines the rules that are applicable for all RES technologies and adds additional rules for certain specific RES technologies, but not for PV. However, there are also additional simplified processes applicable to own-use and micro-scale projects.

The circular stipulates several administrative steps that have to be completed in order to qualify for the RE contract. The first requirement, for example, is that the applicant provide six different permits as well as “all other regulatory requirements from other government agencies which are applicable to the RE activities/ operations” (Sec. 4 b i). The guidelines, however, do not describe the process for obtaining each of these permits. Moreover, the description does not cover the process leading to the inter-connection of the PV system to the distribution grid.

The application of the requirements stipulated by the circular, the additional steps necessary, and a description of a PV project’s procedures are shown in the flowchart below.

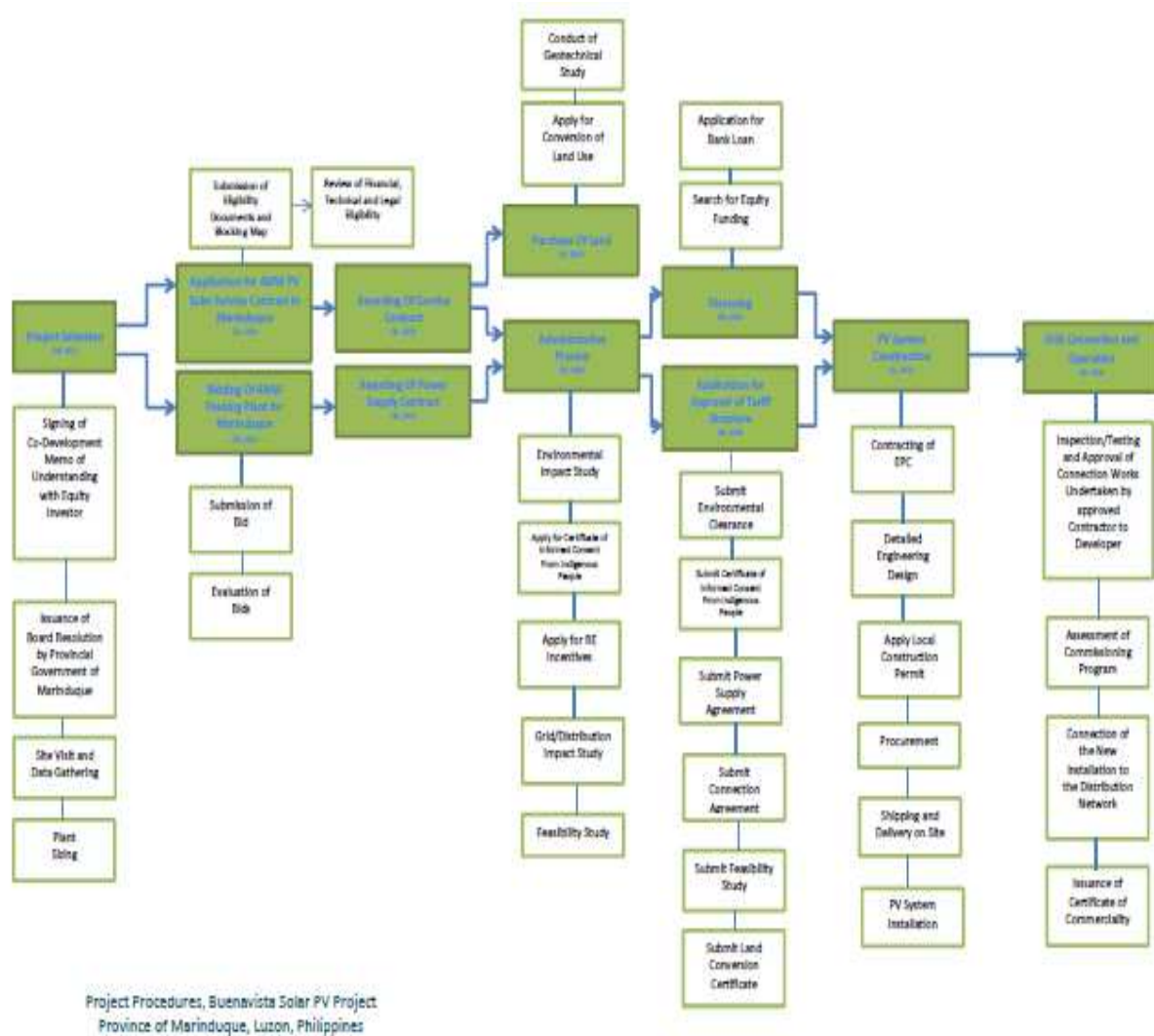


Figure 5: Project Procedures, Buenavista Solar PV Project. Source: REDC



For the purpose of this study, the PV process will be presented in a simpler form:

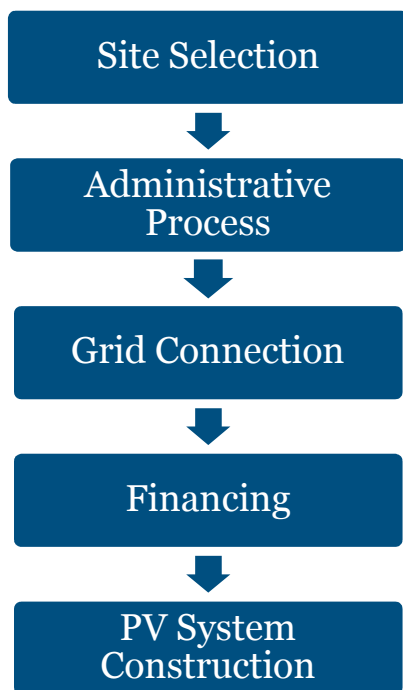


Figure 6: Simplified overview of PV process in the Philippines. Source: eclareon

### Duration and Costs of Administrative Process

Thus far, a detailed study quantifying the full process of developing a PV project in the Philippines has not been undertaken. As a consequence, fully reliable numbers are not yet available. However, during the above mentioned workshop, “Administrative Procedures and Challenges for Solar PV Project Development in the Philippines,” the audience was asked to provide numeric data quantifying their efforts to realize PV projects.

The case described a 3 kW PV system that has been built on an existing house (retro-fit measure). Afterwards, the audience was asked which steps were necessary to realize such a project, and which efforts, in terms of costs and time to be spent on working (and waiting), were required for completing the process.

In the end, most of the numbers were provided by one project developer from the audience; however, no one in the audience contested the developer’s information.

According to the given indications, the total administrative costs for a 3 kW retro-fit project with an overall budget of PhP 510,000.00 would amount to PhP 56,840. This would mean that approximately 11 % of overall system costs have to be spent on administrative processes. This percentage seems surprisingly low, especially if this number is compared with existing data from the PV GRID project in the European markets. The value of 11 % is not much higher than the share of 7% that has been achieved in Germany, a very mature market, and is significantly lower than the value in many other European markets, where values of up to 70% have been observed. However, the comparison between the results of the Philippine case and the PV GRID numbers is not really possible, as the methodology is based on different assumptions: In case of the PV GRID project, the non-administrative costs are

calculated excluding the PV equipment, whereas the Philippine case was calculated including the PV equipment. As a consequence, the overall costs in the latter case were significantly higher and the relative share of the administrative process much lower.

This assessment can also explain another striking observation of the Philippine case: 28 man-days have to be spent going through the administrative processes for a 3 kW system. This value is extremely high in comparison to most European markets: there, it takes on average 4-5 days to conclude the administrative processes for a similar PV system.

The numbers above give the impression that administrative processes offer great opportunities for additional efficiency measures. However, for the time being, a more detailed industrial survey will be required to verify the first interim results and to set further conclusions on a more reliable fundament. The single results of the Philippine case are described in the table below:

<b>System Cost Roof Top &lt; 100KW Retro-Fit</b>					
<b>Price per KW</b>		<b>PhP170.000,00</b>			
<b>3KW</b>	<b>3</b>	<b>PhP510.000,00</b>			
	<b>%</b>		<b>calendar days</b>		
			<b>time worked</b>	<b>time waiting</b>	
<b>Barangay Clearance</b>	<b>3,00%</b>	<b>PhP15.300,00</b>		<b>6</b>	<b>2</b>
<b>Fire Safety</b>	<b>2,00%</b>	<b>PhP10.200,00</b>		<b>8</b>	<b>14</b>
<b>Electric Permit</b>	<b>0,30%</b>	<b>PhP1.530,00</b>		<b>8</b>	<b>14</b>
<b>Building Permit</b>	<b>3,00%</b>	<b>PhP15.300,00</b>		<b>5</b>	<b>1</b>
<b>Inspection</b>	<b>0,10%</b>	<b>PhP510,00</b>		<b>1</b>	<b>1</b>
<b>DU Application and connection</b>				<b>28</b>	<b>32</b>
<b>Total Permitting cost</b>		<b>PhP42.840,00</b>			
<b>Overhead</b>		<b>PhP1.000,00</b>			
<b>Time worked Cost</b>	<b>500</b>	<b>PhP14.000,00</b>			
<b>Time waiting cost</b>		<b>PhP0,00</b>			
<b>Total Administration Cost</b>		<b>PhP56.840,00</b>			
<b>% of System Cost</b>		<b>11,15%</b>			
<b>Optional Zoning Clearance</b>	<b>0,80%</b>	<b>PhP4.080,00</b>			
<b>Environmental clearance</b>	<b>0,75%</b>	<b>PhP3.825,00</b>			
<b>Tax declaration</b>				<b>2</b>	

Figure 7: Overview on administrative costs and efforts in the Philippines. Source: eclareon.

## 5 Identified Challenges at Off-Grid Level

In the course of the two workshops and the corresponding research, challenges for the development of off-grid PV systems were identified. Most of the barriers can be categorized according to the above described development process steps. The majority of the challenges occurs in the process steps “administrative process” and “grid connection permit” and can therefore be considered classic administrative barriers. Other challenges are closely connected with the process steps of support schemes and PV system construction. Since some of the barriers are considered very relevant; they will be briefly described as well.

### Challenges at Administrative Process Level

For the step “administrative process”, the following challenges have been identified.

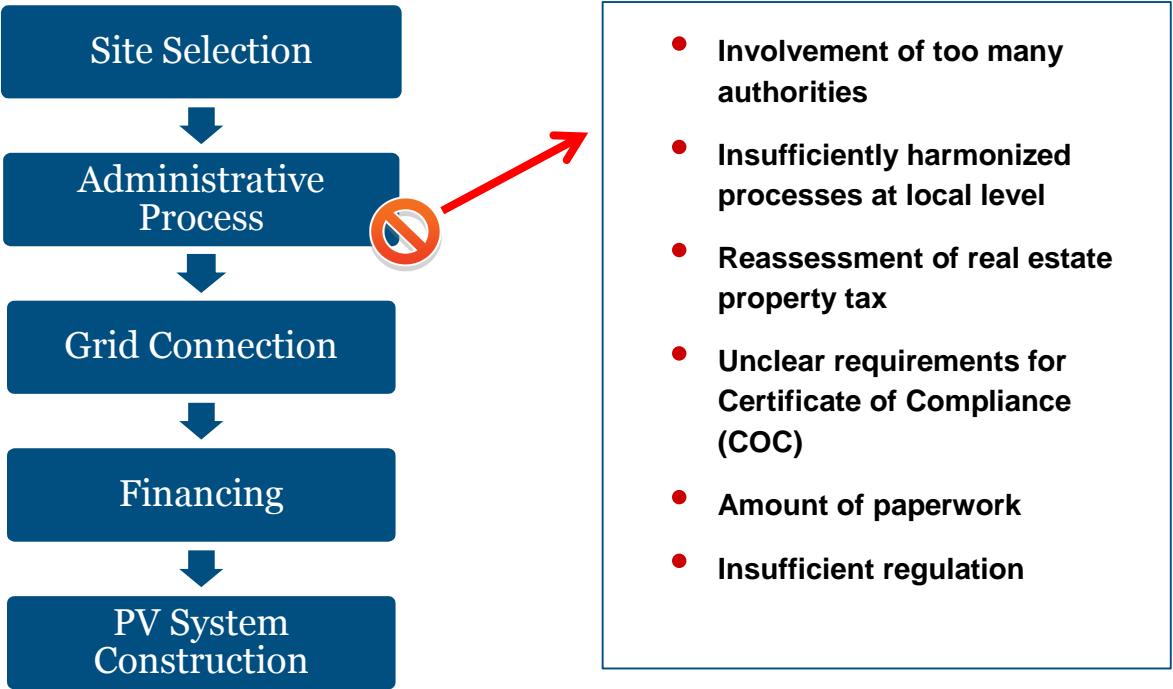


Figure 8: Overview on challenges at “Administrative Process” step in the Philippines. Source: eclareon.

#### Involvement of too many Authorities

The involvement of too many authorities has been described as a severe challenge during the administrative process step. As indicated above, the current procedure involves a multitude of different authorities. This is partly also due to the fact that a high number of permissions are required.

A one-stop-shop procedure would allow the developer to only contact one authority. It is however important that one-stop-shopping does not only mean that the developer would only have to contact one single authority, but also that this single authority is competent and empowered to decide on all matters formerly managed by other bodies. If the single competent authority would still have to involve numerous other bodies this would not streamline procedures, but would just transfer the struggle of navigating bureaucracy from the developer to the authority and that authority could end up

a bottle neck. While such a reform will certainly enhance existing processes, it might be very difficult to confer so much competence on one entity. A less ambitious but perhaps more realistic option would be to reduce the number of permits and thereby the number of authorities involved. Another option would be to establish a special desk for PV installation permitting. Such a specialized body would have the required technical understanding and could also advise the authorities in solar specific questions to best support the development of PV in the Philippines. This would avoid inciting conflicts between authorities while providing them with additional expertise.

**Proposed solution(s):**

- Reduce the number of required permits and thereby the number of authorities involved
- Consider the establishment of a supportive desk for installation permitting

**Insufficiently Harmonized Processes at Local Level**

Another barrier that has been widely discussed is the lack of harmonized processes at the local level. Procedures at Local Government Unit (LGU) level are currently too lengthy and do not reflect PV specific conditions. In addition, the role of LGU for solar development is not clear, and authorities lack solar-specific knowledge. Furthermore, there are no uniform procedures at LGU level and different units have different discretionary powers. Moreover, information on required time-spans for the receipt of the LGU certificate is not available and may vary widely. The missing definition of deadlines for all administrative steps is another barrier for the development of PV. This challenge is closely connected with the strong role of the LGUs, whose majors, the Local Chief Executive (LCE), can act relatively independent and have a strong discretion in their actions. In many cases, however, the challenge is relevant not only at the level of the LGU but even below, at the level of a single Barangay. This challenge and possible remedies were widely discussed during the stakeholder consultation. One possible solution would be to mainstream processes at LGU level by clearly defining the necessary requirements and setting rigid deadlines. However, given the strong position of LGUs in the Philippine constitution, it is not very clear whether such a top-down approach would be successful. Another approach would be to make sure that existing deadlines and regulations can be judicially enforced. During the stakeholder consultation at the workshop in Manila, for example, it turned out that according to the LGU Code, permits should be processed within 7 working days (Sec. 152). On the other hand, experiences from projects in European markets have shown that project developers are usually hesitant to enforce their right with legal means. Infrastructure projects, such as PV projects, have a long time-span and require a good and close relationship between the project developers and the municipal authority. Even a justified and successful legal proceeding might impair this relationship and be negative in the long-run. For that reason, entering into closer communication with the LCE should also be considered; this would allow developers to provide LCEs with information about the PV project and convince them of the advantages of the project for the LGU as well as for their own positions. For this approach, institutions like the League of Municipalities may act as moderators to convince single LCE.

**Proposed solution(s):**

- Prepare project developers to enter into close communication with Local Chief Executive
- Provide Local Chief Executives with information about PV projects and their advantages
- Get League of Municipalities involved as moderators to convince single Local Chief Executives

### Reassessment of Real Estate Property Tax

Experiences of the past have shown that property owners that have installed PV systems have seen their property value rise. As a result, they have faced higher property taxes. This effect has led to a situation in which investors refrain from installing a PV installation to avoid having to pay more taxes.

Authorities should establish specific guidelines regarding when and how houses should be reassessed. Another option would be to introduce exemptions in the general tax regime.

#### Proposed solution(s):

- Establish specific guidelines on the reassessment of real estate property tax
- Introduce exemptions in the general tax regime

### Unclear Requirements for Certificate of Compliance (COC)

For the Certificate of Compliance of ERC a body of rules is in place, which in large parts is not applicable to PV, especially due to its vague regulations. The regulations are certainly not relevant for small PV installations and roof-top systems (installation sizes would have to be defined).

In this regard, ERC has asked to verify whether a filing fee for COC can be waived.

#### Proposed solution(s):

- Monitor ERC's solution and examine its impact with stakeholders

### Amount of Paperwork

Another challenge pointed out by several stakeholders is the amount of paperwork during the administrative process. Stakeholders highlighted two issues. The first is the number of permissions and clearances that are legally requested. In order to receive an RE Contract, applicants have to present a Environmental Compliance Certificate, a Certificate of Non-Coverage, a Water Rights Permit, a Free and Prior Informed Consent, a Certificate of Non-Overlap, the Local Government Unit endorsement and all other requirements from other government agencies applicable to the RE activities/ operations. Afterwards, additional documents are required to prove that legal requirements and technical requirements have been met. The other issue that has been highlighted by stakeholders is the lack of knowledge as to whether they will be asked to present additional documents on top of the ones that are required. This is also indicated in the legal text, which demands "permits, clearances or certificates such as, *but not limited to*" [emphasis added] a list of documents.

A possible solution might be to first draw a full and complete list of documents that are needed for the PV process. Afterwards, it might be considered to carefully go through this list and to examine whether it might be possible to waive certain permits. However, this should involve a close dialogue between administration and stakeholders to make sure that the security of environment and the public interest will not be harmed.

#### Proposed solution(s):

- Prepare a complete list of required documents
- Examine if permits can be waived without putting security of environment and public interests at risk

### Insufficient regulation

Particularly with respect to off-grid systems, stakeholders have pointed out that the amount of regulation is not sufficient, as some regulations still need to be introduced. As a consequence, it is not entirely clear for some project developers how approval for their projects can be guaranteed. Since the market is still in a very early phase, there is also a lack of experience in this field, and many decisions are based on assumptions from existing information on the on-grid sector. From the perspective of the DoE, however, guidelines exist and allow for a transparent process. Other stakeholders have pointed out that the lack of regulation bears great advantages, as there are no unnecessary requirements that have to be followed.

These dissimilar and sometimes contradictory statements show that stakeholders perceive the current situation quite differently. It seems quite possible that with more experience this challenge will be resolved on its own. Still, in order to allow more market actors to enter the market and thus generate more competition and better conditions for end-consumers, improving the information supply should be considered. One option might be to examine the existing processes in cooperation with project developers to identify the specific areas in which information is lacking, and to describe the processes in a centralized database so that market actors can avail and base their discussion on the same source.

#### Proposed solution(s):

- Examine existing descriptions of processes and identify specific lacking parts of information
- Describe processes in a centralized database

### Challenges at Grid Connection Permit Level

The “Grid Connection Permit” process is the second process in which several challenges have been identified. Since off-grid systems at utility scale are connected to island grids, these challenges can apply to them as well. Stakeholders reported the following challenges:

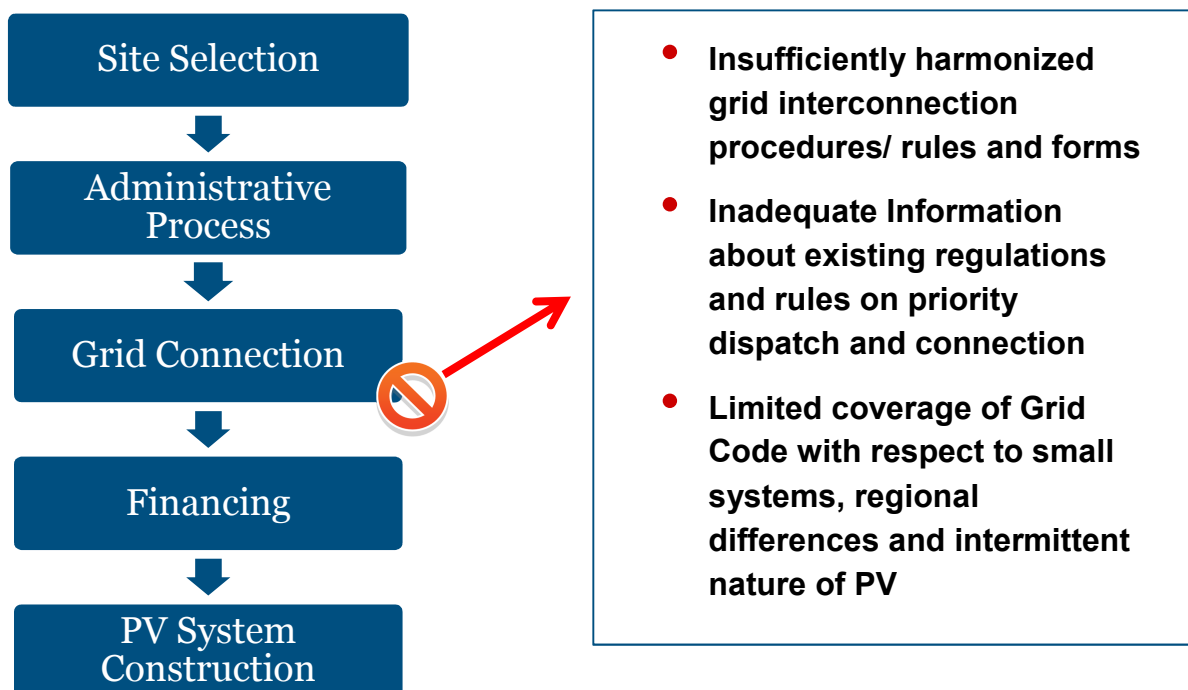


Figure 9: Overview on challenges at “Grid Connection Permit” process step in the Philippines. Source: eclareon.

### **Insufficiently Harmonized Grid Interconnection Procedure/ Rules and Forms**

There is no harmonized permitting procedure for the grid connection, resulting in a strong need to have clearly defined processes for developers to follow. Along the same lines, there are no harmonized guidelines, and forms for grid connections are not in place, leading to lengthy procedures and long waiting times. In the consultation process, project developers have confirmed that the lack of centralized information on grid interconnection procedures and rules is a severe barrier for the development of PV systems. They proposed more transparency as well as a centralized description of PV processes. At the workshop, representatives from ERC showed a clear acknowledgment of this issue. They pointed out that at present, the grid code is undergoing amendments and the variable RE is being scrutinized so that developers would have a sound basis for preparing technical and operational requirements.

It appears that the responsible authorities have acknowledged the severity of this challenge and are already working on remedying the situation. In addition, it might be helpful to describe the grid interconnection procedure in a scheme and to make the information centrally available. The guidelines being developed by the DOE may serve as a good example of how to formulate and publish this information. A further step would be to present the information on administrative steps and on the interconnection procedure in one centrally available internet database. This would allow PV project developers to get all information in an effective and efficient way.

**Proposed solution(s):**

- Describe the grid interconnection procedure in a scheme and make it centrally available

### **Inadequate Information about Existing Regulations and Rules on Priority Dispatch and Connection**

Regulations and rules on priority dispatch and connection are in place, however not known to a larger part of stakeholders. There is a strong need to inform broadly about the current regulations and to promote their application.

The best approach to overcoming this challenge would be here as well to develop a centrally available database to which both applicants and experts at the Distribution Utilities can refer in case of questions and doubts.

**Proposed solution(s):**

- Development of a centrally available database on existing regulations on priority dispatch and connection

### **Limited Coverage of Grid Code with Respect to Small Systems, Regional Differences and Intermittent Nature of PV**

As for the certificate of electrical inspection, an issue regarding the electrical code has been detected. The current version of the code does not account for PV larger 50W; resulting in conditions under which a certificate may not be issued in all cases. An adaptation of the electrical code is required, to also reflect PV installation larger 50W. Moreover, according to project developers, the current grid code does not take the different line systems into account. The foreseen one grid rules cannot cope with other grid systems because they are only based on metro Manila region. There are no specific

rules for smaller systems. This challenge does apply also to the distribution grid. Here the issue is potentially even more pressing as most PV installations are connected to low voltage level.

As described above, ERC is currently working on this issue, and ongoing activities by GIZ and DUs are meant to support this process. The process might be enhanced by expanding the results to amendments of the distribution grid code as well.

**Proposed solution(s):**

- Continuation of on-going amendment-process of electrical code and involvement of DUs in that process

### Challenges at Financing Level

Challenges appearing during the financing process are sometimes not administrative barriers in a strict sense. However, as these challenges have been reported to be quite severe for the overall PV development process, they will be discussed nonetheless. During the stakeholders consultation the following challenges were identified.

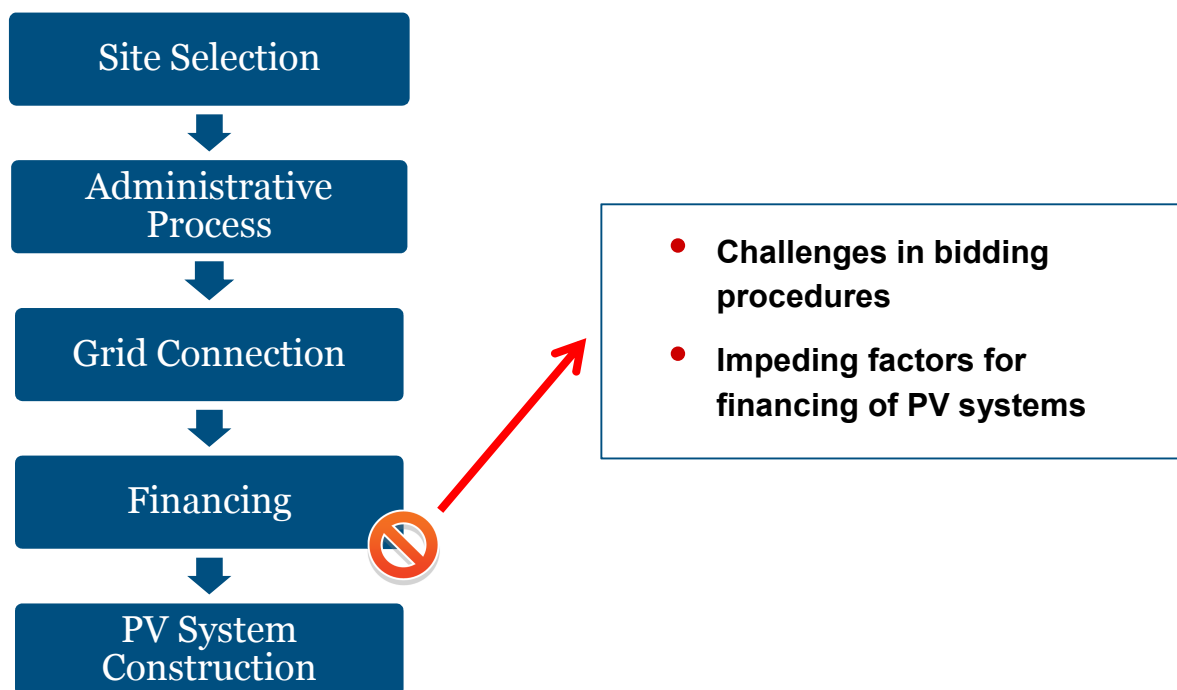


Figure 10: Overview on challenges at “Financing” process step in the Philippines. Source: eclareon.

### Challenges in bidding procedures

Stakeholders have mentioned several challenges with respect to the bidding process for the support scheme. Main points for criticism were that the fees collected from bidders were not harmonized and that there is a lack of bidders. As a consequence, the group of actors is quite small and there is reduced competition among the market actors.



The stakeholders have proposed several steps to overcome this challenge. One would be to make the tenders smaller, as this would allow a larger number of actors of different sizes to participate in the bidding process. Another option to diversify actors would be to check and perhaps amend the requirements to become an eligible bidder. A third solution would be to harmonize the fees collected from the bidders to ensure equal treatment. Moreover, the FIT could be considered as reference rate for the bidding process and attract more market players.

**Proposed solution(s):**

- Reduce the scale of the tenders
- Examine and if needed amend the requirements for becoming an eligible bidder
- Harmonize fees collected from the bidders
- Consider FiT as reference rate for the bidding process

### Impeding Factors for Financing of PV Systems

The discussion with experts has ultimately shown that several factors are currently impeding the flow of financing into the PV sector. First of all, there is an absence of collateral or guarantees. Banks are willing to provide financing; however absence of collateral or guarantees hinders this transaction. Second, the bankability of borrowers is not always certain, especially for small-scale projects for own-use that require personal loans rather than commercial loans. Third, there is a lack of knowledge regarding how to tap available financial support. Though a lot of money is available, the developers do not know how to access resources. Fourth, many electric cooperatives have poor ratings.

There are several steps currently undertaken to overcoming this barrier. For example, DOE, in partnership with the financing institutions, is rolling-out microfinance initiatives. Moreover, a financing scheme is already tested in collaboration with the Philippine Equity Foundation. The problem of limited knowledge among project developers could be tackled by a centralized database offering information on financing solutions and their conditions. The development of the rating of electric cooperatives should be closely monitored. If it turns out that the missionary electrification program is not sufficient, additional steps should be considered.

**Proposed solution(s):**

- Expand microfinance initiatives
- Develop a centralized database offering information on financing solutions and their conditions
- Monitor and probably amend the missionary electrification program

## 6 Conclusion

The barriers described and the proposed solutions can be summarized as follows:

Process	Barrier	Proposed solution
Administrative process	Involvement of too many authorities	<ul style="list-style-type: none"> <li>Reduce the number of required permits and thereby the number of authorities involved</li> <li>Consider the establishment of a supportive desk for installation permitting</li> </ul>
	Insufficiently harmonized processes at local level	<ul style="list-style-type: none"> <li>Prepare project developers to enter into close communication with Local Chief Executive (LCE)</li> <li>Provide LCEs with information about PV projects and its advantages</li> <li>Get League of Municipalities involved as moderators to convince single LCEs</li> </ul>
	Reassessment of real estate property tax	<ul style="list-style-type: none"> <li>Establish specific guidelines</li> <li>Introduce exemptions in the general tax regime</li> </ul>
	Unclear requirements for Certificate of Compliance (COC)	<ul style="list-style-type: none"> <li>Monitor ERC's solution and examine its impact with stakeholders</li> </ul>
	Amount of paperwork	<ul style="list-style-type: none"> <li>Prepare a complete list of required documents</li> <li>Examine if permits can be waived without putting security of environment and public interests at risk</li> </ul>
	Insufficient regulation	<ul style="list-style-type: none"> <li>Examine existing descriptions of processes and identify what specific information is lacking</li> <li>Describe processes in a centralized database</li> </ul>
Grid connection permit	Insufficiently harmonized grid interconnection procedure/ rules and forms	<ul style="list-style-type: none"> <li>Describe the grid interconnection procedure in a flowchart and make it centrally available</li> </ul>
	Inadequate information about existing regulations and rules on priority dispatch and connection	<ul style="list-style-type: none"> <li>Development of a centrally available database on existing regulations on priority dispatch and connection</li> </ul>
	Limited coverage of Grid Code with respect to small systems, regional differences and intermittent nature of PV	<ul style="list-style-type: none"> <li>Continuation of ongoing amendment-process of electrical code and additional involvement of DUs in that process</li> </ul>
Financing	Challenges in bidding procedures	<ul style="list-style-type: none"> <li>Reduce the scale of the tenders</li> <li>Examine and if needed amend the requirements for becoming an eligible bidder</li> <li>Harmonize fees collected from the bidders</li> <li>Consider FiT as reference rate for the bidding process</li> </ul>

## Administrative Procedures for Off-Grid PV Project Development in the Philippines

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	Impeding factors for financing of PV systems	<ul style="list-style-type: none"><li>• Expand microfinance initiatives</li><li>• Develop a centralized database offering information on financing solutions and their conditions</li><li>• Monitor and probably amend the missionary electrification program</li></ul>
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