



ASEAN Good Practices in Renewable Energy

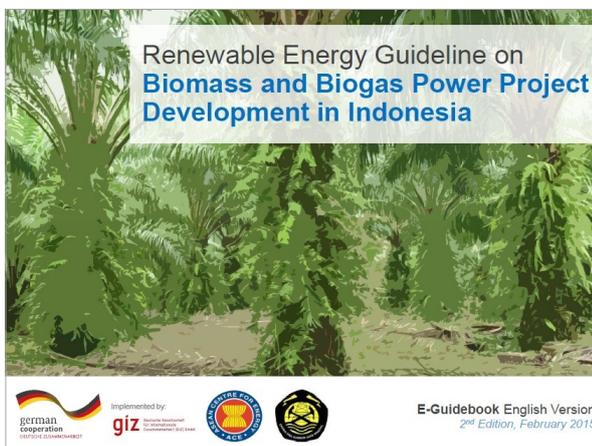
Sharing know-how, experience and information on ASEAN Renewable Energy development within the region and worldwide

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South-East Asia's rapid economic growth requires stable and reliable energy supply. ASEAN member states are increasingly focusing on renewable energies (RE) in order to ensure a more sustainable and environment friendly power supply. The Renewable Energy Support Programme for ASEAN (ASEAN-RESP), supports regional cooperation to improve the framework conditions for deployment of renewable energy.

The **ASEAN Good Practices** aim at sharing know-how, experience and information on ASEAN renewable energy development within the region and worldwide.

Good Practice: Renewable Energy Guideline on Biomass/Biogas Power Project Development in Indonesia



Download above reference guide at <http://aseanrenewables.info> or <http://re-guidelines.info>

Who should read the guidebook?

Project Developers with intention to develop renewable energy market in Indonesia can be assisted and navigated through necessary permitting procedures and administrative processes in the country

Investors/Banks/Financial Institutions who are interested to fund biomass/biogas power project in Indonesia can be guided through the financing administrative processes and requirements

Policy Makers with spirit of realising a green future for the country will be supported to go through all detail procedures required to be proceed in different authorities in Indonesia

The guideline details the procedures for developing a biomass/biogas power plant in Indonesia. It is a comprehensive, easy-to-access and regularly updated online tool which includes complete information on ideal RE project development cycles in the respective countries.

The guideline highlights administrative procedures, including requirements for project developers and/or investors, lists legal and regulatory provisions and necessary permits, identifies country-specific challenges for project development, as well as provides information on how to obtain financial closure.

The guide was published by the Directorate General for New, Renewable Energy, and Energy Conservation (EBTKE; Direktorat Jenderal Energi Baru Terbarukan dan Konservasi Energi) in cooperation with the Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH in the framework of Energy Programme Indonesia/ASEAN.

“The guideline is an important tool to further support the RE market in Indonesia and help to build a green future for the country” - DG for New, Renewable Energy and Energy Conservation (EBTKE), Indonesia



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How to read the RE Guideline...

Overview Layer

From the overview layer, readers can see the entire procedure in project development (from site selection until operation and maintenance). It gives a big picture on how biomass/biogas project development in Indonesia has to be done. Only predefined steps are shown in this layer in different color codes (e.g. site selection, administrative authorization, etc.). These steps are standardised for every guideline.

Detailed Layer

The detailed layer provides more details for each step shown in the overview layer. This allows for more flexibility in providing more details to readers on specific phase of project development.



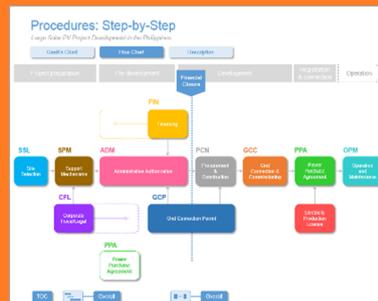
Go through the procedures step by step...

The guideline illustrates the procedural flow in two ways; Gantt chart view and flow chart view



Gantt Chart View

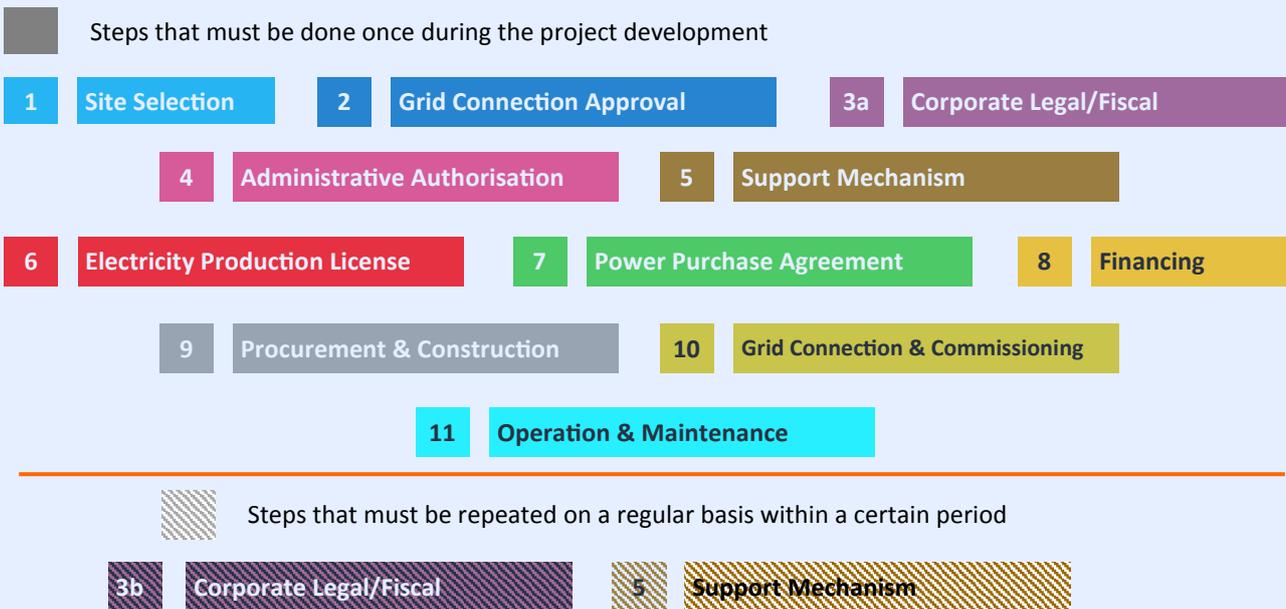
The Gantt chart is a typical planning tool for project developer. It can show sequences of steps / sub-steps.



Flow Chart View

The flow chart is a simplified version to illustrate the procedural flow. It can better show the relation between steps / sub-steps.

Steps in the procedural flows above are differentiated by colors that describe following procedures:





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Biomass/Biogas Development in Indonesia

In Indonesia, the latest national energy policy was announced in October 2014 (Government Regulation - PP no. 79/2014). The share of new and RE in the national energy mix is to be increased by at least 23% in 2025 and by at least 31% in 2050, from 8% in 2013. To achieve these targets, private and foreign investment is expected to play a prominent role in the RE sector.

As an archipelago country that extends out horizontally with the equator running through it, Indonesia is a nation well-suited for growing a wide variety of plants, fruits, and vegetables due to its tropical climate. With such a strong agricultural sector, Indonesia therefore has significant potential to utilize agricultural waste as feedstock for power generation. Oil palm, rice paddies, and sugar cane have been identified as the top three crops in terms of production volume. The technical potential of using biomass from these three crops for electricity production is estimated at around 43,211 GWh per year. With the current power demand of 187,541 GWh, realization of the biomass power potential can considerably change the national power mix.

The Indonesian feed-in tariff for biomass and biogas (known as “**guarantee price**”) was first issued in 2012 through Ministerial Regulation – PERMEN (ESDM) no. 4/2012. It was applicable for up to 10 MW biomass / biogas power plants (including municipal solid waste).

The new Ministerial Regulation – PERMEN (ESDM) no. 27/2014 was issued specifically to incentivize biomass/biogas power plant project development. It introduced higher base tariffs and uplift factors than the ones stipulated in 2012 (PERMEN (ESDM) no. 4/2012). The base tariffs are now defined separately for biomass power plants (**PLTBm; Pembangkit Listrik Tenaga Biomassa**) and biogas power plants (**PLTBg; Pembangkit Listrik Tenaga Biogas**). In general, the tariff for a biomass power plant is higher. The regulation also outlines a more transparent procedure for project development.

Oil Palm



100 million tons
Annual supply

34,815 GWh/year
Technical potential

Rice



59 million tons
Annual supply

5,362 GWh/year
Technical potential

Sugar Cane



30 million tons
Annual supply

3,034 GWh/year
Technical potential

Source: Overview of the Waste-to-Energy Potential for Grid-connected Electricity Generation (Solid Biomass and Biogas) in Indonesia, LCORE 2013

Base tariff (per kWh)

Old regulation PERMEN (ESDM) no. 4/2012

Biomass and biogas power plant	
Connected to medium voltage (MV) network	IDR 975 (~cent 7.8 US)
Connected to low voltage (LV) network	IDR 1,325 (~cent 10.5 US)

New regulation PERMEN (ESDM) no. 27/2014

Biomass power plant	
Connected to MV network	IDR 1,150 (~cent 9.2 US)
Connected to LV network	IDR 1,500 (~cent 11.9 US)
Biogas power plant	
Connected to MV network	IDR 1,050 (~cent 8.4 US)
Connected to LV network	IDR 1,400 (~cent 11.1 US)

Source: RE Guideline on Biomass/Biogas Power Project Development in Indonesia, Background Information, pg. 5



implemented by:





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ASEAN Renewable Energy Guidelines (www.aseanreguidelines.info)

In recent years, ASEAN member states (AMS) have made considerable effort to tap into the vast wealth of renewable energy (RE) resources in the region. Several countries introduced feed-in-tariffs (FIT) or regulations for RE as well as other supportive policies, e.g. tax and customs exemptions or tax holidays.

Despite those efforts and some promising developments, a large-scale market for RE applications has not yet been set in place in the region. In particular, complex administrative procedures, a lack of transparency in the project cycle and permitting procedures as well as insufficient access to financial resources can be identified as important obstacles to an effective market and industry development.

The **ASEAN RE Guidelines** were developed to facilitate an increase in private sector activity and investment in the RE sector of the ASEAN region. Since the confidence of project developers and investors is needed in order to boost region-wide RE deployment, the provision of transparent project development and permit procedures is a necessity.

With comprehensive, easy-to-access and regularly updated online tool which includes complete information on ideal RE project development cycles in the respective countries, the **ASEAN RE Guidelines** were designed to meet the needs of project developers and potential investors, as well as promote transparency and clarity in the RE projects' pathway.

How to apply the RE Guideline in your country?

The RE Guideline is an important means to establish transparency in the market for developing RE power project. By having and applying similar guideline, other countries benefit from:

- ⇒ Transparent overview of the underlying scheme and the involved actors
- ⇒ Clear procedural flows from development, construction, until operation phase
- ⇒ Public consultation and review by relevant stakeholders in the sector
- ⇒ Common understanding of the implementation of the regulation by involved parties and the public
- ⇒ Joint reference which is supported by all relevant energy bodies

The Project: ASEAN Renewable Energy Support Programme

The Renewable Energy Support Programme for ASEAN (ASEAN-RESP), jointly implemented by the ASEAN Centre for Energy (ACE) and the German Development Cooperation (GIZ), supports regional cooperation to improve the framework conditions for deployment of renewable energy. The project supports the realization of the APAEC and encourages ACE and the ASEAN member states to fulfil their vision of a greener region.

As a regional project, ASEAN-RESP implements activities with relevance for all ASEAN member countries, following its guiding principle "learning from each other". Through its close collaboration with ACE and other relevant regional institutions, the project supports the ASEAN member states in using the existing policies as well as exchanging regional know-how and experiences.

Published by Renewable Energy Support Programme for ASEAN (ASEAN-RESP)

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