ASEAN Good Practices in Renewable Energy

Sharing know-how, experience and information on ASEAN renewable energy development within the region and worldwide

Visit us at http://aseanrenewables.info

Southeast 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. **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 solar photovoltaic (large) project development in Malaysia

Download above guideline at www.re-guidelines.info

The guideline details the procedures for developing a large-scale solar photovoltaic project in Malaysia. 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 guideline was published by ASEAN-RESP, a joint programme implemented by ASEAN Centre for Energy and GIZ on behalf of the Federal Ministry for Economic Cooperation and Development (BMZ). This guideline is jointly developed with Sustainable Energy Development Authority (SEDA) and endorsed by Malaysian Ministry of Energy, Green Technology and Water (KeTTHA).

Who should read the guideline?

Project developers with intention to develop large-scale solar photovoltaic project in Malaysia can be assisted and navigated through necessary permitting procedures and administrative processes in the country

Investors/banks/financial institutions who are interested to fund large-scale solar photovoltaic project in Malaysia 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 Malaysia.

"Going forward for larger penetration and adoption of RE throughout Malaysia needs active cooperation and financial commitments from private sector thus RE-Guidelines, play a very important role"
YBhg. Datin Badriyah Hj. Abd Malek,
Deputy Secretary General
KeTTHA Malaysia

german cooperation
DEUTSCHE ZUSAMMENARBEIT

implemented by:
giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

ASEAN CENTRE FOR ENERGY ACE

ASEAN Good Practices in Renewable Energy

Sharing know-how, experience and information on ASEAN renewable energy development within the region and worldwide

Visit us at http://aseanrenewables.info

How to read the RE Guideline…

Overview layer

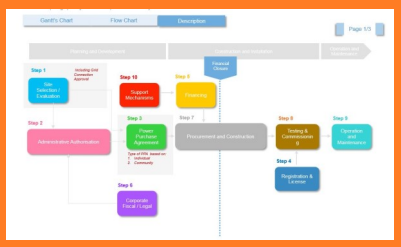
From the overview layer, readers can see the entire procedure in project development (from site selection until operation and maintenance). It gives a big picture on how biomass/biogas project development in Indonesia has to be done. Only predefined steps are shown in this layer in different color codes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

Detailed layer

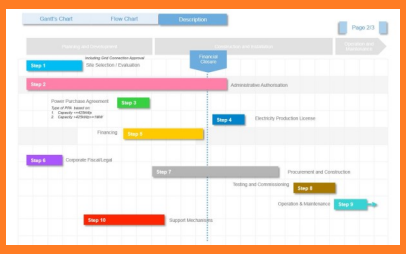
The detailed layer provides more details for each step shown in the overview layer. This allows for more flexibility in providing more details to readers on specific phase of project development.

Go through the procedures step by step…

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

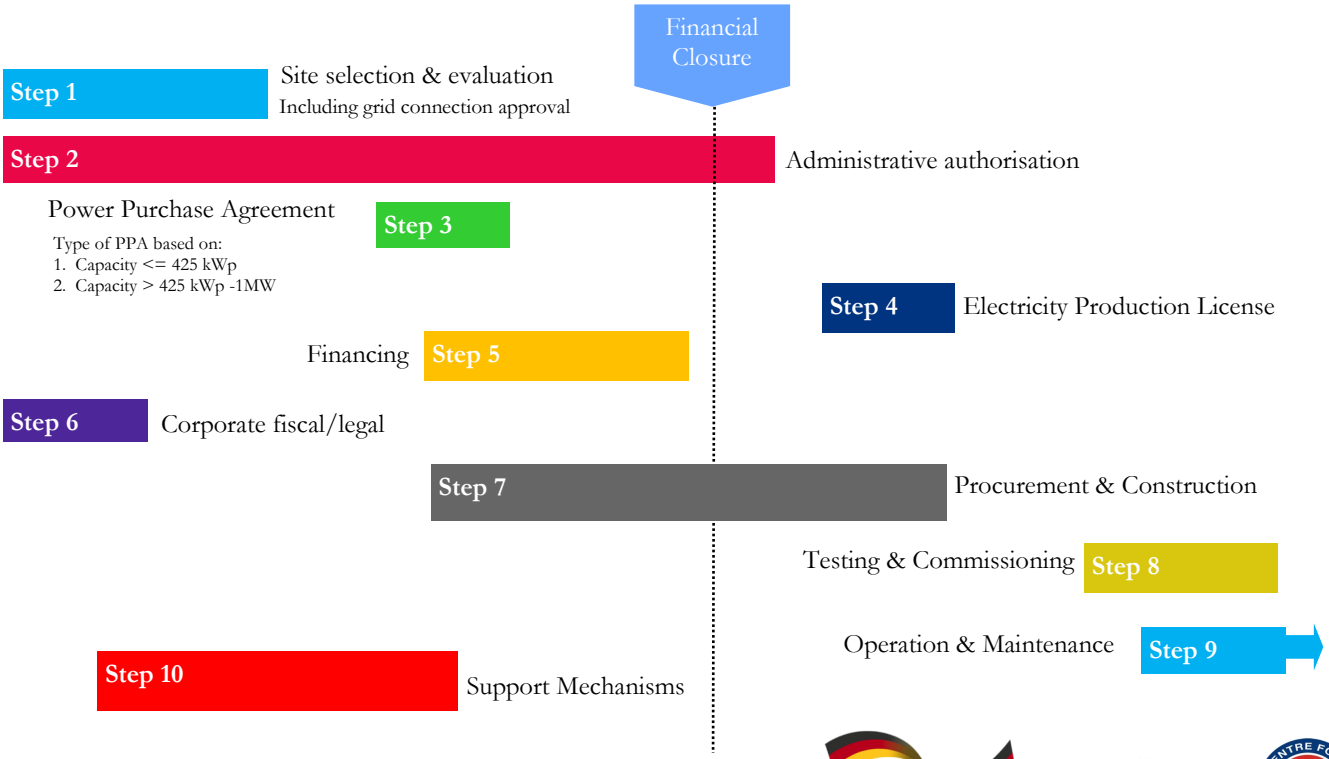


Gantt chart view
The Gantt chart is a typical planning tool for project developer. It can show sequences of steps / sub-steps.



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.

Figure below describes step-by-step procedure that shall be done by project developers:



german cooperation
DEUTSCHE ZUSAMMENARBEIT

implemented by:
giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

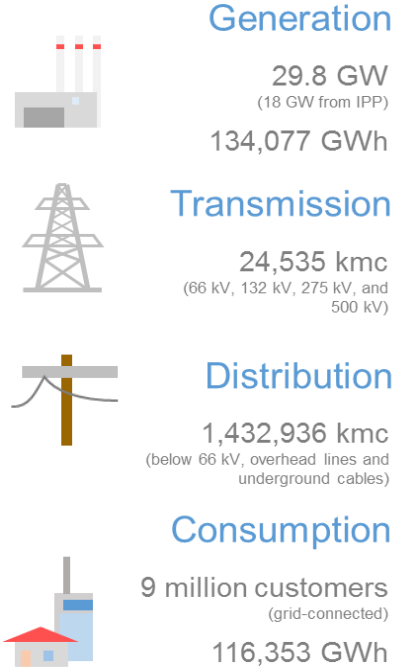
ASEAN CENTRE FOR ENERGY ACE

ASEAN Good Practices in Renewable Energy

Sharing know-how, experience and information on ASEAN renewable energy development within the region and worldwide

Visit us at http://aseanrenewables.info

Renewable energy in Malaysia



The power market in Malaysia is generally monopolistic in nature, with three main vertically integrated power utility providers responsible for three different areas: Tenaga Nasional Berhad (TNB) in Malaysia Peninsular, Sabah Electricity Limited (SESB) in Sabah, Sarawak Electricity Company (SESCO) in Sarawak. The Ministry of Energy, Green Technology, and Water issued several regulations under Electricity Supply Act 447. Important regulations note include the Electricity Regulation (first issued in 1994 and later amended two times in 2013 and 2014), and Licensee Supply Regulation (issued in 1990).

Year 2011 was a transformative year for the development of renewable energy in Malaysia with the passing of the renewable energy act [Act 725] and the sustainable energy development authority act 2011 [Act 726]. This in turn ushered in the establishment of the Sustainable Energy Development Authority (SEDA) in Malaysia.

As a statutory body under the direct supervision of the Ministry of Energy, Green Technology and Water Malaysia, SEDA operates under 5 strategic thrusts as meted out in the National Renewable Energy Policy and Action Plan (2010) and is primarily responsible for sustaining the renewable energy agenda in the country. The core function of SEDA concerns the implementation of the Feed-in Tariff (FiT) mechanism as a means to foster growth in the nation's renewable energy (RE) market.

Large-scale solar photovoltaic power project development

This guideline covers only grid-connected large solar PV projects with capacities greater than 72 kWp. Development of an off-grid project is subject to different procedures with respective technical requirements. The procedure outlined in the RE guideline is for projects with the objective to obtain a FiT as stipulated under the RE Act 2011.

This guidebook covers the legal and regulatory framework for the Peninsular Malaysia and Sabah areas only. Based on the regulatory framework and different governing system, development of large Solar PV projects in Sarawak need to follow different laws and regulations; the procedures for doing so are also different.

The potential to harness solar PV in Malaysia remains high year-round. Large deployment of solar PV sites can be found throughout Peninsular Malaysia, Sabah and Sarawak. As of 2016, there are a total of 8,606 solar PV systems in the Feed-in Tariff programme under Sustainability Energy Development Authority (SEDA) Malaysia.

As of January 2016, the feed-in tariff for Solar PV is between RM84.29 cents and RM59.3 cents (~ US20 cents to US14 cents), depending on the installed capacity. The FiT duration is 21 years. There is a digression rate of 15 percent for the solar PV power plant.

Installed capacity	FIT rate in RM (per kWh)
Above 72 kW and up to 1000 kW	26 cents (US6.37 cents)

With Net-metering and Large scale solar programmes announced for this year, it is expected that the number of solar power plants will continue to grow and contribute at an increasing rate in the coming years. While the target seems small at first glance, the market for solar energy has shown the most growth compared to other RE technologies, and it is the only technology where the public can participate as "prosumers" (both producer and consumer).

german cooperation
DEUTSCHE ZUSAMMENARBEIT

implemented by:
giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

ASEAN CENTRE FOR ENERGY ACE

ASEAN Good Practices in Renewable Energy

Sharing know-how, experience and information on ASEAN renewable energy development within the region and worldwide

Visit us at http://aseanrenewables.info

The ASEAN renewable energy guidelines (www.re-guidelines.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

Renewable Energy Support Programme for ASEAN (ASEAN-RESP)

Based in Jakarta, Indonesia, Renewable Energy Support Programme for ASEAN (ASEAN-RESP), jointly implemented by the ASEAN Centre for Energy (ACE) and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH on behalf of the Federal Ministry of Economic Cooperation and Development (BMZ), supports regional cooperation to improve the framework conditions for deployment of renewable energy. The project supports the realisation of the ASEAN Plan of Action on Energy Cooperation (APAEC) and encourages ACE and the ASEAN member states to fulfil their vision of a greener region. ASEAN-RESP has been cooperating with AMS since 2011. ASEAN-RESP coordinated the regional collaboration as well as led the development of RE guidelines Malaysia. Further information, please contact Ms. Maria-Jose Poddey (maria-jose.poddey@giz.de), Ms. Badariah Yosiyana (yosiyana@aseanenergy.org).

Published by

Renewable Energy Support Programme for ASEAN (ASEAN-RESP)

Directorate General of Electricity (DGE)
ASEAN Center for Energy Building, 6th floor
Jl. H.R Rasuna Said Block X-2 Kav.7-8
Jakarta 12950, Indonesia
T (62) 21 527 8025
F (62) 21 527 7762

Issued in April 2017

german cooperation DEUTSCHE ZUSAMMENARBEIT

implemented by: giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

ASEAN CENTRE FOR ENERGY ACE