CLEAN ENERGY
SOLUTIONS CENTER
ASSISTING COUNTRIES WITH CLEAN ENERGY POLICY

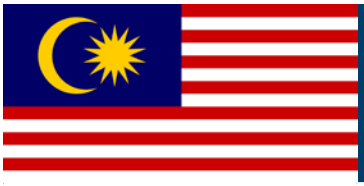
SUPPORTING EFFECTIVE FEED-IN TARIFF DEVELOPMENT IN MALAYSIA

CLEAN ENERGY
MINISTERIAL
Accelerating the Transition to Clean Energy Technologies

Since 2011, Malaysia's overarching policy framework for clean energy development, the New Energy Policy, has led to significant deployment of renewable energy and energy efficiency. Specifically, the government adopted policies to support market-based energy pricing, energy efficiency in the commercial and residential sectors, improved governance within the energy sector, and scaled up deployment of renewable energy.[1] Within this context, Malaysia has adopted a target of 11% of installed electricity capacity to come from renewable energy by 2020.[2]

Amcorp Gemas 10.25 MW solar power plant in Gemas, Negeri Sembilan, Malaysia. *Photo courtesy of Amcorp*

Building on the New Energy Policy, Malaysia mandated adoption of a renewable energy feed-in tariff (FiT) mechanism under the 2011 Renewable Energy Act. The FiT implementation process, managed by the Sustainable Energy Development Authority (SEDA),[3] was designed to support rapid renewable energy deployment while enhancing energy security and addressing climate change challenges.



MALAYSIA COUNTRY PROFILE	
Total area	329,847 km^2
Population density	92/km^2
Energy supply	43.4% natural gas, 35.5% oil, 15.8% coal/peat, 4.5% biofuels and waste, 0.9% hydro
Electrification rate	99.4%
Fuel imports	9,007 thousand tons oil equivalent coal and petroleum coke (2009)

Source: http://www.se4all.org/sites/default/files/l/2015/05/Malaysia.pdf

[1] http://www.se4all.org/sites/default/files/l/2015/05/Malaysia.pdf

[2] http://www.seda.gov.my

[3] SEDA is a statutory body formed in 2011 under the Ministry of Energy, Green Technology, and Water (MoE) and the Sustainable Energy Development Authority Act of 2011.

In 2013, SEDA partnered with the Clean Energy Solutions Center and the Clean Energy Regulators Initiative (CERI),[4] via the Ask an Expert service, to implement FiT policies and expand renewable energy development. Through this collaboration, the Solutions Center supported SEDA's efforts to review and improve FiTs for solar photovoltaic (PV), bioenergy, small hydropower, and geothermal energy resources and technologies. Drawing from international experience and lessons, the effort focused on:

- Review and improvement of FiT rates for solar PV, small hydropower, biomass, and biogas
- Support for design of a geothermal FiT based on international experience and benchmarks
- Analysis of other potential policy mechanisms to support large-scale deployment of solar PV (e.g., auction and tendering approaches).

Recommended Solutions

Collaboration between SEDA and the Meister Consultants Group, a partnering Clean Energy Solutions Center expert institution, resulted in a number of concrete recommendations to support clean energy policy development in Malaysia:

- **Ensure accurate and cost-reflective feed-in tariff design** through robust country-specific analysis and incorporation of international good practices. By examining Malaysia's renewable energy market and current FiTs, as well as international good practices for FiT design, Solutions Center experts provided key recommendations to support specific RE technologies and resources in Malaysia.
    - **Solar PV:** Solar PV cost reductions are expected to continue in Malaysia as the market grows. To ensure Malaysia's solar PV FiT is reflective of changing prices, a FiT degression approach was recommended to allow for decreases in the FiT level over time and in alignment with changing market conditions.
    - **Biomass:** Calculation of biomass tariffs is a very complex process because input values are site-specific and factors relating to the feedstock—such as moisture content, heat rate and transportation costs—can significantly impact tariff rate. Solutions Center experts recommended that Malaysia adjust biomass and biogas tariff rates based on further analysis, paying special attention to feedstock price dynamics and key factors noted above.
    - **Geothermal:** As a highly capital and time-intensive process, geothermal development can benefit from effective policy support. Geothermal FiT design in Malaysia and internationally requires a stable regulatory

[4] CERI is a collaborative initiative bringing together the Clean Energy Solutions Center, Leonardo Energy, and 21st Century Power Partnership.

environment, price certainty, a long-term contract mechanism and a credible off-taker for power produced. In addition, given the time and resource-intensity of geothermal exploration and development, risk mitigation mechanisms are critical in supporting deployment.

- **Consider development of additional policy mechanisms to support PV.** To complement Malaysia's PV FiT, the government of Malaysia requested support to consider tendering approaches for larger-scale systems. Tendering approaches can allow for further policy alignment with evolving renewable energy markets and prices. Key considerations in developing an effective tendering process include: system size and quotas, design of the bidding system, pre-qualification requirements and criteria to evaluate bids. Net metering was also recommended as another policy for consideration. Good practices for net metering policies include: avoiding system-specific caps and overall caps on capacity, ensuring eligibility of all customer classes and designing an effective and appropriate payment structure, among others. The experts also emphasized that net metering should be considered complementary to a FiT rather than as a replacement.

Impact of Assistance

Partnership between the Clean Energy Solutions Center and the government of Malaysia resulted in concrete policy outcomes to support scaled up clean energy development. In particular, and based on recommendations outlined above, Malaysia adopted, revised, and is designing key policies:

- Increase in FiT bonus rates for biomass and biogas in 2014 based on further analysis and to reflect evolving price dynamics[5]
- Establishment of a revised degression approach for the solar PV FiT in 2014 to align with anticipated market and price changes over time[6]
- Establishment of a geothermal FiT for projects up to 30 MW in 2015 to support scaled up development of this largely untapped resource in Malaysia[7]
- Anticipated launch of a net metering program in January 2016 to complement Malaysia's PV FiT policy and based on successful stakeholder meetings supported by the Solutions Center.

Through collaboration between the government of Malaysia and the Clean Energy Solutions Center, concrete policy action was supported and implemented, building a strong framework to expand and catalyze clean energy development.

[5] http://www.lexology.com/library/detail.aspx?g=fc2d23af-73d7-44fb-96be-9fcc6b552a7a
[6] http://www.lexology.com/library/detail.aspx?g=fc2d23af-73d7-44fb-96be-9fcc6b552a7a
[7] http://www.iea.org/policiesandmeasures/pams/malaysia/name-24984-en.php

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