

Chapter 7

Policy Recommendations

This whole report approached the power sector policy of Myanmar from a range of perspectives, covering integrated energy/environmental assessment of large-scale hydropower, techno-economic assessment of mini-grids, qualitative policy analysis of utility-scale solar and mini-grids, and China's approach towards hydropower projects. Lessons have been distilled from each chapter and integrated in the following policy recommendations.

7.1 The Main Grid and Expansion of Its Power Capacity

Alternative power development plans that do acknowledge the possible negative consequence of large-scale hydropower plants can contribute to ecological and social stability while achieving economic efficiency. Concentrating one's option on large-scale hydropower could potentially threaten the ecosystem and social stability. Fortunately, the rapidly falling cost of emerging renewable energy technologies – including solar, biomass, and battery storage – is one reason alternatives' capacity expansion pathways must be reconsidered. At the same time, there must be a more concerted effort to accurately estimate (i) the technical resource potential of solar and other non-hydropower-based renewables in a community; and (ii) the developers' ability to fund new projects if one were to improve the electricity system's reliability and reach in an area.

Coal-fired power plants and large-scale hydropower can create a new set of stranded assets under future power development scenarios. Including solar energy into the mix can diversify the power source portfolio, distribute the risk across a large number of projects and make the transition towards clean energy faster and more cost effective. Stranded assets are one of the significant financial risks in large-scale energy infrastructure projects, which include hydropower. The lack of constant or predictable future revenues from new energy system investments could put a project at risk of bankruptcy. Solar and distributed energy resource options offer operators a diversified portfolio approach that can reduce the financial risk of having stranded assets.

Myanmar can take advantage of the falling cost of solar electricity by making a strategic priority in its power development plan. Participation in financial instruments such as renewable energy auctions allows low-cost utility-solar projects to directly compete with large-scale hydropower projects.

There is an important PV potential that is currently not being utilised in Myanmar. That is, by developing the utility-scale solar generation in the Central Dry Zone, Myanmar can improve its power generation mix in a relatively short period. Connection to the national grid can be done without having to invest in long-distance new transmission lines (although re-enforcements of the infrastructure would most likely be required).

7.2 Rural Electrification with Renewable-based Mini-grids

To accelerate the diffusion of mini-grids and make mini-grid businesses sustainable, the business sector's use of electricity during daytime in rural areas should be encouraged.

Productive use of electricity during daytime in rural areas should be encouraged to make the mini-grid business sustainable.

Another way to make business sustainable is to improve the entrepreneurship knowhow of mini-grid developers/operators, most of whom have engineering backgrounds and are not entrepreneurs. A support programme for villagers on how to start new businesses will be useful.

Mini-grid developers/operators are in need of a supportive financing scheme. Appropriate financial support should be provided to mini-grid developers/operators, who often face difficulties with regard project financing. Myanmar's financial sector needs to be further developed to keep pace with foreign investments in the country. International investment, including the development of mini-grids, should also be matched with local needs.

To sustain quality, there is an urgent need to define the technical standards for renewable energy equipment. Regulatory frameworks for off-grid systems and technical standards or codes for solar PV modules do not yet exist as of this writing, which means some energy sector players suffer from using poor quality equipment. This tarnishes the image of renewable energy systems.

To make electrification efficient, a single governmental body should be responsible for dealing with both on-grid and off-grid measures. While the MOEE is currently working to extend the main grids, the DRD of the Ministry of Agriculture Livestock and Irrigation pursues both solar home systems and mini-grids as off-grid measures. At the moment, coordinating mechanisms are lacking between the two ministries. Institutional reforms are needed in this case.

7.3 Investment Environments and Connectivity

Developing a policy framework that will streamline investments should be a priority of the government of Myanmar. Currently, energy projects in Myanmar are negotiated bilaterally, which has limitations in attracting investments for a large number of projects. Promoting a healthy competition amongst investors would enable the most suitable projects to be selected in both financial and nonfinancial terms. A transparent and secure investment climate is needed.

Participation in a regional power grid market (e.g., Greater Mekong Subregion, ASEAN Power Grid, and the South Asia Subregional Economic Cooperation) will give Myanmar opportunities to expand its access to electricity, meet rising urban power demand and minimise environmental and societal risks. Further regional integration could smoothen tensions with investors from neighbouring countries as well as create reliable electricity export revenues without causing ecological or social issues. Importing electricity from neighbouring countries with excess supply can also quickly alleviate frequent blackouts, a lack of a reliable grid, and

balance loads during peak periods. At the same time, it can allow for incremental investments and quicker access to electricity for underserved populations in rural areas.

When adopting policies from other countries, both the government of Myanmar and development partners should consider the country's context. The international community already has a relatively broad experience with different policy instruments in promoting the deployment of renewables. Feed-in tariffs and renewable purchase obligations have been applied for some time. In recent years, energy auctions have been proven effective in identifying and reducing the prices of renewables in many countries. Myanmar could use that experience for its own needs. The assistance of development partners would be very valuable in this process. However, Myanmar's circumstances with regard its socioeconomic and political situation should be taken into account. For example, how to secure land in an appropriate manner should be seriously considered when implementing policies in Myanmar.

International society should help secure communication lines between foreign investors and local communities during the pre-project phase of large-scale hydropower developments. There has recently been a move to institutionalise the environmental impact assessment and strategic environmental assessment processes for hydropower projects. However, what are often lacking during the pre-project phase are open communication lines between foreign investors and local communities. Setting up this communication line at the onset may not only prevent potential environmental and social issues but also avert any economic loss brought by a public outcry or opposition.

Capacity building programmes are required to achieve all the above measures effectively. The programme should target administrative officers as well as other stakeholders such as parliament members. Often, problems in implementation are not due to technocrats' capacity but to the system employed by the relevant offices involved. In the energy sector in particular, it is critical to develop the competences and define the functions of the energy regulatory commission per the stipulations in the country's Electricity Law.