Trainings in Renewable Energy Best-Practices:
Procurement, Contracts, Lifecycle Cost Analyses, and Risk Mitigation to Mobilize Private Investment
a joint APEC-ASEAN event held in Kuala Lumpur, Malaysia, 16-20 October 2017

Participants included government attendees from Cambodia, Chile, Indonesia, Laos, Malaysia, Papua New Guinea, the Philippines, the United States, Thailand, Vietnam, and the ASEAN Centre for Energy. They represented energy ministries, electricity utilities, energy regulators, research institutions, or multinational organizations, and most had responsibilities for the procurement of renewable energy.

KEY MESSAGES

- The power purchase agreement (PPA) is the lifeblood of a renewable energy (RE) project, so its terms as well as the terms of other associated agreements should be developed in conjunction with the project's developer, off-taker/utility, lender(s), and any relevant ministries to ensure it is a mutually beneficial agreement.

- The regulator plays a critical role in both generating investor confidence and encouraging utilities to adopt and integrate RE.

- Competitive procurement, especially via auctions, has dramatically reduced the cost of RE to at or below grid parity in diverse economies worldwide; feed-in tariffs (FiTs) do not offer the same cost savings but may offer other advantages such as speed and ease of administration.

- Robust tools exist for calculating the value/expense of non-price costs (public health, environment) from different power generation lifecycles. Decision-makers can use these tools to forecast economic effects and externalities from changes to energy policies and technologies.

WRITE-UP

Each economy first reported on national RE policies and plans, existing RE projects, and their project pipelines, providing insight into some of their challenges and successes in investment, construction, and operations of RE power plants.

Then, for the first 3 days, a group of international clean energy attorneys presented sequential legal and financial concepts for consideration when attempting to procure renewable energy projects.

Day 1 covered power as a privately developed public good; the differing priorities and financial timelines of lenders, developers, and off-takers/utilities; the role of the regulator in increasing investor confidence; standardization of project documents, including the vital PPA; challenges and solutions to accelerating RE development; and the first half of a case study on South Africa's two-year-long government shift to eventually stimulate over 6,500MW of RE investment, which featured a balanced

and non-negotiable PPA, integrated resource planning (IRP), setting of RE development zones, and a shift from a feed-in tariff to competitive procurement for all power projects, rapidly dropping solar and wind project costs to grid parity.

Day 2 covered the fundamental considerations for a bankable PPA; the difference between thermal and RE PPAs; handling of force majeure events; addressing risks related to the contract, construction, logistics, interconnection, power plant performance, disputes, currency, and ownership of a power project; and various procurement structures for RE projects, again with South Africa as a case study.

Day 3 dove into greater detail on topics, including the value of both benchmarking to similar economies and "market sounding" (via RFI) to acquire stakeholder input and pricing data prior to decision-making; the two-envelope bidding process; removal of risks via contracts harmonization (PPA, Implementation Agreement, Direct Agreement, and Interconnection Agreement); currency exchange risk mitigation; obligated project revenue and payment prioritization from the revenue account; defaults and lender recourse under the Direct Agreement..

For the last 2 days, a selection of global researchers presented tools and methodologies for evaluating non-price costs (health, environment, and related externalities) of various power generation scenarios.

Day 4 emphasized competitive auctions as a major driver of cost reduction worldwide; challenges in forecasting and predictions in a dynamic market; USAID's 6 essential building blocks for RE development; lifecycle environmental impact assessments; least-cost analysis vs. life cycle assessment (LCA); EPA's BenMAP tool for evaluating cradle to grave, local and regional, short- and long-term human health impacts of power projects; and the Global Burden of Disease study.

Day 5 presented the Long-range Energy Alternatives Planning (LEAP) system for evaluating climate change effects, other externalities, cost-benefit tradeoffs, and optimization of power sector planning and population dynamics, which can help modelers to inform policymakers; the use of actual economic data to estimate effects of policy and technology changes; integration of energy, economic, and environmental models; "cost of life" calculations; and group presentations of workshopped challenges in the energy sector and the use of tools to resolve them.

Potential follow-on activities: attendees and presenters expressed interest in or support for a discourse on USAID's 6 essential building blocks for RE development, hands-on trainings of LEAP and BenMAP, the inclusion of (local) financial/lending institutions in subsequent trainings, discussion of how to design RE auctions, collaboration among NARUC and regional energy regulators on establishing regulations to guide stable RE growth, and a general continuation of the week's conversations among all parties.

For questions or details on this training, please contact
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