

About CEADIR

- **CEADIR**—Climate Economic Analysis for Development, Investment, and Resilience
- USAID-funded, \$20.1 million global activity through March 2019
- Helps governments, the private sector, and civil society make the business and economic case for climate change mitigation and adaptation actions
- Mobilizes access to public and private finance in adaptation, clean energy, and sustainable landscapes to scale up low-carbon, climate resilient development
- Active throughout Africa, Southeast Asia, and Latin America and the Caribbean



Renewable Energy Auctions in ASEAN

- Recent transition from feed-in tariffs (FITs) to auction mechanisms in some ASEAN countries
- Thailand, Malaysia, Indonesia, Singapore, and Cambodia have experience with RE auctions
- Governments in Lao PDR and Vietnam are interested in using auctions
- A 2017 study by USAID Clean Power Asia compared RE auction designs and results in Thailand, Malaysia, and Indonesia
 - See <http://usaidcleanpowerasia.aseanenergy.org/>



Photo credit: Asian Development Bank

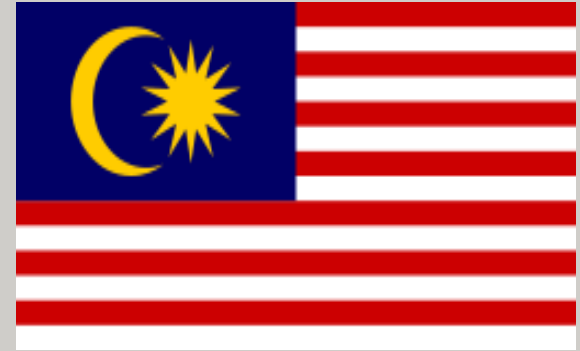
Examples of Recent Auctions in ASEAN: Indonesia

- Initiated a competitive tender in June 2017
- Target to add 168 megawatts (MW) of solar power capacity in Sumatra
- Attracted more than 100 interested parties
- Bids were expected to be selected by late 2017, but have not yet been announced



Examples of Recent Auctions in ASEAN: Malaysia

- Announced second solar auction in early 2017
- Target to add up to 460 MW of large-scale solar capacity, including 360 MW in Peninsular Malaysia and 100 MW in Sabah and Labuan
- Auction was heavily oversubscribed
- Winning bids represented 563 MW of total capacity



Examples of Recent Auctions in ASEAN: Thailand

- Held its first technology-agnostic RE auction in mid 2017
- Target to add 300 MW of hybrid RE power
- Bids were selected in December 2017 and Power Purchase Agreements (PPAs) will be signed by December 2019:
 - 14 biomass projects: totaling 259 MW
 - 1 biogas + solar project: 16 MW
 - 1 biomass + solar project: 13.3 MW
 - 1 solar + energy storage project: 12 MW



Analyzing the Private Sector and Investor Experience

- Building on 2017 USAID Clean Power Asia study, CEADIR is analyzing the private sector and investor experience in recent auctions in Thailand and Malaysia
 - How cost-effectively auctions have mobilized private investment and finance
 - Lessons learned by private sector participants
 - Recommendations for improving and scaling up auctions in the coming years



Photo credit: Khmer Times

Importance of Private Sector Perspectives

- Perspectives of private sector and investor participants in recent RE auctions in ASEAN have not been studied
- Private sector recommendations and lessons learned can
 - Help policymakers improve future auctions
 - Provide insights for other countries that are developing plans and policies for auctions



Photo credit: CEADIR

Overview of Thailand's 2017 Auction

- Thailand introduced “firm” PPAs in 2017 to reduce variation in intermittent energy sources
- Initiated an auction in August 2017 under new Small Power Producers (SPP) Hybrid Program
- Quota of 300 MW of electricity generated by hybrid power plants ranging in capacity from 10-50 MW
- Auction had a starting or maximum FIT rate of \$0.11 USD/kWh
- Bids were due in October and 17 winning projects were announced in December



Solar PV farm in Thailand. Photo credit: Energy Storage News

Thailand's 2017 Auction: Policy and Regulation

- SPP Hybrid Program is a new feed-in policy program
- Requires producers to commit to “firm” power generation through combining different RE technologies
- A firm PPA contract requires a power plant to supply a defined amount of power during specified hours:
 - During peak hours (9:00-22:00 Monday through Friday), generation capacity must be kept at 100% of total sale capacity
 - During off-peak hours and public holidays, generation capacity is limited at 65% of total sale capacity



Photo credit: Nikkei Asian Review

Thailand's 2017 Auction: Results

- 17 winning bids announced in December 2017 are owned by a total of nine groups of companies
- Resulting net prices in the auction ranged from \$0.06 to \$0.11 USD/kWh
- Winning projects are expected to be constructed and operational by 2021



Photo credit: Asian Development Bank

Session Agenda

- **Overview of Recent RE Auctions in ASEAN and CEADIR's Analysis of the Private Sector and Investor Experience** – Mikell O'Mealy, Activity Manager, USAID-funded CEADIR activity
- **Preliminary Findings from Interviews with Private Sector Participants in Thailand's Recent Auction** – Tanat Sangarasri, Consultant, USAID-funded CEADIR activity
- **Private Sector Recommendations and Lessons Learned** – Visait Harnsawad, Managing Director, Blue Solar
- **Interactive discussion** – Sharing perspectives and experiences in RE auctions in ASEAN



Mikell O'Mealy



Tanat Sangarasri



Visait Harnsawad

Discussion Questions

- Have you participated in renewable energy auctions in ASEAN, and if so, in what role? (i.e., project developer, investor, financier, etc.)
- What has been your experience in with RE auctions in the region?
- What barriers have you encountered?
- How have auctions mobilized private investment and finance, cost effectively?
- What are your recommendations for scaling up and improving RE auctions in ASEAN?
- Have awarded contracts been developed?



Photo credit: Windpower Engineering & Development