

Asia LEDS Partnership Grid Renewable Energy Community of Practice

Summary report of Online Session 2 on ‘Smart Incentives and Enabling Environment for Renewable Energy Deployment’, May 22, 2018

The second online session of the Grid Renewable Energy (GRE) Community of Practice (CoP) was held on May 22, 2018 and was attended by 17 participants.

The session focused on understanding how effective implementation of RE policies and incentives can accelerate private sector investment, increase cost competitiveness and spur large scale RE development. Key aspects for creating an enabling policy, regulatory and financial environment necessary for scale up of renewables, including tax policies, FiTs and other financial mechanisms were covered. The discussion was supplemented with country experiences in rolling out smart incentives and enabling policies.

Smart Incentives and Enabling Environment for Renewable Energy Deployment - Jason Coughlin, LEDS GP Energy Working Group, NREL

RE goals/targets need to be accompanied by a roadmap to achieving the goal. Smart incentives encompass financial and policy measures to help achieve ambitious RE targets. For incentives to be effective, it is important to ensure that barriers to RE deployment are clearly understood and incentives are designed as to address barriers.

Common barriers include high cost of renewable energy, low cost of retail electricity, limited access to capital, inadequate transmission capacity of the utility grid, limited utility participation due to concerns about implications of increased RE on their revenues. These barriers can be mitigated through interventions such as financial and tax incentives to lower RE project costs, reforming energy sector and increasing retail electricity rates, use of concessionary loan programmes and loan guarantees, focusing on distributed RE rather than utility-scale RE to manage grid constraints, and analyzing the impacts of increased RE capacity on utility revenues in policy making. NREL has been supporting Thailand to assess the impacts of adding 3,000 MW of distributed solar capacity on utility revenues.

Incentives can range from broad-based policy measures such as renewable portfolio standards, targets, goals, technology agnostic incentives that seek RE development in general to targeted interventions tailored to address specific barriers and priorities such as promoting particular market segments and technologies (e.g. small scale solar given land scarcity and grid transmission constraints in Bangladesh), job creation (eg. more installation related jobs created by promoting small capacity RE plants which are labour intensive).

Smart incentives entail four features - predictability, transparency, dynamism, and effectiveness. Smart incentive schemes should be **predictable** and **transparent** for project developers, investors and consumers to reduce business risks and uncertainties. For instance, having fixed tiers of incentives (tax incentives or subsidies) which gradually decline as higher capacity targets are achieved is a step-down system that the market is able to predict. Time-bound incentives such as Vietnam’s existing feed-in-tariff (FiT) structure which has a publicly known fixed-end date of 2019 promote business certainty. Grandfathering of existing projects can ensure that projects approved for grid interconnection continue to

receive benefits in the event of a policy change mid-way through their construction or commissioning. Transparency for clear understanding of how the incentive is set up and its source of funding is crucial as well. The transparent reverse auctions process ensures that participating market entities are aware of the rules of selection and award.

Incentives should be **dynamic and adaptable to changing market conditions**. Policies should be revisited periodically to ensure that previously set incentives respond to falling costs for RE technology or market maturity. Countries like Sri Lanka are revisiting policy and transitioning from the FiT regime to competitive auctions for RE. It is important that investors and developers are able to have a sense of the future direction of policy environment and market conditions. Incentives or policies should be evaluated to ensure their **effectiveness** in delivering intended outcomes while minimizing unforeseen impacts. For instance, a policy set to promote local content¹ in RE projects may fall short due to inadequate domestic manufacturing capacity and quality concerns or FiTs may be set too high and need to be rectified.

A number of key decisions/questions arise in the process of policy-making and even framing of straightforward looking policies and incentives can get complicated. For instance, designing a policy to compensate small RE producers through net billing mechanism for net exports to the grid can lead to further questions on the type of rate to be used for compensation (wholesale rate or avoided costs rate), limiting the policy to certain market segments or RE system sizes, whether to use instantaneous or monthly basis net billing, etc.

It is important to astutely manage the transition between policy regimes in order to avoid adversely impacting market momentum. In the US, wind energy is incentivized through Production based Tax Credits (PTC) offered for wind-energy generation during the first ten years of the RE facility's operation. It is seen that the US wind industry has experienced growth during the years leading up to the expiration of the PTC and a dramatic decrease in installed wind capacity in years where the PTC has lapsed. The trend of short-term extensions of the PTC has led to a boom and bust cycle of short-term planning and low number of investments. In the Philippines, revenue collected for payment to RE producers under the FiT incentive for solar and wind energy has exceeded the mandate, leading to policy uncertainty. In the interim period before the next policy is announced, the RE market may be subject to risks such as developers and investors shifting to other markets, rising interest rates impacting project economics undesirably, and local component manufacturing industry slowing down.

Factoring in linkages and interactions between different policies can help avoid unintended impacts on RE development. For instance, local content requirements for RE may adversely impact the effectiveness of a FiT based incentive due to inadequate local manufacturing capacity and low project bankability given the poor quality and lack of prior field deployment of local components. Incentives and policies should be framed with a long-term view and factor in market conditions and constraints. Vietnam issued a power purchase agreement (PPA) template along with a FiT for solar projects in 2017. International investors deemed the PPA to have issues in bankability due to risks. While local investors were comfortable with the potential risks given the attractive FiT price, sufficient local capital may not be

¹ Local content requirements typically require a certain percentage of intermediate goods used in the production processes in RE projects to be sourced from domestic manufacturers

available to meet Viet Nam's RE targets and thereby amendments to reduce risks and attract international investments may be needed.

Discussion:

- FiT is an effective tool to be used in emerging markets. Important to reevaluate FiTs periodically and then subsequently transition towards competitive options such as auctions driven by local market dynamics.
- Incentives are often combined to jumpstart the market. Should be mindful that combining policies may create inefficiencies at times and impact a driving incentive and the RE market adversely.
- Enforcement of Renewable Portfolio Standards (RPS) and related financial penalties is crucial for it to effectively promote utility participation and drive RE deployment. A technology neutral RPS can be expected to promote lower cost large scale wind and biomass technologies. Designing RPS to setting caps/limits by technology ensures diverse RE sources are tapped. The RPS applies either to the generator or distributor depending on the local market structure and the RPS obligation.
- Vietnam has a competitive generation market in place and is moving to a competitive wholesale spot and retail market. Thus, the country will have a distinction between generators and distributors – either one of these actors can be obligated to meet RPS mandates. Given the ongoing restructuring in its power market, Vietnam is exploring the best possible arrangement for RPS.
- Bangladesh is looking to explore reverse auctions for RE development and is keen to learn more on this topic.
- Specific references and resources available with LEDS GP and ALP would be shared with CoP members to enable them to better understand and apply smart incentives and policies in their context.
- Select GRE CoP members will be attending deep-dive workshops on grid integration and renewable energy auctions at ADB's Asia Clean Energy Forum (ACEF) 2018 in early June. A closed session for GRE CoP will be held at ACEF for peer-to-peer exchange on challenges, solutions and need for technical support on RE grid integration. Participating GRE CoP members will share learnings and experiences from the sessions with other CoP members.

Access further details and materials from the session:

[Presentation](#)

For any feedback or queries please contact:

alpsecretariat@iclei.org