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Mongolia – Addressing Disruptive Technology through Renegotiation and Energy Regulation

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On this page: *Case Study 1: Mongolia – Renegotiation of tariffs in PPAs caused by disruptive technology.*

Background

Mongolia has been exploring renewable energy as a solution to tackle heavy reliance on coal for electricity generation, dependence on imported energy, and increasing energy demand. As of 2018, about 96 percent of the power in the country was generated by coal-fired combined heat and power plants. Mongolia's climate provides great potential for utility-scale solar development. To incentivize this development, Mongolia enacted the Renewable Energy Law in 2007 with an aim to promote green and sustainable energy development in the country. The law mandated a fixed feed-in tariff for electricity generated by renewable energy sources, i.e., wind, hydro and solar power. The law was amended in 2015, mainly to introduce feed-in tariff support for investments made in the renewable energy sector. Further, in June 2015, the Parliament of Mongolia approved the State Policy on Energy, which declared the state's ambition to increase the share of renewable energy to 20 percent in 2020 and 30 percent in 2030.

The generous feed-in tariffs for solar of 2007 (from US$0.15 to US$0.18 per kilowatt-hour (kWh)) incentivized investments in solar. At the same time, they led to capacity oversubscription. In addition, with falling solar prices in global markets and solar energy becoming more and more competitive, the high contracted feed-in tariffs seemed increasingly "out of market." In 2018 the solar power price benchmark was estimated to be from US$0.0645 to US$0.0813. In 2018 the government of Mongolia recognized that a reform of the renewable energy regulatory framework was necessary, especially for solar power price setting.

The Energy Sector Management Assistance Program (ESMAP), a multi-donor technical assistance trust fund administered by the World Bank, provided funding for this technical assistance (TA) to Mongolia. The TA's objective was to provide advisory services to the Energy Regulatory Commission (ERC) to set a sustainable solar power price and create a strategy for revision of the contractual terms with some of the solar power special permission holders. The recommendations are summarized in the report Support Mongolia with Solar Energy Price Setting of 2018.

PPP Projects

Between 2013 and 2017 the Energy Regulatory Commission (ERC) of Mongolia granted 29 special permissions for solar PV projects. As of October 2018, these fell into three different groups according to their development stage:

- Projects in operation: Two solar PV power plants were commissioned in 2017 for a term of 20 years. They had a total capacity of 20 megawatts (MW) and an average tariff of US$0.16 per kWh.

- Projects in construction: Three projects were planned and constructed in 2018 and 2019. They had valid licenses and interconnection permits, a total capacity of 40 MW and an average price of US$0.16 per kWh. The PPA terms were from 10 to 15 years.
- Projects in preparation: Several projects had obtained all licenses, but they were not able to proceed to construction quickly. This included four solar PV plants with a capacity of 99 MW with licenses expiring between November 2018 and May 2021.

Overall, the terms for these PPAs (10 to 20 years) were shorter than the international average for solar PPAs. The PPAs did not include adjustment mechanisms.

The report Support Mongolia with Solar Energy Price Setting recommended the following for reduction of solar power tariffs:

- Renegotiation of the terms of the PPAs intended to give benefits to special permission holders so that they would be incentivized to accept a lower PPA price. As "sweeteners" the report proposed the following:
    - Extended PPA length: A longer PPA term would allow developers to recover the initial investments and achieve the targeted rate of return later, which would make the lower price more appealing.
    - Escalated PPA price by an agreed rate, e.g., 3 percent.
    - Refinancing accompanied with better lending terms such as lower interest rate (or language in the PPA allowing its use as collateral in the event of project refinancing).
- With prices for renewables continuing to decline, it was also recommended that Mongolia switch from fixed feed-in tariffs as a price setting mechanism for solar power to auctions as a price setting mechanism. Although auctions can lead to higher transaction costs and more time-consuming administrative procedures, it was expected that they would allow for competition and drive down the PPA price for renewable power.

The parties entered into a constructive process to solve the issues around the PPAs and established a working group. A renegotiation of the tariffs was, however, not attractive for the private sector parties because the expected loss of revenues was a serious concern for lenders.

In 2019, Mongolia amended the Renewable Energy Law. The high feed-in tariff was abandoned and instead, a cap of US$0.08 per kWh was introduced for solar power to reflect current market conditions. In addition, the government introduced auctions as an additional procurement method for renewable energy development. The model PPA for future solar contracts will deal with some of the issues that have surfaced in relation to the first PPAs for renewable energy deployment.

Lessons Learned

Renegotiation of tariffs in PPAs caused by disruptive technology can be difficult if they impact return expectations of investors.

- If issues arise due to unexpected changes of circumstances related to disruptive technology, it can be helpful if all project partners collaborate to find a solution.
- Broader issues that arise in connection with new technological developments and affect a number of contracts can be addressed through regulatory reforms for future contracts, e.g., a switch from high feed-in tariffs to a ceiling for tariffs combined with a parallel auction system.
- Incentives to adopt new technologies—such as feed-in tariffs—should be applied cautiously and in a gradual way to ensure that the government does not overcommit unnecessarily.

Source: World Bank and ESMAP (Energy Sector Management Assistance Program). 2018. Support Mongolia with Solar Energy Price Setting: Final Report.

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- **PPP Contracts in An Age of Disruption (Download PDF version)**

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