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CHINA POLICY: SHEDDING LIGHT ON THE RECENTLY ENACTED SOLAR FEED-IN-TARIFF

Gary Wigmore, Shepard Liu, Yaxun Wang and Jeffrey Rector[19]
Milbank

China's energy regulator, the National Development and Reform Commission ("NDRC"), announced in July of this year its first nationwide feed-in-tariff ("FiT") for solar photovoltaic ("PV") development in an effort to boost China's domestic solar industry and to increase the share of solar power in China's energy portfolio. The FiT has been warmly received by project developers and project lenders, and is expected to significantly incentivize the healthy development of China's solar power industry.

BACKGROUND

China has rich solar resources across its territory. According to the United Nations Environment Program's Solar and Wind Energy Resource Assessment, the annual solar radiation for most regions of China is between 4.5 and 5.0 kilowatts ("kW") per square meter per day. In some of the western parts of China, such as Qinghai, Tibet and Xinjiang, solar radiation reaches between 6.5 and 7.0 kW per square meter per day, which is similar to the radiation rates seen in the Sun Belt city of Phoenix, Arizona. The Chinese government realizes that it needs to shift its attention towards wind, solar and other non-fossil power development and away from coal-fueled power development, which currently accounts for 75% of China's total power generation. The current Chinese goal calls for generating 15% of its energy capacity from renewable resources by 2020, while producing affordable electricity for residential, industrial and commercial customers. Although China has been slow to develop its own solar market, some industry observers predict significant solar power expansion. In just over five years, solar installations in China are expected to grow from 500 megawatts ("MW") in 2010 to over 2 gigawatts ("GW") by 2015. This trend will result in China accounting for over half of the world's solar capacity in five years, according to the Chinese Renewable Energy Industries Association ("CREIA").

Before the first nationwide FiT for solar projects was announced, the Chinese government had sponsored two rounds of public tender for solar powered projects since 2009. The first public tender in 2009 resulted in only one solar project: a 10 MW capacity solar power plant in Dun

19 Gary Wigmore is a senior partner and the head of Asian project finance practice of Milbank; Shepard Liu is a senior associate of Milbank's Beijing office; Yaxun Wang is a PRC law expert of Milbank's Beijing office; and Jeffrey Rector is a senior associate of Milbank's Tokyo office.

Huang, Gansu province. The Dun Huang tender provides the project's developers with a payment of RMB1.09 (equal to approximately U.S. $0.170) per kilowatt-hour ("kWh"). A year later, China initiated its second round of public tender for concession solar power projects. At the end of this tender, 13 projects were announced with an aggregate capacity of 280 MW. Industry sources report that the winning bids ranged from RMB0.729 per kWh (approximately U.S. $0.114) to RMB0.991 per kWh (approximately U.S. $0.155).

Because the bid price of the auctions was much lower than some solar industry participants had expected, energy power companies and private solar equipment suppliers were discouraged from investing in China's solar market. With a dampened financial incentive, project developers in China could barely break even, let alone get a decent investment return. Likewise, Chinese manufacturers have been putting pressure on Chinese government policy makers for better incentives since Italy and other European countries—which until recently had been the largest customers of Chinese solar panels—drastically cut subsidies for solar power and capped future increases. With the adoption of an attractive pricing structure, the new FiT system will go a long way to spur investment at home in the solar sector and improve the outlook for Chinese PV manufacturers, which already dominate the global market for solar equipment.

HOW THE FIT POLICY WORKS

According to the new FiT policy—named Notice on Perfection of Policy Regarding Feed-in Tariff of Power Generated by Solar PV (国家发改委关于完善太阳能光伏发电上网电价政策的通知)—the development of solar PV power generation projects nationwide divides solar projects into two categories:

- Projects approved prior to July 1, 2011, which have completed construction and have achieved commercial operation prior to December 31, 2011. These projects are entitled to a tariff of RMB1.15 (approximately U.S. $0.177) per kWh.
- Projects approved after July 1, 2011 (or approved prior to that date but which cannot be completed before the end of 2011). These projects are entitled to a tariff of RMB1 (approximately U.S. $0.154) per kWh. However, exceptions have been given to projects located in Tibet, which, under certain circumstances can still receive a FiT of RMB1.15.

NDRC's policy makes clear that the energy regulator has the right to make adjustments to the tariff going forward, based on factors such as investment cost changes and technology development. The new FiT policy also provides that solar power projects won via the auction process shall not enjoy a price higher than the FiT.

The previous central government subsidy programs for solar power projects—namely, the building integrated PV ("BIPV"), enacted in March 2009, and the "Golden Sun" projects, commenced in July 2009—will continue to be offered agreed subsidies. The new FiT policy, however, provides that projects enjoying these central government subsidies shall have the same tariff as desulphurized-coal fired power projects, the pricing for which differs by region. For example, Guangdong province has the highest pricing of around RMB0.50 (approximately U.S. $0.079), while Xinjiang autonomous region is lowest of around RMB0.25 (approximately U.S. $0.040). NDRC branches at the provincial level will carry out the primary mandates of the policy, the particulars of which are still yet to be promulgated by the local governments.

OUR OBSERVATIONS

The introduction of the solar feed-in tariff represents a solid step forward for domestic solar energy in China. It also will be a great benefit to Chinese and international PV manufacturers alike. This bold government policy demonstrates that China is confident and determined to develop solar energy as a critical component of its renewable energy policy.

The new FiT policy recognizes that a stable and competitive long-term investment return rate is the key driver of market incentives, and is in the best interests

of Chinese consumers. Industry calculations indicate the rate of RMB1.15 (approximately U.S. $0.177) per kWh will generate meaningful investment returns with internal rates of return ranging between about 7% and 8%. Many market observers believe that profitability returns in this range will be sufficiently attractive to induce equity investment and project bank loans. This heightened demand will absorb at least some of the recent Chinese solar panel production surplus. Before the introduction of the FiT policy, the NDRC implemented a "concession rights auction" regime, which granted development rights for large solar projects in China. The auction winners were usually those offering the lowest prices, almost invariably large state-owned power providers backed by financial support from state-owned financial institutions. Moreover, project developers tended to bid below ordinary profit hurdles (if not at a loss) in an effort to gain market share. The recently adopted FiT incentive policy should stabilize solar business in China and result in improved competition and a more sustainable solar power industry.

The NDRC FiT policy does not, however, solve all of the solar industry's problems and fails to properly address some fundamental questions, namely:

- The existing rules fail to mention a time period for the FiT. This may be intentional by NDRC—to give it room for adjustment. As discussed above, NDRC has the right to adjust tariff rates depending on the availability of investment capital and technological advances, which we believe suggests that if the policy fails to attract the desired number of participants, NDRC may consider increasing the tariff next year to make it more attractive. Notably, NDRC took the same strategy in its FiT plans for wind power.
- Only one feed-in-tariff rate is offered for all solar PV projects, regardless of the region or installation method. Developers may rush to provinces that have a rich solar resource, such as the provinces of Qinghai, Tibet and Xinjiang. Since these relatively remote areas are located far away from demand, their connection to major energy grids represents an issue of significant concern. Improved coordination will be required between the solar PV industry, provincial governments and electric grid corporations. Ironically, the same issue was identified and, to some extent, solved in the wind FiT policy promulgated by NDRC in 2009. NDRC divides China's territory into four sections based on the level of wind force, and each part enjoys a different tariff rate. If NDRC does not implement a similar solution through future solar power regulations, developers and grid companies should prepare carefully to overcome the issues raised from a uniform solar tariff.
- Grid connection and transmission issues remain key concerns. Along with the expected rapid expansion of solar power generation capacity, the transmission capacity of the national grid must grow to meet the anticipated growth of China's solar PV power stations. The same issue was, and continues to be, a vexing issue for China's wind industry and remains unsolved: only about 70% of China's total wind power capacity is connected to the grid. As mentioned above, much of the solar energy from PV facilities may need to be sent thousands of miles away to the power-hungry provinces in eastern China. The solar market will likely face similar if not identical grid connection and transmission constraints as wind power. Regrettably, neither the current solar FiT policy nor any other renewable energy laws and regulations address the issue.

CONCLUSION

Through initiatives like solar feed-in-tariffs, the Chinese government is reaffirming its commitment to the critical importance and the great need for solar renewable energy. While it is impossible at this time to accurately analyze the potential effects of the first national solar FiT policy, industry participants take comfort in the fact that the country's wind energy feed-in-tariff in 2009 led to the explosive growth of its wind energy industry. By analogy, we believe (as do many equity investors and project finance bank lenders) that the new FiT will result in a near-term boom of the solar industry in China.