Merchant risk management: The new frontier in renewables

If stakeholders move away from subsidizing the renewable-energy market, developers would be exposed to wholesale prices. Renewables players thus need to position themselves strategically in their approach to long-term merchant risk.

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APRIL 2018 • ELECTRIC POWER & NATURAL GAS PRACTICE

Subsidy-free renewables projects: A reality

In recent decades, renewable electricity generation has been subsidized to encourage investment. This has resulted in the rapid expansion of renewable electricity generation, accompanied by technology advances that have allowed a constant lowering of construction and operating costs. Moreover, energy pioneers willing to take on construction and technology risks could benefit from stable cash flows during operation.

In turn, regulators, faced with having to adjust and revise a complex scheme of feed-in tariffs constantly, adopted a more market-driven approach. They introduced auctions whereby the bidder with the lowest electricity price would win the development rights for a certain location. Fierce competition ensued, with prices dropping by as much as 50 to 80 percent from 2015 to 2018. The merchant risk undertaken by developers remained limited—but this is changing rapidly.

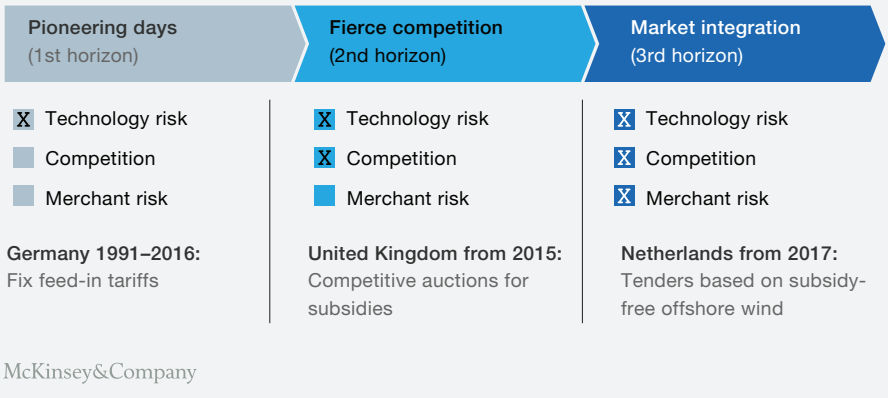
Auctioning schemes are allowing "zero bids" whereby the developer is no longer guaranteed a minimum electricity price. Several subsidy-free projects, such as the solar photovoltaic and onshore projects in Spain and multiple offshore projects in Germany and the Netherlands, have been announced and are under development. While these projects have benefited from favorable site conditions and economies of scale, this change in the renewables marketplace indicates that the industry is transitioning into the next phase of market integration in which governments will abandon subsidies and developers will be fully exposed to wholesale prices (Exhibit 1).

Management of merchant risk: The new ingredient

Traditionally, capital overexpenditure and construction delay have been the largest risk factors in renewables projects. In the case of subsidy-free renewables projects, however, the risk from merchant price exposure is significant (for example, up to two to four times greater than the construction risk) and can be as high as 20 to 40 percent of capital expenditure in value at risk.

To manage merchant risk, developers and investors should consider an additional risk buffer. This often takes the form of an increase in the minimum expected rate of return. For example, an increase in the minimum expected rate of return of 150 to 250 basis points translates to an additional risk buffer of approximately 20 to 30 percent of

Exhibit 1 The industry is transitioning to the next phase of market integration, in which developers will be fully exposed to wholesale prices.



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capital expenditure. Managing the merchant price risk could therefore be a key enabler for offering competitive bids. Those players who cannot drive down capital expenditure or operating cost could compete successfully by off-loading their merchant risk and driving down the size of their risk buffer.

Investors have so far been attracted by the bondlike nature of renewables investments. Today, however, developers will also need to cope with the fact that the value of their projects depends on expectations of the future electricity-market price. It is unclear whether investors will continue to invest as heavily as in the past or increase return expectations significantly. The new ingredient of merchant risk will therefore have a profound impact on the renewables industry.

Long-term merchant risk markets: Solutions needed

To date, the most popular transaction type for dealing with long-term merchant risk has been the corporate power-purchase agreement (PPA). Several companies, most notably Google (which has a renewables capacity of more than three gigawatts), have fulfilled their pledges to become carbon neutral by securing numerous long-term PPAs (those lasting more than ten years).

Yet there is likely to be a blockage in demand if renewables grow at the pace currently forecast. If we assume, for example, that the bid-winning projects are fully subsidy free in the future, 40 percent of the total B2B consumption in Germany would need to be covered by long-term PPAs.

Bearing this in mind, the market pricing of individual projects already reveals the typical characteristics of a buyers' market, with discounts of 15 to 35 percent compared with calendar-forward prices. In emerging markets, such as Spain, the buyers of PPAs tend to be sophisticated commercial and trading players; this strongly suggests that they see commercial arbitrage opportunities—or, put simply, overpricing of merchant risk.

As industrial and B2B counterparties will only be able to absorb a limited amount of the expected long-term merchant risk volume, the participation of traders and intermediaries, financial institutions, and long-term investors is required:

- Power traders and intermediaries (risk takers) can absorb long-term merchant risk. Such players take on risk to benefit from high-risk premiums.

- Financial hedges offered by banks are quite common in the United States. However, banks demand high-risk premiums, which are overcompensated by the soon-to-be-discontinued tax credits.

- Long-term financial investors, such as pension funds or insurance companies, are always on the lookout for alternative asset classes. So far, they have focused on regulated energy and infrastructure assets. However, they have lately shown a willingness to scale up on long-term investments that are exposed to merchant risk, provided the respective risk premiums are paid.

Renewables players: Strategic positioning needed

In view of the challenges, renewables players need to consider their approaches to long-term merchant risk strategically. There are several archetypes to consider, which can be grouped along two main axes: merchant risk appetite and merchant risk-management sophistication.

Regarding merchant risk appetite, players can position themselves as risk averse, risk neutral, or risk taking (Exhibit 2). In other commodity industries, particularly oil and gas, large producers typically keep the long-term merchant risk on the

Exhibit 2 Renewables players need to position themselves strategically.

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balance sheet (risk taking). The few exemptions include, for example, smaller independent players that require stable returns to secure financing (risk averse). However, as merchant exposure is new to the renewables sector, most players have positioned themselves as risk averse.

Regarding merchant risk-management sophistication, players can become highly sophisticated, reach medium sophistication, or decide on low sophistication (not put an emphasis on commercialization and risk management). Given that the long-term renewables-merchant risk market is highly illiquid, and the pricing is nontransparent, players can use commercial capabilities and a sophisticated risk-management setup to differentiate themselves from their competitors.

Consequently, players that have sophisticated commercial capabilities but have not previously engaged in asset-development activities are starting to move into renewables development by using their commercial focus to profit from and deal with merchant risk effectively. Experienced asset-development players, on the other hand, are investing in expanding commercial capabilities to increase their options for handling merchant risk exposure.

Before making a strategic decision on their own positioning, players should answer the following questions:

- What are the likely scenarios of future merchant risk-exposure development, considering the current portfolio and future renewables projects?

- What is the player's ability to absorb risk—in balance-sheet strength, credit rating, and the impact of merchant risk exposure on the company valuation?
- What are viable solutions to off-load long-term merchant risk and its costs, and how well developed are the player's commercial capabilities?
- Are there strategic alternatives to avoid risk, such as focusing on regulated markets? What would be the impact on the player's growth ambitions?

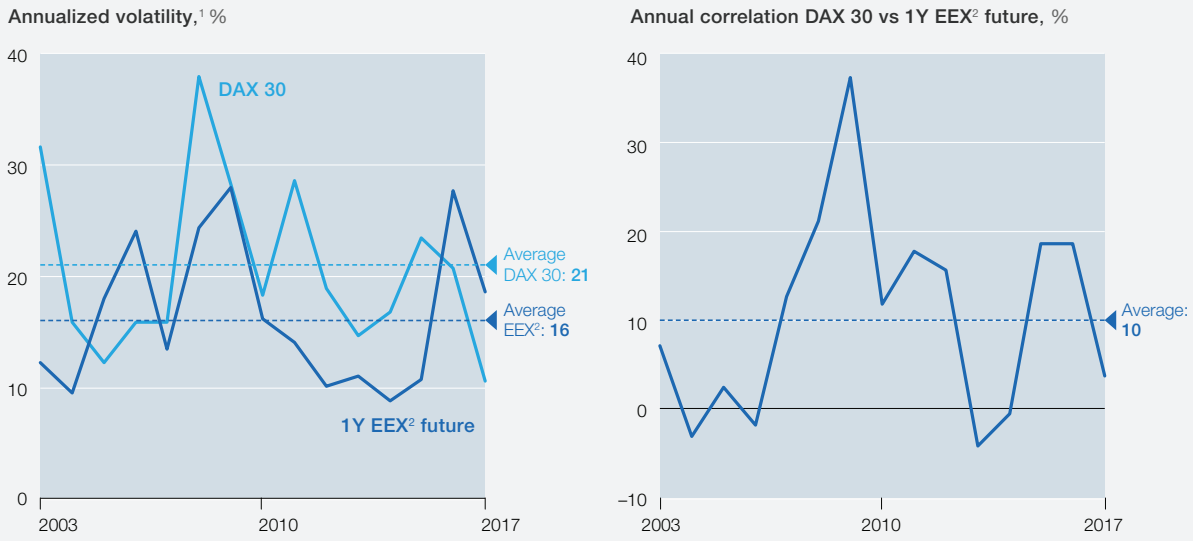
Players in merchant risk value chain: Opportunity to create value

Apart from renewables developers, players with a place in the merchant risk value chain—namely, downstream players, traders, market makers, and financial investors—also need to develop strategies to create value.

Downstream players with a strong end-customer-focused business model could create value by taking on long-term merchant risk positions from renewables players and packaging tailored products for their own portfolios of end customers. In turn, they could benefit from the risk premiums while mitigating risk and offering green products. It is vital for players to assess the needs of customers and renewables players, as well as their own ability to absorb risk, when formulating a strategy.

Traders and market makers can create value by managing risk for renewables players and by their financial ability to absorb large amounts of risk. To achieve this, however, they require a strong risk

Exhibit 3 German power prices show less volatility than the DAX 30 equity index, while low correlation indicates potential for portfolio diversification.



[1]Average of standard deviation of years multiplied by square root of 252 trading days.
[2]European Energy Exchange.

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framework and an understanding of renewables-merchant risk, as well as risk-mitigation (hedging) strategies for the illiquid horizon.

To date, financial investors have mainly invested in renewables via direct equity investments and have benefited from stable returns. While the introduction of merchant risk means stable returns are no longer guaranteed, it does offer the opportunity to increase returns. Investors need to develop basic views on whether to take on merchant risk, how merchant risk will impact portfolio risk and return expectations, and how to invest in renewables projects with merchant risk—for example, via new asset classes or risk-mitigation requirements.

A comparison of the volatility of merchant risk with the volatility of equities (German power prices versus DAX 30) indicates that renewables projects with merchant risk could be attractive for investors since the volatility is lower than the volatility of equities (Exhibit 3). This correlation indicates that investors can benefit from the portfolio-diversification effect.

Renewables-merchant-risk ecosystem: Shaping up

Merchant risk, a new and vital ingredient, is needed for the renewables industry to thrive. With renewables players starting to manage merchant risk, as well as other players starting to capture value along the value chain, a renewables-merchant-risk ecosystem is beginning to take shape. Success will be determined by players finding their place in this ecosystem, based on their strengths, competition, and the needs of different actors.

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