



Summary of Baker McKenzie's 2nd Annual Global Renewable Energy Conference: Renewables 2.0

Baker McKenzie's 2nd Annual Global Renewable Energy Conference held on April 4, 2018 in New York City brought together over 35 industry experts from around the world to discuss the global renewable energy market. The day was divided into three parts: the morning panels explored smart power trends from the generation perspective; early afternoon discussions focused on smart power themes from a consumer perspective; and in the late afternoon, Baker McKenzie's lawyers provided updates on the renewable energy market throughout Asia, EMEA, Latin America and the US.

The theme of the conference was the renewables revolution, as detailed in our [Smart Power Revolution thought leadership report](#). Panels highlighted the shift from thermal to renewable power due to the integration of renewables and technology, the decrease in the cost of renewables and competition among companies to decrease their carbon footprint. To adapt to the renewables revolution, speakers emphasized the need to stay ahead of the technological curve, to hire good people and to be patient since both renewable projects and regulatory changes often take longer than expected.

The following is a high-level summary of the takeaway points from the keynote speakers and panels. Please click [here](#) for the conference agenda and click [here](#) for details and contact information of the speakers.

Morning Keynote Conversation with Michael Polsky, Founder & CEO, Invenergy

Michael Polsky noted the following [trends in the renewable energy space](#):

- We are in the middle of a renewable energy revolution and it would not be a surprise if 75%-80% of energy comes from renewables in the next 50 years.
- The IT revolution is causing dramatic and rapid changes to the energy world, in contrast to the incremental changes over approximately the last 50 years.
- Solar and wind power are simplifying the energy world and allowing people with little to no background in energy to become developers, in contrast to the very complex nature of fossil fuel and nuclear energy where technical and industry experience is an essential requirement.
- Consumer empowerment means that consumers can demand more or less what they want in contrast to the past practice of utilities dictating to users of energy.
- Renewables have upended the energy cost structure, leading to energy price deflation in some instances. Ten years ago a kWh of solar generated electricity cost around 50 cents whereas today it costs less than 2 cents.

New Technologies and Their Impact on Renewable Power

The surge in renewable energy has led to an increasing focus on complementary technologies. There is capital to invest in these new renewable technology projects from the likes of infrastructure funds and

corporate investors, with a need for **investors to focus on a number of key issues**, including:

- technological risk - the viability of new technology, its track record and its developers;
- execution risk - developer risk and balance sheet strength;
- operation risk - O&M provider experience and the uncertainties around steady and stable revenue streams;
- pricing risk - revenue stream modelling and appropriate risk pricing;
- legal risk - data privacy and data ownership (to the extent that technology gathers data), which are discussed in more depth in section six of the **Smart Power Revolution report**; and
- aggregated solar and energy efficient projects likely becoming more appealing to investors going forward.

Renewable Storage and Its Financing

- Energy storage is seen by many as the "holy grail" because it provides clean energy and is easily dispatchable.
- The storage market is growing exponentially with 1,000 MW forecasted to be deployed in 2018 alone.
- In February 2018, FERC established a rule to make storage more competitive in the market and there is new legislation before Congress governing the marketing of energy storage.
- Some predict the commoditization of storage, and California has seen a number of non-recourse project financed battery storage deals.
- For behind the meter generation, standardizing contracts will be difficult and continue to be a challenge until there are more deals in the pipeline to support the emergence of template contracts.
- See section four of our **Smart Power Revolution report** for more information about energy storage.

Offshore Wind Lessons and Market Opportunities

- Offshore wind has a much brighter future in the US than before, and successful offshore wind projects rely on fostering a strong relationship at both the local community and state level.
- Political risk, most notably at the state level, remains the biggest hurdle facing offshore wind projects, with the risk of changes in the administration during the development of the project due to the long timelines for implementation.
- Key other risks include:
 - supply chain risks given the lack of equipment and materials in the US to support what is a new area of renewable technology for North America. A critical impediment to construction will be the lack of available construction equipment like specialist jack-up vessels, which is further complicated by jack-up vessel owners typically wanting ownership in and control of the project;
 - a swathe of commercial risks that are prevalent in all offshore wind projects, including delays caused by the offshore construction conditions;
 - potentially limited performance warranties from turbine suppliers;
 - resistance to development from environmentalists and fishermen given the impact on fish, birds and other wildlife; and
 - interface risks arising by virtue of the multitude of project contracts that typically replace the EPC contract model that is used for onshore wind farm developments.
- Many of these risks are also confronting the forthcoming programs for development of offshore wind in Taiwan (5.5GW) and Japan (10GW) which also have the challenge of dealing with technological risks, particularly with respect to the potential impact of typhoons (a climatic feature of North East Asia) with the potential need to utilize as yet untested floating foundations as means of mitigation.
- Japan is also soon to launch its ambitious offshore wind program with the bill providing for the use of Japan's general waters for offshore wind projects being officially approved by the Japanese Cabinet on March 9, 2018.

Afternoon Keynote Conversation with Ran Tao, Director of Sustainability, Estée Lauder Companies

- **Reasons an entity will invest in a new initiative like renewables** include:
 - competitive benchmarking;
 - investor relations;
 - shareholder advocacy; and
 - employee engagement.
- **Additional factors that go into a corporation's decision** include technology, financing, impact, return and social mileage from green attributes. There is a huge pool of opportunities for entities to unlock the universe of demand for renewable energy. These opportunities can be used by corporations who want to work only with smaller chunks of risk, such as by identifying hotspots in a supply chain or through a corporate PPA. See **Baker McKenzie's corporate PPA update** for more information on this topic.

Smart Cities and Their Renewable Energy Underpinnings

Issues to consider when developing or investing in smart city programs include:

- adapting, particularly the financing, procurement and concession models and terms, to the rapid changes in technology given that in some instances technology changes so quickly that by the time the project is awarded, the financing is approved or the city develops the complementary infrastructure, the technology may have changed completely;
- encouraging multiple agencies within the government to cooperate towards the same goal, which is more of a challenge the larger the city is; and
- ensuring smart city benefits are equitably distributed.

A majority of the panelists flagged **transportation as the municipal service most capable of becoming smarter**, with HVAC and building insulation identified as the obvious low hanging fruit that could be easily improved from a practical and regulatory standpoint to provide real benefits and savings. See section five of our **Smart Power Revolution report** for more information on smart cities.

What is the Future of the Energy System and Will Renewables Be the Disruptor?

There will be more changes in the renewable energy industry in the next five years than in the last 100 years due to the perfect storm of technology, internet revolution and innovation, which will come to define the future of the grid. Of particular note is **how the energy and utility industries currently using blockchain**, including:

- grid balancing (accessing behind-the-meter distributed energy resources to balance the transmission grid);
- cybersecurity (helping to manage insider threats to the grid);
- renewable energy credits (managing the veracity of these assets);
- energy use disaggregation (helping customers manage their meter data and being able to provide it to multiple retailers); and
- peer-to-peer trading (paradigm of power system operation where people can generate their own energy from renewable energy sources in dwellings, offices and factories and share it with each other locally).

Future-focused thought-provoking topics include the impact of:

- the consumer's behavior's on electricity consumption (e.g., the cost of two Starbucks drinks a week in Texas is roughly equal to 10% of a Texan's electricity costs);
- grid parity (e.g., whether people relocate to the regions where, by regulations or luck, a healthier quality of life is provided due to renewables-based energy).

Renewables Around the World

- **Asia**: this is still very much a long-term power purchase agreement driven market in almost all countries except for a few that have established a wholesale system.
 - Indonesia despite the challenges remains one of the countries offering the most long term potential development of renewables projects given that in the solar and wind space there are virtually no projects and yet it has the climatic conditions and a massive population with energy shortages.
 - Corporate PPA uptake across Asia is expected within the next three to five years, but there are regulatory challenges in a number of countries which will need to be structured around.
- **Africa**: it wants to take advantage of technological innovations and has an opportunity to leapfrog traditional phases of development; however, those leaps might be minimized by the region's infrastructure deficit.
- **Latin America**: two countries to watch for renewables activity are Peru and Mexico, the former due to its oversupply of energy and quality of regulations and the latter because of the opportunities arising from the Mexico Energy Reform. Corporate PPAs are on the rise in Latin America with some countries encouraging corporations to cut deals and negotiate directly with generators.
- **Europe** provides a diverse regulatory framework for renewables and is expected to more fully utilize corporate PPAs, in part because of demand from US corporations and in part as a new route to market for subsidy-free renewables.
- **Globally**, renewables projects in developing economies require competitive bids and are heavily reliant on multilateral and ECA financing, as well as predominantly Chinese financing that **BRI (Belt and Road Initiative)** is expected to bring. See **Baker McKenzie's corporate PPA update** for more information on this topic.

Update on Renewables in the US

- The renewable energy industry generally fared favorably in the wake of **US tax reform**, although some concern in the industry remains because nobody knows at this point the full impact of the tax law

changes. One area of concern is the calculation of the "base erosion anti-abuse tax", or the BEAT, which (through 2025) takes into consideration 20% of a taxpayer's energy tax credits (e.g., production tax credits, investment tax credits) and thus potentially reduces 20% of the benefit of these credits. Beginning in 2026, 100% of a taxpayer's energy tax credits will be counted in the BEAT calculation, thus potentially reducing 100% of the value of these credits. The foregoing may impact the pricing of renewable energy tax equity deals and/or lead to a demand by tax equity investors of indemnities.

- **President Trump's trade strategy** is also potentially very relevant as part of a larger plan, although it is unclear whether that plan is intended to punish bad actors or to obtain leverage. The number of CIFIUS reviews has increased dramatically with the number of denials dropping; there is current legislation before Congress that will expand the process.
- With Trump's managed trade program, prices will likely increase in the US, which could cascade into other regions with the net effect of price increases throughout the supply chain.
- The **Paris Agreement** signaled that the global economy is moving to low carbon. Despite President Trump's intention to withdraw from its terms, a country cannot submit a bid to withdraw until three years after the Agreement's execution, with the withdrawal process taking a further one year to complete.
- At the **US subnational level**, many states and cities continue to aggressively push their low-carbon commitments, with some companies taking it upon themselves to reduce their carbon impact, often in the form of corporate PPAs, which are addressed in this [update](#).

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