

Powering Asia's energy future

In a recent webinar, S&P Global Platts editors and analysts answered questions about Asia's evolving demand for renewables and generating fuels such as coal, oil and LNG

Abache Abreu: Asia has a huge appetite for energy: its major economies continue to post GDP growth rates most western countries can only dream of. With the region's power demand projected to keep growing over the next decade, how will it be satisfied? Environmental, cost and safety concerns are forcing governments to legislate away from coal, oil and nuclear energy. LNG is set to become one of the biggest beneficiaries, with new liquefaction capacity expected to come online from Pakistan to the Philippines. It's also creating opportunities for renewables, an area where China in particular has been making heavy investments. Southeast Asian countries have committed to producing 23% of their energy from renewables by 2025, but despite tighter regulations, coal is expected to retain its dominance in the electricity mix in the years to come. Moreover, weakening fuel oil prices could see oil competing in power generation again, affecting the rate of oil-to-gas switching in price-sensitive emerging markets.

First, let's talk about coal. Mike, how difficult will it be to displace coal from the generation mix?

Mike Cooper: It will be difficult, but possible, going by the timescales people have in mind. Coal has a fairly entrenched position in the Asian market, in terms of power generation. If we look at China and India, they generate around 70% of their electricity from thermal coal – that's quite a high percentage. Thermal coal production in many countries is also increasing. From Pakistan to Taiwan and South Korea, many countries have plans to build more coal-fired power stations – although they're not widely publicized.

AA: This structural shift towards cleaner-burning fuels in Asia's power market will also affect oil. Rajesh, can you tell us a little bit more about this?

Rajesh Nair: What we have seen in recent years is a structural shift in demand for generating fuels from the utilities sector. This is apparent not only within

Meet the panel



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the region, but also globally. Demand for generating fuels has clearly shifted away from oil to cleaner and, often, relatively cheaper fuels like LNG.

Since demand peaked in the aftermath of the Fukushima disaster in the middle of 2012, Japan's demand for low-sulfur fuel oil as a generating fuel has dropped by over two-thirds, a fair share of which has then been replaced by LNG and coal, and there has also been something of a revival of its nuclear capacity. In other traditional demand centers for oil as power generation fuel – like South Korea, Taiwan, Pakistan, Bangladesh, Indonesia, Philippines and Vietnam – there is a clear shift away from oil to mainly LNG.

Pakistan, for instance, is still one of the largest demand centers of fuel oil for power generation within the region, importing on average over half a million mt/month. But with the start-up of the country's second LNG terminal in November, fuel oil-based generation has dropped. In fact, for what was perhaps the first time ever, Pakistan State Oil offered to export fuel oil in January in exchange for LNG.

AA: Thanks Rajesh. The switch to gas seems to have dominated the discourse in Asia's power markets. Jeff, what would you say are the biggest challenges facing Asia's gas ambitions, and to what extent do you think LNG can help overcome those challenges?

Jeffrey Moore: The two biggest challenges for Asia's switch to gas in the power sector are economics and

infrastructure. In general, LNG represents a cleaner fuel source than fuel oil, as just mentioned, but it is still relatively expensive compared to coal. So there are roadblocks on the economic side of the equation, simply because these countries would likely need to pay more for gas. The other challenge for moving more towards gas is on the infrastructure side. As far as building new combined-cycle gas plants goes, you need access to pipelines and LNG regasification terminals. These are large investments that take many years to plan, and many more to implement.

AA: This discussion wouldn't be complete without looking at renewables, which are set to play a growing role as the Paris Climate Agreement action plan comes into place in 2020. Eric, how far is Asia from a renewables revolution?

Eric Yep: That's a very pertinent question. I would say Asia is still far from writing off fossil fuels as its primary energy source, but the progress made by renewables in the last few years is absolutely stunning and very hard to ignore.

Just 10 years ago, renewable energy was something that companies would hide under the corporate social responsibility section of their annual report, but now it is very much on the front page. Solar and wind energy have become financially and commercially feasible alternatives for many utilities, and governments in the Asia-Pacific region can no longer ignore the role of renewable energy in the long-term energy



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mix. Solar, wind and hydroelectric are absolutely essential for the sake of energy diversification and energy security in Asia's growing economies.

AA: Rajesh, how could the implementation of the International Maritime Organization's new 0.5% cap on marine fuel sulfur from 2020 affect this picture?

RN: That's a question any stakeholder in the high-sulfur fuel oil universe is now asking as well. The specification change mandated by the IMO will no doubt lead to a significant shift in demand for high-sulfur residual fuel, which is now used as marine fuel. A massive amount of HSFO, estimated by S&P Global Analytics at about 3 million b/d, will need to find a home going into 2020. It's naturally conceivable that HSFO cracks and absolute prices of HSFO would fall to make it competitive enough to revive demand from the utilities sector. That said, this isn't necessarily all about reducing the oil import bill. It is also an area of focus by governments to ensure a cleaner environment. While there would be developing countries that may revisit HSFO as a generating fuel, demand is not going to be without a threshold – both from a preference point of view, as well as from a capacity standpoint.

AA: Jeff, what role will crude oil play in driving demand for LNG in Asia during the next decade?

JM: The short answer is less and less. Traditionally, a lot of LNG contracts have been priced on oil, and

we're starting to see those contracts roll over and more contracts move towards a Henry Hub or a JKM-linked price point. Although crude oil is still very important for driving LNG demand and prices, we're starting to see LNG delink from crude oil prices and LNG become a much cheaper fuel source.

AA: Eric, what is the main challenge renewables face when it comes to displacing fossil fuels?

EY: There are a lot of challenges that renewables face. I would say that the single biggest challenge for the adoption of renewables is intermittent supply.

What do you do when the sun doesn't shine or the wind doesn't blow? In some regions like Australia, large-scale battery technologies have been deployed to support power grids, but for most other regions batteries do not provide enough back-up to match the baseload capacity of either coal or gas.

In India, the power grid is very old and there are concerns the current transmission infrastructure may not be sufficient to handle large-scale renewable projects. Other countries like the Philippines and Indonesia suffer from geographical constraints, where the challenge is to provide energy to hundreds if not thousands of island communities spread across the ocean. Lack of investment and insufficient policy support are some of the other problems faced by renewable generators in Asia. ■