

# Energy storage and renewable energy growth to accelerate in 2016

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The extreme weather patterns and environmental occurrences experienced across the Asia Pacific region have brought to the forefront the urgent need for countries to work together and reach an agreement on actionable solutions to limit global warming. Examples of recent incidents include drought and severe haze in Southeast Asia, smog in Beijing and the serious floods in Chennai.

As politicians and bureaucrats work towards a potential agreement at the ongoing 21st Conference of Parties (COP21) in Paris, several global business leaders, famous entrepreneurs and investors have taken a bold initiative by forming a breakthrough energy coalition to focus on the zero-emission energy revolution. Large multinationals and investors will drive the shift towards a low emissions [economic growth](#), irrespective of the outcome of the Paris agreement.

## Low Oil Prices to Stay

Oil prices are expected to remain low as OPEC countries decide to keep oil production output at record high levels. The majority of the APAC economies will stand to benefit from low [oil prices](#), thus stimulating economic growth. For the developing economies in APAC, a prolonged duration of low oil prices will offer governments an opportunity to accelerate oil and gas pricing reforms including removal of costly fuel subsidies.

Oil producing countries such as Malaysia and Brunei have to brace for impact from lower revenues in the oil sector, whereas oil importing countries such as Japan, China and India stand to gain from the current market condition. Singapore and Indonesia are expected to experience low to moderate benefits from the impact of the low oil price.

## **LNG prices to fall due to increased availability**

With the increased global liquefaction capacity from the Australian CSG-LNG projects, LNG prices are expected to remain low. Over 40 MMTPA (15% of the current global capacity) is expected to be commissioned in 2016. Current oversupply of gas and oil-linked gas supply contracts are expected to exhibit declining trend, gas buyers increasingly prefer spot purchases as opposed to long term contracts.

"Despite the low price of LNG, the Gas-to-Power market in developing Asia is unlikely to take-off due to the lack of infrastructure (mainly transportation of gas) and strong competition from coal power," said Ravi Krishnaswamy, Vice-President, Energy & Environment, Frost & Sullivan Asia Pacific.

## **Solar Power Expected to be Fastest Power Generation Technology**

Although coal still remains a key fuel source for base-load power generation in Asia, solar power is expected to be the fastest growing power generation technology in 2016. By the end of 2015, the annual solar power capacity additions in the region is expected to reach 25.6 GW and increase up to 33 GW in 2016 with an annual growth rate of 28.9%.

APAC will continue to remain a strong market for solar power with

demand led by China, India, and Japan. This positive growth will result in strong investments from the private sector both in the upstream and downstream segment of the solar industry value chain.

## **APAC T&D Grid Investments Including Smart Grid will exceed US\$100 billion**

T&D Grid Investments in the region is expected to be US\$126 billion in 2016, mainly led by China at US\$78.3 billion, followed by India and Japan at US\$15.4 billion and US\$12.6 billion respectively.

"Different sectors attract T&D investments in these countries. Smart Grid would be the main industry that would attract significant investments from countries such as China, Japan and Australia", noted Suchitra Sriram, Program Manager, Energy & Environment, Frost & Sullivan, Asia Pacific.

## **Asia to emerge as dominant region for energy storage**

Growing need for integrating renewable energy into the power grid is driving significant interest in community and grid-scale Energy Storage Solutions (ESS) in 2016 mainly driven by Japan, China, and South Korea. Australia and Japan would be the key markets for residential energy storage during the same period.

## **Data Centre Building Frenzy Creating MW-class Opportunities for Critical Power**

The ICT industry is witnessing large scale data centre construction frenzy, which will create MW class opportunities for critical power solutions. The focus of the data centres are rapidly shifting from efficiency to sustainability. Adoption of modular, pre-fabricated and

containerized data centre solutions is also expected to increase rapidly.

## **Sophisticated Integrated Facilities Management (IFM) Solutions Gain Traction**

The growing focus on sustainable technologies and the green building movement in China and India will provide a boost to IFM adoption. In the Asia Pacific region alone, the IFM market size is expected to grow from US\$15.6 billion in 2015 to US\$16.6 billion in 2016 with a CAGR of 6.4%. The China and India markets alone are expected to account for 8.3% and 4.7% of the total APAC market respectively by 2019.

Portfolio optimization, technology inter-operability, energy efficiency, risk management and regulation compliance are some of the areas that the IFM solution providers need to focus in order to maintain their competitive position.

## **Climate Change stays relevant as 'the Green Economy shifts to a Responsible Economy'**

Governments across APAC will undertake transformational shifts in mitigating and adapting to climate change. In a growing quest to become a responsible economy, lenders including OECD are cutting back financing for non-clean coal projects. Disaster management plans will also be localized and customized according to city infrastructure layout, socio-economic demographics, and irrigation capabilities.

## **Evolution of Water Filtration Technologies**

The industrial sector is expected to remain the most dynamic end-user in Singapore's water industry amidst developments in water filtration technologies. With new membranes and material science advancements,

current membrane technologies are expected to become obsolete.

"Forward Osmosis (FO) and its resulting technology, Zero Liquid Discharges (ZLD) will see the greatest opportunities in China and Singapore followed by Australia and Malaysia. Possible industry usage includes wastewater management for oil & gas sector and home water filters," noted Melvin Leong, Research Manager, Energy & Environment, Frost & Sullivan, Asia Pacific.

## **Greater Focus on Water Conservation**

Water sustainability has always been a key concern for Singapore due to scarcity of natural freshwater sources. Through public education efforts and prudent water management, consumers will become more proactive in the management of individual water supply systems and water consumption. For instance, water consumption can be monitored and controlled by both utilities and consumers based on agreed and contracted consumption and payment terms.

Technology will become the key driver to change consumption behaviour. This would mean smart integration with other resource management systems in new homes such as energy consumption and solid waste management.

Provided by Frost & Sullivan

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