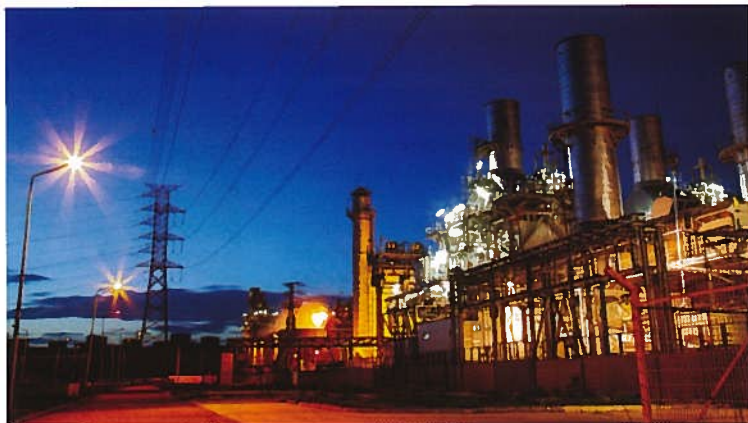


Power industry shifts focus to renewables

Declining project costs are driving investment towards renewables as the global power sector continues to transition to more decentralised and intelligent energy systems



Global power investment is forecast to increase by 3.3% to reach \$243.1bn in 2017 and by 2.7%/y for the decade as a whole, with India the fastest-growing market (14.5%/y), according to the latest findings from Frost & Sullivan. However, with prices for both solar and wind continuing to decline, renewable investment will keep booming at the expense of traditional power generation, notes the *Global Power Industry Outlook* report.

Lower project costs and continued regulatory support for renewable energy in key markets will see solar photovoltaic (PV) becoming the fastest growing segment (increasing by 23.3%), followed by wind power (increasing by 11.7%). By 2020 non-hydro renewables will account for 65% of global power investment. India is the hottest growth market with renewable investment set to increase by 24%/y to 2020.

The evolving market will compel power sector participants to craft innovative business models, offer customer-centric solutions, and create flexible portfolios. There will also be higher consolidation as companies seek funding to expand and introduce novel products. 'As new geographies emerge, local legislation and pro-renewable incentives will impact the fuel mix, compelling industry participants to identify challenges and define localisation strategies for long-term growth,' says Energy & Environment Principal Consultant Jonathan Robinson. 'As the renewable and distributed energy markets mature, a large installed capacity of equipment that needs

servicing will also offer the operation and maintenance sector attractive growth prospects.'

Key trends in the global power industry include:

- The transition to a more decentralised and intelligent energy system will continue to accelerate in 2017.
- There will be increased demand from utilities for energy management solutions, on both the supply and demand sides.
- Gas capacity is forecast to increase by 2.9% in 2017. China will see the fastest growth, but North America and the Middle East will remain the most important markets.
- High growth rates will be seen for solar PV, with investment forecast to increase by 11.5% to \$141.6bn in 2017. International agreements, such as COP21, and declining renewable technology costs, will ensure more capacity per dollar invested.
- China will be the largest market in terms of solar revenue investment, but the fastest growth will come from India, which will see double-digit growth in investment to 2020.
- Some 73.4% of power generation investment in Europe will be for renewable technologies, while Russia and the CIS will buck the trend and focus on nuclear power and hydro.
- There will be an overall increase in global coal capacity,

even as the utilisation rate of existing coal-fired plants falls in most regions, but investment is now firmly on a downward trend. Coal capacity is forecast to increase by 2.9% in 2017. India is the fastest-growing market; it will increase by 9.7% as a number of large plants come online. China, however, will add the most capacity – 40 GW. This will offset declines in Europe, North America, and Russia and CIS.

- Strong investment is expected in hydropower, despite it being a mature technology, forecast to increase by 2.6% in 2017. Africa is the fastest-growing regional market, but China is forecast to add the most – 11.2 GW of the total 31.6 GW. The Asia-Pacific and Latin America will be key regional markets.
- Nuclear capacity is forecast to increase by 2.9% in 2017. The Middle East will record the fastest growth, mainly because the first of UAE's reactors will come online.
- Biomass capacity is forecast to increase by 4.9% in 2017, with an additional 10 GW coming online.
- New business models that incentivise smarter consumption patterns, coupled with growth of energy storage technologies, will reduce the need for peak capacity investment in mature energy markets.

'Digitisation has the potential to drive efficiency gains and unlock new revenue streams for market participants in business areas such as demand response, utility as an energy service company (ESCO), predictive and real-time analytics, vehicle-to-grid, and virtual power plants and microgrids,' notes Robinson. 'However, implementation will take time and significant investment.'

The report suggests some \$130bn will be invested globally on automation by 2025, with \$4bn invested in asset management software and 1.2bn smart meters installed.

Petroleum Review will be taking a closer look at developments in the power sector in the July issue.

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