

Share of renewable energy in Mideast to more than triple by 2035 - report

- **Power generation capacity from renewables expected to increase to 100 gigawatts from 16.7 GW, requiring energy storage solutions**
- **Natural gas to remain region's primary fuel source by 2035**
- **Digitalization and cloud tech to drive energy and cost efficiency, but firms must prepare for greater exposure to cyber security risks**
- **Region expected to need total of 483 GW of power generation capacity by 2035**

The region is expected to require a total of 483 gigawatts (GW) of power generation capacity by 2035, an addition of 277 GW from 2016, according to a new energy outlook report by Siemens. Within this, the share of renewables in the power mix is expected to more than triple from 5.6 percent (16.7 GW) in 2016 to 20.6 percent (100 GW) in 2035. This increase highlights the need for reliable and efficient energy storage solutions, as well as mixed power generation sources to overcome the intermittent nature of renewables and achieve grid stability.

Based on the Siemens' *'Middle East Power: Outlook 2035'* report, despite the growing share of renewables natural gas is expected remain the No. 1 source for power generation in the region, representing 60 percent of installed capacity through 2035. With economic diversification and population growth accelerating, the growth in power demand in the region - approximately 3.3 percent per year – will be realized predominantly through increasingly efficient natural gas-fired power plants. Capacity additions will primarily be highly efficient Combined Cycle Power Plants (CCPPs), which are expected to dominate the power plant landscape by 2030. The report also assessed upcoming challenges to the diversification of energy sources as well as enablers such as digitalization and decentralized energy systems.

“A reliable, efficient, flexible and affordable power supply is the backbone of economic and social development in the Middle East. While the energy mix will see significant diversification over the next 20 years, natural gas will remain the prime energy source for power generation in 2035,” said Dietmar Siersdorfer, CEO, Siemens Middle East and UAE. “We expect the majority of new power generation capacity to be via highly efficient combined-cycle power plants, but renewables will also gain a substantially increased share of the energy mix.”

There is also greater potential if CCPPs are considered in place of planned steam power plants. Aside from new capacity additions, an additional 45 GW could also be realized through efficiencies brought about by upgrading facilities older than 30 years.

Solar power is expected to account for additions of around 61GW by 2035, and the report highlights significant potential for wind power generation in Saudi Arabia and Egypt, but notes that this potential is not entirely reflected in the moderate capacity additions expected. Furthermore, cost-competitive storage solutions continue to remain an obstacle for widespread adoption of renewable energy technologies. Aside from PV panels, Siemens is a one-stop supplier of all key components of solar power plants.

Masdar, a partner to Siemens and a pioneer in the clean energy space in the region, contributed to the report. “The convergence of technologies is promising a paradigm shift in the way in which we produce and consume energy, and there is no question that the Middle East will be at the heart of the transformation taking place,” said Mohamed Jameel Al Ramahi, Chief Executive Officer of Masdar. “This thought-provoking report will broaden the understanding of any audience confronting the changing dynamics of the Middle East’s power sector.”

A key enabler identified by the report is digitalization. A gas turbine can produce 30 gigabytes of data per day, and the report points out that using digitalization tools to harness this data and use it intelligently will be an important factor in increasing the efficiency and flexibility of energy supply, while decreasing production costs.

“Digitalization is an essential part of the future energy landscape, and turning big data into smart data will enable us to be more reliable, energy efficient and cost effective,”

said Siersdorfer. “However, we must remember that with greater interconnectivity, use of data analytics and cloud technologies comes greater exposure to cyber security threats so organizations need to be well prepared.”

The Energy Outlook 2018 report also highlights a growing mix between centralized and distributed power systems, with evolving demands reshaping the energy landscape to include smaller, decentralized power plants which service a specific function to the grid.

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