Daily turbine and storage market intelligence

Power Generation Watch is a Daily Brief of market intelligence relevant to all facets of the global thermal turbine business and new energy storage technologies. Utilize world-class market analysis of innovations, regulations, business trends, deals, and M&As for a set of key coal and gas turbines manufacturers.

This efficient method responds to a need to stay on top of your research – having it produced by Enerdata's energy experts makes it thorough, unified and professional, so you can foresee major evolutions in this challenging market. It's the most simple and effective way to be the first to know what happens in the thermal and new technology markets.

Key Features

• Analyst-curated Daily Brief with global updates and precise analytics covering everything you need to know about the turbine business.

• Includes baseload power generation technologies (boilers, Combined Cycle Gas Turbines - CCGT), peaking power plants (Open-cycle gas turbines - OCGT) and new technologies, including front-of-the-meter battery energy storage systems (BESS) and hydrogen development for energy.

• Each Brief is structured as follows:

Competitor's Watch
Companies are thoroughly scrutinized by our experts on a daily basis. If they make any pertinent moves, the details are reported in your Brief.

Coverage includes more than 15 players. See a list of some of key companies on the next page.

Market Watch
The following categories keep you up-to-date on regulations, innovations, trends, and opportunities.

• Fossil Fuel Markets,
• Technology Trends,
• Policy
• Market Opportunities

Optional: Receive our monthly strategic synthesis report, highlighting the most important moves in the industry, so you're sure to never miss a major event.
Why Subscribe?

• Never miss strategic information.
• Always have the latest, most relevant intel: Daily Briefs are written by Enerdata's expert analysts.
• Stay abreast of your competitors' moves and investments in new energy storage technology.
• Identify the most active companies and operators in each region, getting a bird's-eye-view of strategic developments around the world.

COVERAGE

Countries

Market segmentation:

• Opportunities for thermal turbines:
  • Fast developing countries with growing power markets (China, India, Indonesia, South Africa, Egypt, Middle East countries, etc.) and high demand for thermal (coal/gas) turbines for baseload generation.
  • Opportunities for peaker solutions
  • Developed countries with large needs for storage energy solutions and/or gas peakers
  • Countries supporting renewables while rolling coal phase-out policies.

Equipment:

• Gas-fired power plants: Combined Cycle Gas Turbines (CCGT), Open-Cycle Gas Turbine (OCGT), steam turbines.
• Coal-fired power plants: boilers, supercritical and ultra-supercritical (USC) steam generators, Carbon Capture and Storage (CCS) technologies.
• Energy storage technologies: Energy storage, including electrochemical batteries (Lead-acid, Li-ion, Li-Polymer, Na-S, etc.), power-to-X (hydrogen for energy storage), electrolysers and fuel-cells (SOFC).

Companies:

• Ansaldo Energia
• Babcock & Wilcox
• BHEL (Bharat Heavy Electricals Limited)
• Dongfang Electric Corporation
• Doosan Heavy Industries
• GE (General Electric)
• L&T (Larsen & Toubro)
• MAN Energy Solutions
• MHPS (Mitsubishi Hitachi Power Systems)
• Power Machines
• Shanghai Electric
• Siemens
• Sumitomo Heavy Industries
• Toshiba
• Wärtsilä
Doosan wins 2 coal-fired projects for the US DoE’s Coal-Based Power Plants of the Future initiative (US)

The U.S. Department of Energy (DoE) has selected Doosan Heavy Industries & Construction (DHIC) for the development of two coal-fired power projects under the Coal-Based Power Plants of the Future initiative. DHIC participated in the contest with Barr Engineering and the University of North Dakota's research centre. The “Coal, Gas and ESS Hybrid Power Generation System” project encompasses a 250 MW coal-fired ultra-supercritical (USC) system combined with a gas turbine and energy storage system (ESS) to better adapt to the new energy market, where renewable power generation is gaining momentum. The “Gasification Hybrid Clean Power Generation System” project encompasses a coal gasification system to produce hydrogen, which will then fuel cell power generation. The project includes CO2 capturing device. The projects need to be demonstrated and commercialized before 2030.

Source: Doosan press release

Siemens announces 2,700 job cuts worldwide in its Gas and Power branch

Siemens has announced that it will cut 2,700 jobs worldwide in its Gas and Power (GP) Operating Company, 1,400 of which are in Germany, citing a challenging market environment. The new measures primarily address the EPC projects business as well as the power transmission products and systems business. In May 2019 Siemens announced GP would require €500m in savings to improve cost competitiveness. The additional savings will be enabled by the new setup of the GP operating company. Merging and rightsizing the different businesses will save €200m, another €100m will result from the new regional setup and the remaining €200m will be achieved by optimizing support functions (hence the job cuts).

In May 2019 Siemens had announced the spin-off of its Gas and Power business unit as part of the company’s Vision 2020+ strategy, establishing GP Operating Company. The restructuring will take place in September 2020. GP Operating Company encompasses the following Siemens units: oil and gas, conventional power generation, power transmission and related services businesses. Siemens AG will retain a stake in GP between just below 50% and above the level of a blocking minority holding. Siemens GP will receive Siemens' 59% stake in Siemens Gamesa Renewable Energy (SGRE). GP will have an estimated business volume of €30bn (US$33.5bn) and over 80,000 employees.

Source: Siemens press release

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MARKET WATCH

Victoria houses the least reliable brown coal power plants in Australia

Asia, Australia, Gas-fired power gen., Coal-fired power gen., Thermal, Electricity, Thermal, Electricity, Market, Power plants.

According to a recent report by the Australia Institute, the state of Victoria is responsible for around 35% of gas and coal breakdowns with 64 occurrences since 2017. The state accounts for 20% of the national gas and coal installed capacity. The mainly concerned subcritical lignite/brown coal-fired power plants are the 2,180 MW Loy Yang A (with 29 breakdowns), the 1,000 MW Loy Yang B (5) and the 1,480 MW Yallourn W (26). At those rates, Loy Yang A and Yallourn W are considered as the least reliable coal-fired plants in the National Electricity Market (NEM). Yallourn W is also the least reliable coal plant in terms of by breakdowns per GW installed with a 17.9 rate. Most breakdowns were registered in high periods of demand. In January 2019, for instance, Loy Yang A lost 264 MW and Loy Yang B lost 528 MW during peak points of demand. As result, January power prices reached AUD12,931/MWh (US$8,885/MWh), around 97 times higher than the average AUD134/MWh (US$92/MWh).

Source: The Australian Institute report

POLICY

8 European countries plan to phase out coal by 2030

According to the European Commission, 8 of the 28 member countries plan to phase out coal-fired power generation by 2030: France by 2022, Ireland and Italy by 2025, Denmark, Finland, the Netherlands, Spain and Portugal by 2030. For these countries, the share of coal-fired power generation in the power mix averages 2.5% (France), 12% in Italy, 14%-17% in Finland, Spain and Ireland, 21% in Denmark, 25% in Portugal, and 29% in the Netherlands (2017). Their power generation represented around 23% of total EU coal-fired power generation in 2017. The remaining countries have not submitted any timeline for phasing out coal, including Poland, which relies on coal for its power supply (78% of its power mix in 2018). However, Germany plans to set a timeline for exiting coal-fired power generation (currently expected between 2035 and 2038).

Source: International press

TECHNOLOGY TRENDS

Highview will develop a 50 MW / 250 MWh LAES plant in the UK

Highview Power will develop a 50 MW / 250 MWh five-hour duration cryogenic liquid air energy storage (LAES) plant in the United Kingdom during 2019. Reportedly Highview’s technology is a process similar to that used to liquefy natural gas, but by using only air, its charge/discharge cycles are free of CO2 emissions. The technology can provide up to 20 days of storage and can be built from 10 MW to over 200 MW power output, with a storage capacity of 40 MWh to over 2,000 MWh. The systems’ lifetime reaches the 30-year mark. In March 2019 Highview and Spanish engineering, procurement and construction (EPC) company TSK set a joint-venture (JV) company, named Highview TSK, to develop energy storage system (ESS) in Spain, the Middle East and South Africa. The JV plans on developing several GWh of cryogenic energy storage from 2019 through 2022. Highview has already built two cryogenic energy storage plants in the UK: the 2.5 MWh Slough plant (2014) and the 15 MWh Bury plant (2018).

TNE MANUFACTURERS have entered into a licensing agreement and aim to leverage AIP’s technology investment and operational expertise to accelerate its growth. Source: GE Newsroom

Bharat Heavy Electricals announced that the 220 MW Unit 1 at the Kaiga Atomic Power Station in India, for which it supplied the complete steam turbine generator set and all the steam generators, has set a world record for continuous uninterrupted operation of more than 894 days. The Pressurized Heavy Water Reactor (PHWR) by Nuclear Power Corporation of India Limited (NPCIL) has been in operation since 13 May 2016. BHEL has supplied steam turbine generator sets for 12 PHWRs so far, out of the 18 operating PHWRs under the first stage of India’s indigenous nuclear power programme. The company will also be supplying generation equipment for the second and third stages which involve the Fast Breeder Reactor (FBR) and Advanced Heavy Water Reactor (AHWR) respectively. Source: Energy World

TECHNOLOGY TREND

The Swiss/Southern Californian start-up Energy Vault has launched a new grid storage concept based on principles similar to gravity-based pumped hydro plants. It devised a six-armed crane that stacks concrete blocks with cheap and abundant grid power and drops them down to retrieve electricity when needed. This is presented as a long-term storage solution to accompany intermittent power generation sources. The plant (called Evie) is a 35-story crane with six arms, surrounded by concrete bricks. The demonstration version will be concluded by June 2019 in Switzerland and the system is expected to have a 30 to 40-year lifetime. Source: GTM

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