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Alstom boosts its gas turbine portfolio to address the growth in gas-fired power generation.

On 13 September, Alstom announced the launch of its upgraded GT24 gas turbine and the corresponding KA24 combined cycle power plant offering for North America, parts of Latin America, Asia and the Middle East (60Hz market). This important step closely follows the launch in June, of its upgraded GT26 gas turbine and the corresponding combined cycle power plant KA26 for the 50 Hz electricity markets.

In upgrading its gas turbines for the 50 Hz and the 60 Hz electricity markets, Alstom intends to respond to the increasing demand for gas-fired power generation. Mark Coxon, Senior Vice President of Alstom's Gas Business said: "*These product upgrades are our response to the renewed growth we are witnessing in the natural gas fired power generation markets. We see the role of combined cycle power plants to be increasingly used as a back-up technology enabling more renewable power to be integrated into the energy mix. Accordingly these products have been optimised not only to offer very high output and efficiency, but also outstanding operational flexibility.*"

The share of natural gas in the global energy mix is expected to rise sharply in the coming years. The increased demand for gas fired power generation primarily replaces in specific markets coal and oil, and also complements renewable energy sources.

The GT24 and GT26 gas turbines are based on well-proven technology with more than 4 million operating hours. Alstom has dedicated important R&D efforts to developing the latest upgrades of the GT24 and GT26 turbines, including an investment of €100 million in a test power plant in Switzerland to validate the technology before bringing it to the market.

More than 2,000 people worldwide are working in Alstom gas power plant related R&D and engineering. With 140 units already installed or ordered, over 48,000 MW of power generation capacity worldwide is based on Alstom's GT24/GT26 technology.

The GT24 gas turbine for North America, parts of Latin America, Asia and the Middle East

The upgraded GT24 gas turbine and other associated key power plant components will be manufactured in Alstom's factory in Chattanooga, Tennessee, in the USA, a state-of-the-art production facility that was inaugurated last year. It will employ up to 350 people, building and retrofitting major equipment for the fossil fuel and nuclear power generation market.

The highly flexible KA24 combined cycle power plant based on the next generation GT24 (the sister machine of the next generation GT26) in a 2 on 1 (1) configuration, can start up in less than 30 minutes. A unique feature is the capability to provide more than 450 MW of power in 10 minutes to make up for the fluctuations in production inherent in some renewable energy sources (wind power, for example). This combined-cycle power plant is capable of delivering over 700 MW of electric power, enough electricity for approximately 500,000 Americans. A gross electrical efficiency of over 60% will be achievable. The higher efficiency results in fuel savings of approximately 250,000 tons annually(2), thus reducing over 650,000 tons of CO_2 emissions. This is equivalent to eliminating the annual emissions of more than 100,000 US passenger cars.

Natural gas will play an important role in the power generation mix in the USA both as a primary fuel and as back-up generation for renewables. States like Texas and California have very high renewable power capacity installed and this is projected to further increase substantially, necessitating flexible generation sources.

The GT26 gas turbine for Europe, Asia, Middle East and other 50 Hz markets

The upgraded GT26 gas turbine in a KA26 combined cycle features an efficiency of over 61%, avoiding more than 350,000 tonnes of CO_2 annually(3) , and increased operational flexibility: more than 350 MW can be delivered to the grid in less than 15 minutes to enable integration of intermittent renewable sources of energy. The KA26, in a 1 on 1 configuration (4), is capable of producing more than 500 MW of power.

With Europe predicted to generate 20% of its electricity from renewable sources by 2020, GT26 flexible gas turbines and power plants provide the perfect solution to meet the climate change challenge whilst also providing grid stability.

(1) In this kind of combined-cycle power plant, 2 gas turbines and Heat Recovery Steam Generators supply steam to a single steam turbine.
(2) Compared to the average efficiency of gas fired power generation in the United States.
(3) Compared to the average efficiency of gas fired power generation in Europe.
(4) In this kind of combined-cycle power plant, 1 gas turbine and Heat Recovery Steam Generator supply steam to a single steam turbine

About Alstom

Alstom is a global leader in the world of power generation, power transmission and rail infrastructure and sets the benchmark for innovative and environmentally friendly technologies. Alstom builds the fastest train and the highest capacity automated metro in the world, provides turnkey integrated power plant solutions and associated services for a wide variety of energy sources, including hydro, nuclear, gas, coal and wind, and it offers a wide range of solutions for power transmission, with a focus on smart grids. The Group employs 92,000 people in around 100 countries, and had sales of €20.9 billion in 2010/11.

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