

# Exceptional opportunities ahead for Pakistan in infrastructure sector – Masroor Mahmud

*Exclusive interview of President and CEO, GE Pakistan*

**A**s Pakistan celebrates its 74th Independence Day, GE is highlighting its prominent role in supporting the nation to build a world-class infrastructure in key areas including energy, transportation, healthcare and aviation. For more than 55 years, the company, with a team of dedicated experts, has played an instrumental role in shaping the nation's core economic sectors. Through collaborations with the government and the private sector, GE has built a strong footprint in Pakistan – with the primary goal of supporting the nation and its people. In an exclusive interview Masroor Mahmud, CEO of GE Pakistan, shares insights on the company's operations in the country.

**EU: In what areas GE has been providing services in Pakistan?**

**Masroor Mehmood:** GE has been a long-term partner in supporting Pakistan's infrastructure development. With over 55 years of operational presence in the country, we have delivered our technology, resources and on-site support to develop critical sectors including energy, healthcare, railway and aviation. Over the years, we have built a strong footprint in the country with offices in Karachi, Lahore and Islamabad, and have a local team of over 400 Pakistanis working across the different business sectors.

To give a snapshot of our presence in the country, GE-built technologies can generate the equivalent power needed to supply up to 30% of the country's electricity. We are also

■ **By Mustafa Tahir**

collaborating with public and private sector partners to unlock the power of digital technologies, and bring efficient power generation solutions that run on natural gas, coal including Thar local coal, wind, waste biogas, domestic lignite and other fuels to help meet the Government's goal to increase people's access to reliable, affordable electricity.

**EU: What is the volume of work and investment of GE to help Pakistan in overcoming its energy shortfall?**

**MM:** The power sector is one of the key areas where GE has a growing presence and collaborations in the country. We understand and support the government's emphasis on ensuring cleaner, reliable, uninterrupted power supplies, while keeping environmental aspects as part of this strategy. Historically, we installed our first steam turbine in the country in 1964, the first gas turbine in 1968, the first hydro unit in 1980, the first combined cycle power plant in 1984, and our H-class gas turbines – which have helped to set two world records for combined cycle efficiency – power the Bhikki, Haveli Bahadur Shah and Balloki Power Plants. These three facilities are among the most efficient combined cycle power plants in the world today, adding a total of up to 3,600 megawatts (MW) to Pakistan's national grid. Efficiency matters as each point of efficiency can generate millions of dollars in fuel savings over the lifetime of a 1,000 MW power plant. In 2019, our steam power technology enabled

Pakistan to generate electricity from its local Thar lignite for the first time, and we are currently working on Pakistan's first ultra-supercritical steam power plant.

In a demonstration of our steam power capabilities, Engro Powergen Thar Private Limited (EPTL) has reached commercial operations last year, enabling Pakistan to use its local lignite for power generation for the very first time. This fuel was considered very challenging to burn because of its high moisture content, but GE's advanced boiler technology has been designed to handle even the most challenging fuels. This is an important step that supports Pakistan's strategy towards greater

energy security and greater independence from fuel imports. Further steps in this direction are Thar Energy Limited (TEL) and Thalnova projects which are to achieve COD in 2021.

Also last year, the 1320MW CPHGCL Power Plant has reached commercial operation using GE's steam turbines, generators and boilers.

We also provide advanced boiler and steam turbine technology to Lucky Electric Power Company 660MW power plant. It is going to be Pakistan's first ultra-supercritical power plant in Deh Ghangiaro, Bin Qasim. The project will add up to 660 MW of electricity to the national grid. The power plant will be constructed by SEPCOIII and is planned to commence commercial operations in 2021.

The 1,292 MW Hub Power Plant is Pakistan's first independent power plant operating since 1997. HUBCO has launched a project to enhance the efficiency and lifecycle of the facility through retrofit works that replace the old existing turbine rotor and inner cylinder assemblies with advanced GE steam turbine technology within the old existing turbine casing. GE's technology has given this plant significant efficiency gains and proves our service capabilities on Other OEM technologies.

**EU: In what manner could GE help Pakistan in its drive to generate clean electricity through its renewable energy resources?**

**MM:** We understand the importance of renewable energy in the total energy mix of the country and have actively supported the development of Pakistan's wind and hydro power sectors. Other than supplying wind turbines that can generate up to ~500 MW, we are also collaborating with WAPDA and the Ministry of Water Resources on the Mangla refurbishment project.

With the recently announced Alternative & Renewable Energy Policy, we are aligned with the government's initiative of driving towards a sustainable and affordable energy transition. That is why in another milestone project, we have provided six new hydropower Francis turbines and generators for the Dasu Hydropower Plant to support the country's power infrastructure.

The 2.2 gigawatts (GW) Dasu hydropower project is one of the most important power generation projects in the country. The plant will help generate clean electricity, supporting socio-economic development in remote areas. The first stage of the project consists of

installing a 2,160 MW hydropower plant on the Indus River, which could be expanded to 4,320 MW in a second phase. Once commissioned in 2026.

**EU: What are the technological interventions and projects undertaken by GE, which are going to ensure reliable, sustainable electric supply?**

**MM:** We bring not only the best-in-class technology to equip highly efficient new power plants but also upgrade solutions to enhance the performance of existing power plants.

For example, GE's H-class gas turbines are an industry-leader and we are honoured that Pakistan was the first country in South Asia to adopt the technology. We have already secured up to 105 orders for the H-class turbines of which 75 have been shipped and 44 are already in operation, with over 630,000 operating hours. Our HA technology has helped deliver two world records - one for powering the world's most efficient combined cycle power plant, by achieving 63.08% gross efficiency at Chubu Electric Nishi-Nagoya Power Plant Block-1 in Japan and the second, for enabling EDF's Bouchain Power Plant achieve 62.22% net combined cycle efficiency in France. This means we are bringing the best to Pakistan. As mentioned earlier, the H-class turbines are now deployed at Haveli Bahadur Shah, Bhikki and Balloki power plants.

**EU: What are the major problems of the energy system of Pakistan and their possible solution with the use of modern and efficient technology?**

**MM:** Pakistan needs efficient, reliable, uninterrupted, affordable and cleaner power, and the country has a clear vision to achieve these goals. We believe that introducing world-class technology that is efficient and reliable; in addition to localizing talent and developing human capital for operation and maintenance services will help the people and business for the country to prosper. From generation standpoint, our best-in-class gas turbines that can be used to set up highly efficient new power plants; innovative solutions to upgrade existing power plants; and ability to harness diverse sources of energy, especially wind, hydro and indigenous coal, are critical for the nation.

Moreover, Asset Performance Management (APM) solutions powered by GE Digital are key as the transmission and distribution network in the country

continues to be challenged. As a long-term partner, we deliver cutting edge solutions and on-site support, including long-term service and maintenance, to enable the country to address its energy-sector development goals.

**EU: What are the other major projects of the GE in Pakistan besides energy sector?**

**MM:** In the healthcare sector, we have close to three decades of partnerships in the country, and more than 70% of large Pakistani hospitals (those with over 300 beds) are equipped with GE healthcare technologies. We also collaborate with multiple healthcare providers in Pakistan such as recent engagements with Pakistan Airforce Hospitals, Shaikat Khanum Hospital, Indus Hospital, etc. to bring the latest technology and build capabilities to battle cardiovascular, cancer and other diseases.

At the Nuclear Medicine, Oncology and Radiotherapy Institute (NORI), our Single Photon Emission Computed Tomography (SPECT) system contributes to a reduction in cancer-related mortality. Most recently, during the COVID crisis, our technology and services support staff have been working around the clock to partner with healthcare institutions and professionals across the country to ensure the reliability and availability of the product installed base. We have nearly 50 years of collaborations with the country's national carrier, Pakistan International Airlines, and more than 60% of the country's commercial carriers are powered by GE and partner engines.

**EU: What are the future plans of the GE in Pakistan?**

**MM:** We are committed to support the government in achieving its development goals and will work to identify potential sources of funding and explore investment opportunities in all core sectors, such as energy, aviation and healthcare.

With Pakistan's infrastructure needs continuing to grow, we will need a holistic mix of advanced technologies, maintenance services and modernization works to better position the country to meet future infrastructure challenges. We will continue to support the country's strategy through more collaborations, industry-leading technologies, advanced digitization and enhanced localization by creating new job opportunities for talented Pakistani professionals. We see exceptional opportunity for growth in Pakistan as a partner in the progress of the nation.■