Riga energy storage investment trends

In this backdrop, EU"s future energy system will need more flexibility to complement the massive and rapid deployment of variable RES generation and the phase-out of fossil fuel generators, while ensuring supply security at affordable prices. The European Commission (EC) estimates that the flexibility need in Europe"s power system could increase to up to 24 per cent (288 TWh) and 30 per cent (2,189 TWh) of total electricity demand by 2030 and 2050 respectively as the RES share reaches an estimated 69 per cent and 80 per cent in the two years respectively.

In its recent publication, the EC has acknowledged that energy storage has multiple applications even beyond the electricity system. For instance, energy storage that complements renewable heating and cooling generators as part of individual and district heating systems allows a higher proportion of heating demand to be covered by variable and low-temperature RES. Their contribution to energy system integration and supply security is significant. Further, such technologies can facilitate the electrification of different sectors, notably buildings and transport.

Energy storage faces several challenges that can impact its deployment to the levels necessary to significantly support the energy transition. According to the ENTEC study, among the perceived barriers, regulation and market access have been rated as most important. This is followed by financial barriers and the absence of long-term policy signals in general, the issue of double taxation and grid charging, and the lack of a regulatory framework for local flexibility markets.

While the EC has set the stage for accelerating the rollout of storage capacity, member countries have to implement the EU policy (by adapting national legislation to it) swiftly to be able to see the results on the ground.

As part of the NECPs, less than half a dozen countries have set specific targets for energy storage. These are Croatia (150 MW by 2030), France (1.5 GW of pumped storage by 2035), Italy (6 GW by 2030), Greece (3 GW by 2030) and Spain (20 GW by 2030 and 30 GW by 2050). However, several countries have special laws on energy and storage, subsidy programmes or regulations.

The Spanish government announced a call for aid for hybrid or co-located energy storage in December 2022 to provide EUR150 million in funding for new storage systems. Applications were accepted up to March 20, 2023. The selected projects will be eligible to have 40-65 per cent of their investment costs covered under the scheme. The funding is part of the country"s Strategic Project for the Recovery and Economic Transformation of Renewable Energies, Renewable Hydrogen and Storage (PERTE ERHA), which sets a target of 20 GW of energy storage to be deployed by 2030.

In May 2023, the Hungarian government announced energy storage investment subsidies worth HUF58 billion

to promote RES through the addition of 146 MWh of grid-connected storage capacity by May 2025. The subsidies will be available to TSO Magyar Villamosenergia-ipari ?tviteli Rendszerir?ny?t? ZRt. (MAVIR) and electricity distributors. It is estimated that the funding available for energy storage projects could add up to HUF120 billion after combining the latest allocation with other programmes.

In January 2023, Turkey made amendments to the Electricity Market License Regulation to complement the current rules for the development of storage units inside generation plant premises. The Turkish government plans to begin approving energy storage projects in the middle of 2023, which should support the Turkish grid in the wake of growing solar photovoltaic (PV) capacity.

Commissioned by energy developer Rigas Siltums, this r25 million investment will provide the Latvian capital with a single high-efficiency plant that will meet growing demand for heat and electrical power well into the future. The 48 MWe plant, in the Imanta district of Riga, is designed to meet the base load requirements of the city"s district heating network throughout the winter.

Turbomach is to supply all of the power and heat plant and strategic services within a schedule of just 60 weeks, co-operating widely with eastern European manufacturers to maximise economic benefits. With work already well underway, the project represents one of the largest yet undertaken by Turbomach and provides an opportunity for the Switzerland based specialist to demonstrate its capabilities throughout the CHP market in eastern Europe.

Work on the engineering phase of the plant began earlier this year and delivery of equipment is well underway in time for production of heat and power during the winter heating season in January 2006. Turbomach"s responsibilities include not only the supply of the plant but also supervision of installation, testing and commissioning. The company is also contracted to undertake maintenance at the plant under a nine-year service agreement. A time frame of 15 years has been set to evaluate the economic performance of the investment, to be based on 200 000 operating hours.

Packaging of all rotating machinery is being undertaken by Turbomach, in-house, drawing on the proven qualities of Rolls-Royce gas turbine technology and a steam turbine manufactured by B+V Industrietechniek of Germany.