



Press release

Augsburg, 19.04.2021

MAN Energy Solutions SE
Stadtbachstraße 1, 86153 Augsburg
Germany

Postal address:
86224 Augsburg, Germany

www.man-es.com

Group Communications
Jan Hoppe
P +49 821 322 3126
Jan.hoppe@man-es.com

MAN Energy Solutions to Partner on World's Largest Liquid-Air Energy-Storage (LAES) Project

Highview Power to deploy MAN LAES turbomachinery solution in its CRYOBattery long-duration application

Highview Power, a global leader in long duration energy storage solutions, has selected MAN Energy Solutions to provide its LAES turbomachinery solution to Highview Power for its CRYOBattery™ facility, a 50 MW liquid-air, energy-storage facility – with a minimum of 250MWh – located in Carrington Village, Greater Manchester (UK).

The liquid air energy storage plant uses cryogenically-liquefied air as a medium for storing energy. It is especially suitable for special applications that require large amounts of energy over a discharge time of several hours, and enables fluctuating, renewable sources to bear base-loads. The MAN turbomachinery train will form the core of the CRYOBattery facility that, upon completion, will form one of Europe's largest battery-storage systems. This will ultimately supply clean, reliable, and cost-efficient long-duration energy storage – primarily from renewable sources.

Javier Cavada, President and CEO of Highview Power, said: "Highview Power believes in partnering with companies that share our commitment to a decarbonized world, and awarding MAN the contract to build out our Carrington facility reinforces that commitment. MAN is well-respected in the industry and has an impressive track record of building large energy assets. We are proud to be working with them on this significant project."

Wayne Jones OBE, Chief Sales Officer and Member of the Executive Board of MAN Energy Solutions, said: "There has been a lot of background work involved in getting to this stage – in the face of much competition – and I am personally delighted that Highview Power has chosen to work with MAN Energy Solutions. Highview is a fantastic company and world leading expert in the storage industry. We could not wish for a better partner."

The Carrington project is a massive milestone for the future of storage technology and for the United Kingdom's goal of a 100% clean, carbon-free energy future. We are entering the market together in an absolutely unique project that will have the eyes of the world upon it. This technology's unlimited potential means that any number of domestic and global projects await its successful conclusion."

Jones continued: "This is also a milestone for MAN Energy Solutions' strategic journey. Our ability in this instance to provide both energy-storage turbomachinery technology and grid stabilisation, as demanded by the process requirements, fits perfectly with our stated strategy of increasingly moving from supplying components to becoming a supplier of complete solutions. This is where our customers can fully reap the benefit of our all-round expertise."



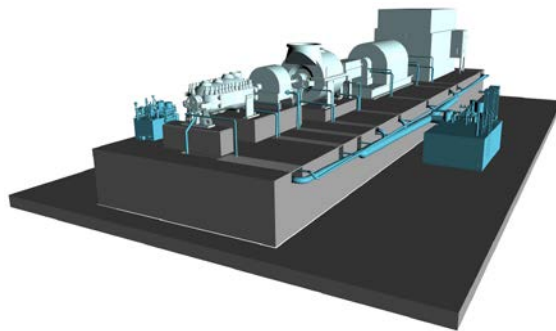
Construction of the CRYOBattery™ began in late 2020 with commercial operation commencing during 2022. Highview Power will operate the facility in partnership with Carlton Power, a UK independent power-station developer.

Construction will proceed in two phases. Phase 1 will involve the installation of a 'stability island', to provide near-instantaneous energy grid stabilisation. This will be achieved using a generator and flywheel, among other components. Enabling short-term stabilisation will provide the basis for Phase 2 and the completion of the more complex liquid air energy storage system that includes various compressors, air expanders and cryogenic equipment.

Phase 2 will represent the integration of stability services with a full-scale long-duration energy storage system, and in doing so promote the full integration of renewable energy. The Carrington project will offer a blueprint for future projects and cement the partnership between MAN Energy Solutions and Highview Power.



Pictured at the signing of the contract in Highview Power's London offices (from left): Javier Cavada, President and CEO of Highview Power, and Wayne Jones OBE, Chief Sales Officer and Member of the Executive Board, MAN Energy Solutions



Graphical rendering of a liquid air energy storage system with stability island, including flywheel and (right) large-sized generator



Graphical rendering of the Highview Power CRYOBattery plant

###

About Highview Power

Highview Power is a developer of CRYOBattery™ long duration energy storage systems based on the company's cryogenic energy storage technology, which uses liquid air as the storage medium and can deliver anywhere from 20 MW/100 MWh to more than 200 MW/2 GWh of energy and has a lifespan over 30 years. Developed using proven components from mature industries, it delivers pumped-hydro capabilities without geographical constraints and can be configured to convert waste heat and cold to power that delivers reliable and cost-effective long duration energy storage to enable a 100% renewable energy future. For more information, please visit <http://www.highviewpower.com>.

Feldfunktion geändert



MAN Energy Solutions enables its customers to achieve sustainable value creation in the transition towards a carbon neutral future. Addressing tomorrow's challenges within the marine, energy and industrial sectors, we improve efficiency and performance at a systemic level. Leading the way in advanced engineering for more than 250 years, we provide a unique portfolio of technologies. Headquartered in Germany, MAN Energy Solutions employs some 14,000 people at over 120 sites globally. Our after-sales brand, MAN PrimeServ, offers a vast network of service centres to our customers all over the world.