Green hydrogen-based engine, power plant to come up by 2025: Wartsila CEO

'Renewables is an affordable way to drive forward electricity generation in India but not even in India is the sun shining or wind blowing everyday'

Subhayan Chakraborty / New Delhi

Håkan Agnevall, President & CEO, Wärtsilä Corporation

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Finland-based global energy tech company Wärtsilä Corporation, which provides power solutions to the electricity and marine sectors in more than 80 countries, is betting big on India for its energy management system. This comes as more renewable energy is connected to the grid. President and chief executive officer (CEO) Håkan Agnevall tells Subhayan Chakraborty that the company will come out with an engine concept running on 100 per cent ammonia in 2023 for the marine sector. Edited excerpts:
What are your plans on green hydrogen?

We have a saying “green is not black or white” since there is no single solution. For energy transition, there is a need for different technologies. Green hydrogen is one of them. But to get there, first we need purely renewable sources of producing that. Scaling up the current pilot projects producing green hydrogen to a significant level will take a lot of time. The power plants we provide, from the minimum size of 10-20 megawatts (Mw) to 400-500 Mw, require a lot of hydrogen. We are now doing tests in Europe and the US to blend between 10 and 25 per cent hydrogen in LNG. But shifting to 100 per cent hydrogen will take time. We will have our technology (engine and plant concept) ready in 2025. Then, we will see how the market develops. We have two tests running in Portugal and one in the US.

What are the other fuels that Wärtsilä can provide technology for?

For hydrogen-blended LNG fuel, if you keep the blend below 25 per cent, the fuel can be carried in existing pipelines. We can already deliver technology for biomethane, biogas, methanol and all fossil

fuels. This year, we will come up with a technical concept for 100 per cent ammonia-based fuel. This will be for applications in the marine sector since it has a higher energy density compared to hydrogen.

Is Wärtsilä Corporation in talks with state governments to provide energy solutions?

During my visit to Delhi, we are meeting with the ministries of power and oil & gas, along with state utilities. If I have to sum up Wärtsilä's strategy in one word, it's decarbonisation. Electricity generation in India will grow from over 400 gigawatts (Gw) to probably 900 Gw by 2030. That transition would include 400 Gw of renewables. Overall, we are engaged with renewable-rich states such as Gujarat, Karnataka, Rajasthan, and Tamil Nadu.

What are Wärtsilä's prime offerings in the energy space in India?

Renewables is an affordable way to drive forward electricity generation in India but not even in India is the sun shining or wind blowing everyday. That is where balancing the power becomes important. This is an area in which we are one of the main players. In the future, you will have more renewables plugged into the grid. These are intermediate and vary in intensity, significantly. Therefore, you need to have a holistic perspective, and optimise how you run your thermal and renewable assets. Wärtsilä's sophisticated GEMS energy management system provides the intelligence backbone to optimise this multi-asset generation. It monitors, controls and optimises energy assets on both the site and portfolio levels.

What are the other areas of grid management the company has invested in?

There are different technologies available. This includes the flexible modular power plants and the battery storage plants we are providing. We see a smart grid as one with distributed generation, combining different technologies such as wind, solar battery, thermal balancing and gas turbines. We provide solutions to optimise this for the lowest-energy cost, while ensuring the highest uptime and reliability.

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