Five more buildings opt in on Marina Bay district cooling network

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SP GROUP'S massive underground district cooling system at Marina Bay has secured more buy-in around the central business district (CBD), with 5 upcoming developments that are either new or being retrofitted committing to tap its services.

The utilities group's new customers are 8 Shenton Way, formerly AXA Tower; the commercial component of 80 Anson Road, formerly Fuji Xerox Towers; IOI Central Boulevard Towers; Marina Bay Sands Integrated Resort Expansion and NS Square.

> SP says that with the 5 new customers, this brings the number of buildings being served by the network – which it designed, built, owns and operates – to 28, helping the district reduce its carbon emissions by 19,439 tonnes annually. This is equivalent to taking 17,672 cars off the roads, it points out.

Announcing this on Wednesday (Apr 20), SP said this brings the number of buildings being served by the network – which it designed, built, owns and operates – to 28, helping the district reduce its carbon emissions by 19,439 tonnes annually. This is equivalent to taking 17,672 cars off the roads, it pointed out.

With the buildings' inclusion, more than 2 km of underground insulated pipes will be laid at Shenton Way, Robinson Road and Prince Edward Road by around end 2024 to plug the Anson Road and Shenton Way buildings into the system.

SP will also be increasing the capacity of the underground district cooling network, which already exists as the world's largest, by 30 per cent to 70,000 refrigerant tonnes (RTs), it added.

Currently, needs of the network are mainly served by 2 underground plants that are connected by a common services tunnel and built with the ability to collectively support up to 80,000 RTs.

One, commissioned in 2006, is located at One Raffles Quay, while the other, which started operating in 2010, is located below the Marina Bay Sands (MBS) development.

Each plant hosts 6 giant thermal storage tanks.

The tanks at MBS are roughly the size of an Olympic-sized swimming pool, with each being able to store enough cold energy to support the shutting down of 2 chillers.

The ones at One Raffles Quay are smaller. Cold energy from 1.5 tanks there are required to shut down 1 chiller.

With the latest expansion under way, SP revealed that it will now explore installing these thermal storage tanks in the CBD itself to further enhance the network's reliability, while increasing the network's energy storage capacity as well.

These auxiliary chilled water tanks will allow the existing network to significantly reduce its peak load consumption and support future expansion of the cooling network beyond the Marina Bay vicinity, it said.

Underground network of chilled water pipes

U/C: Under construction

Sources: SP GROUP, STRAITS TIMES GRAPHICS

SP added that additional energy storage capacity will also facilitate the incorporation of more renewable energy sources to the grid by mitigating the intermittency of renewables while maintaining grid stability and reliability.

The group, meanwhile, said it continues to actively engage with potential customers to further expand the Marina Bay district cooling network.

It is studying the feasibility of plugging 81 Anson Road's M Hotel into the network.

If the project goes ahead, the property under City Developments Limited (CDL) group will become the first brownfield hotel development to incorporate district cooling in its operations.

It is also collaborating with the Housing and Development Board (HDB) to deploy Singapore's first residential centralised cooling system for up to 22,000 households at the upcoming Tengah housing estate by 2023. Once the HDB project completes, SP will host 118,500 RTs of cooling capacity through its district cooling networks, extending its lead as the biggest provider of district cooling solutions in Singapore, it said.

SP, meanwhile, noted that the new developments joining its Marina Bay District network will pay up to 15 per cent less for air-conditioning by opting in.

Without the need to invest in their own chillers, the buildings avoid costs relating to equipment installation, operating utilities, maintenance and parts replacement, it said.

The buildings' reliance on centralised chiller plants also frees up prime space for other commercial or lifestyle purposes, potentially increasing asset yield for their owners, the group added.