

Jurong Lake District to get centralised cooling system

Existing Marina Bay district set-up to add five future developments to its network

Ang Qing

A centralised cooling system will be rolled out at Jurong Lake District, with the authorities calling for proposals later this year.

Making this announcement yesterday at an event marking the expansion of the world's largest underground district cooling network in Marina Bay, Minister for National Development Desmond Lee said a study called in 2016 to consider the feasibility of district cooling at Jurong Lake has concluded and a request for proposal for the district cooling system operator will be made later this year.

"This district will be the largest mixed-use business district outside of the city centre, and we aim to make it a model for urban sustainability in the future," said Mr Lee.

This comes as Singapore strives to implement such technology more widely to make buildings more energy-efficient, reducing carbon emissions.

Mr Lee said: "This will help us achieve net-zero emissions as soon as possible since buildings contribute over 20 per cent of our total carbon emissions."

Jurong Lake District, touted as the second Central Business District, is the latest of three districts here slated to get district cooling. The other two are Tampines and Tengah.

A district cooling network supplies the cooling needs of buildings using centralised chiller plants, doing away with the need for members of the network to purchase their own plants. By sharing the load of cooling and optimising energy consumption, members lower carbon emissions and save costs.

Meanwhile, five future developments will be added to the underground cooling network in Marina Bay district, bringing sustainable cooling further into the city centre.

NS Square and the fourth tower at Marina Bay Sands (MBS) are among the new developments to be connected to the district cooling network, which will comprise a total of 28 buildings, SP Group said yesterday.

The upcoming NS Square will replace the Marina Bay floating platform, and is due to be completed by 2026; the MBS integrated resort expansion, which the fourth tower is part of, has been reported to be on track for

completion in the same year.

The other three buildings to be connected to the network are: 8 Shenton Way, also known as the former AXA Tower; the commercial component of 80 Anson Road, also known the former Fuji Xerox Towers; and IOI Central Boulevard Towers.

SP Group's network is projected to help the Marina Bay district cut carbon emissions by almost 20,000 tonnes annually, which is the equivalent of removing about 17,700 cars off the roads, while providing the same level of cooling comfort.

More than 2km of underground insulated pipes will be added to the network to supply chilled water to new partners by around early 2025, SP Group said.

Commencing operations in 2006, the Marina Bay district cooling network was first set up with one chiller plant in One Raffles Quay before expanding to another in MBS, located about 25m below the surface, and a smaller satellite plant in One Marina Boulevard.

There has been no supply interruption since the network started, noted Mr Lee.

With no need to invest in their own chillers, building owners are expected to save on equipment, operating and maintenance costs, thus reducing the total cost of ownership by up to 15 per cent, said SP Group.

Beyond these buildings, SP Group has ambitions to extend the network to the neighbouring Central Business District.

It is looking to install thermal storage tanks to raise the network's energy storage capacity, allowing more to join the network.

SP Group is also studying the feasibility of M Hotel Singapore, a hotel under the CDL group, being the first brownfield hotel development – a building that is on an already developed site – to incorporate district cooling in its operations.

SP Group's chief executive officer Stanley Huang said: "With the expanded infrastructure in place, we are pleased to extend the same reliable and sustainable solution to other buildings in Singapore's core financial district, and look forward to welcoming more partners to this network. Together, we can accelerate the development of greener buildings and cities to achieve Singapore's ambitious sustainability targets."

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2006

The year the Marina Bay district cooling network commenced operations.

20,000

Approximate reduction in carbon emissions in tonnes annually that the Marina Bay network is projected to help the district achieve.

> 2km

Length of underground insulated pipes that will be added to the Marina Bay network to supply chilled water to new partners by around early 2025.

> 20%

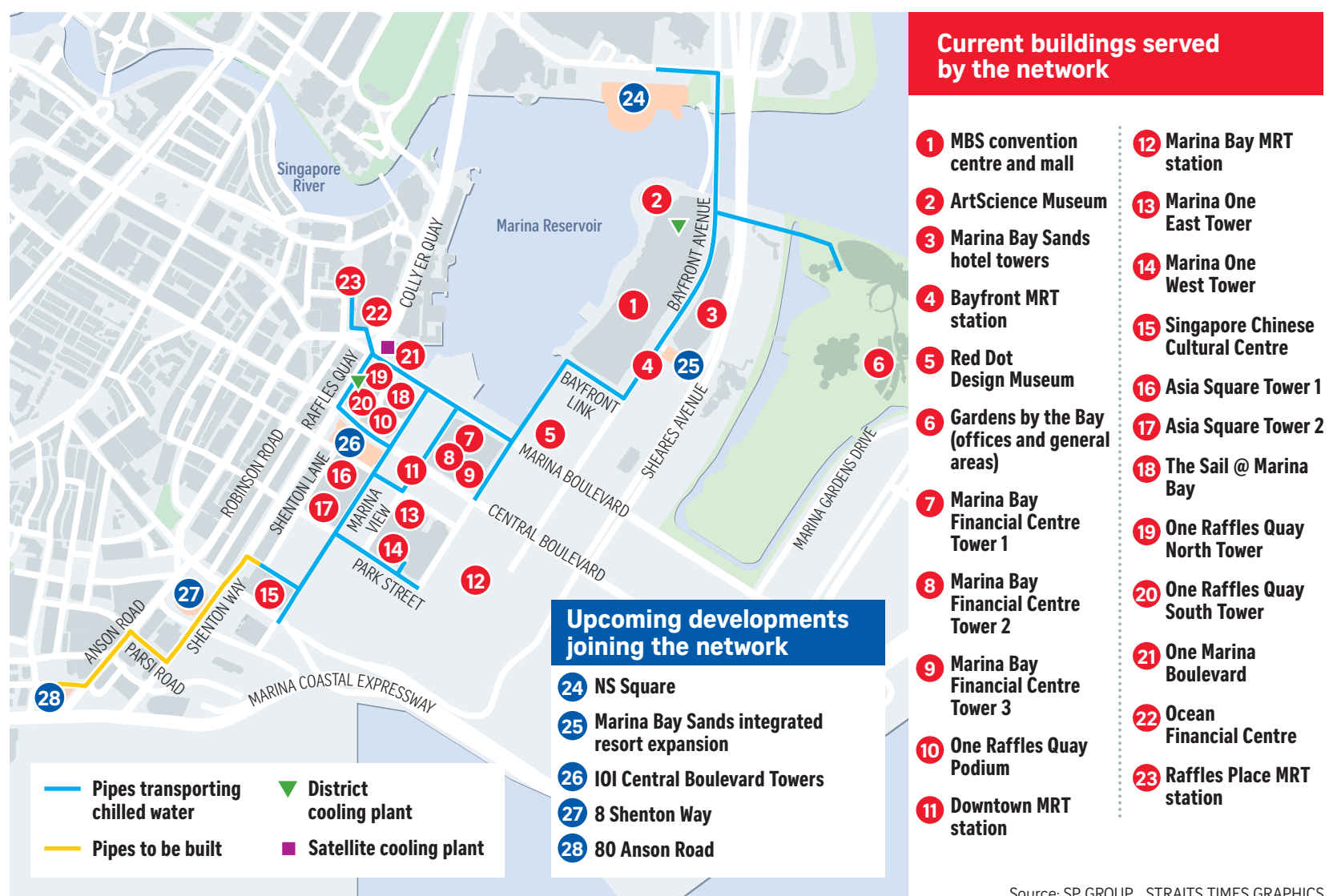
Proportion of Singapore's total carbon emissions contributed by buildings.



Commencing operations in 2006, the Marina Bay district cooling network was first set up with one chiller plant in One Raffles Quay before expanding to another plant (left) in MBS, located about 25m below the surface, and a smaller satellite plant in One Marina Boulevard.
ST PHOTO: WONG PEI TING

Sustainable cooling in the city centre

The world's largest underground district cooling network in Marina Bay will be expanding to include five future developments as more turn to the centralised cooling system for energy efficiency. The Straits Times identifies 28 buildings connected to the network.



Source: SP GROUP STRAITS TIMES GRAPHICS