

Tabreed expands its R&D funding commitment to boost efficiency and sustainability

Company targeting efficiency improvement of 30% against comparable industry performance benchmarks

28.02.2021 – Abu Dhabi, United Arab Emirates: National Central Cooling Company PJSC (DFM: Tabreed), the leading UAE-based international district cooling developer, has announced the launch of four pilot projects. These projects are part of Tabreed's R&D funding commitment, which reinforces the company's unwavering stewardship towards sustainability beyond just environmental benefits. This will also contribute to an improvement in Tabreed's operational efficiency while enhancing district cooling plant life and reliability, with the funding expected to contribute towards increasing plant energy efficiency by 30% against comparable industry performance benchmarks as well as lowering overall plant lifecycle costs.

Commenting on the announcement, **Bader Saeed Al Lamki, Tabreed's Chief Executive Officer**, said: "Innovation, research and development is a very important pillar in our business strategy. Developing appropriate infrastructure, while preserving the environment is one of the key priorities in UAE Vision 2030 and we are committed to our key role in supporting the UAE's sustainable development agenda. Energy Efficiency is essential more than ever, and I am very proud of the relentless efforts of our innovation focused teams who continuously work to make sure we adopt the latest technologies and pioneer the district cooling industry with highest efficiency and less impact on our environment."

"Future of Cooling" is the name of the first initiative. It aims to introduce new concept design and control philosophy as well as innovative and disruptive technologies into each district cooling plant, resulting in material improvements in plant performance as well as a prolonged life and lower plant lifecycle costs.

"Based on the simulation of this pilot project, we forecast a 25 to 30% increase in performance, compared to our industry benchmarks," said **François-Xavier Boul, Tabreed's Chief Development Officer**. "We will be tendering two projects based on this concept to validate how actual results compare to our analysis. This approach will be implemented accordingly in our existing plant operations (through retrofitting) and into future plants," he added.

"Carbon NanoTube" is another R&D initiative by Tabreed which aims at drastically enhancing the performance and life span of plant and equipment as well as reducing plant and energy transfer station (ETS) footprints using carbon nanotube (CNT) material which has outstanding properties in terms of heat transfer. We are in discussion with a number of partners to provide us with the material and support such as ENGIE Lab CRIGEN in France, Sustainable Energy Development Research Group, and another reputed higher education institution in the region," said **François-Xavier, Chief Development Officer**. "Through these partnerships we will run pilot projects to confirm this approach to be adopted in our future plants."

The third initiative, called "Wet Bulb Forecasting", will aim to drastically enhance demand side management. The initiative aims to more accurately forecast customer demand for the next 24 hours to allow for a more efficient operation by optimising production of cooling, using AI. The first step is to

rely on a stable weather forecasting system based on information updated in real time. The second step will be to use data science to develop models and correlations and finally, based on demand forecast, drive the plant performance.

The last initiative targets enhancing the district cooling plant's condenser circuit and its cooling tower, which is one of the critical components in the plant and has a significant impact on the plant's performance. Tabreed is currently redesigning the equipment to enhance its efficiency through improving water and air distribution as well as heat transfer, which will eventually impact the overall performance of the plant.

Tabreed's announcement of its R&D and Innovation initiatives aligns with the commemoration of the UAE Innovation Week, which is being held under the slogan "UAE Innovates 2021".

For over 22 years, Tabreed has been the partner of choice for organizations seeking environmentally friendly cooling solutions to support their sustainability goals and to reduce their overall energy consumption and carbon footprint. With 86 district cooling plants, Tabreed currently delivers over 1.4 million RT to key developments, including iconic projects such as the Burj Khalifa, Dubai Opera, The Dubai Mall, Sheikh Zayed Grand Mosque, Al Maryah Island, Yas Island, Dubai Metro, the Bahrain Financial Harbour and the Jabal Omar Development in the Holy City of Mecca in the Kingdom of Saudi Arabia.

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About National Central Cooling Company PJSC (Tabreed)

Tabreed is a leading international district cooling developer based in the UAE providing energy efficient, cost effective and environmentally friendly year-round cooling solutions in the GCC, India, and beyond. Founded in 1998, and listed on the Dubai Financial Market, Tabreed's cooling infrastructure is an integral part of the region's growth. The company now delivers over 1.404 million refrigeration tons to major residential, commercial, government and private projects. Tabreed owns and operates 86 plants in its portfolio across the GCC, including 73 plants in the United Arab Emirates, three in the Kingdom of Saudi Arabia, and five in Oman, one in the Kingdom of Bahrain, and others in the region.

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