



Tabreed Green Financing Framework

February 2025

1. Introduction

1.1 Background

National Central Cooling Company PJSC (“**Tabreed**”, or the “**Company**”) was established in 1998 when it commissioned its first district cooling plant in Sweihan, Abu Dhabi. Headquartered in Masdar City, Abu Dhabi, we have been a trusted and a sustainable utility provider since 1998. We deliver chilled water for air conditioning to commercial and residential customers through a network of centralized district cooling plants and underground pipes. From greenfield projects to established facilities, we support leading public and private organisations. Our comprehensive services include operations and maintenance, business model expertise and cutting-edge technology partnerships – ensuring we meet the sustainability needs of our clients. Built on a successful track record acquired over the last 27 years, the company now has 91 District Cooling Plants across the GCC as of December 2024.

As the UAE’s emissions profile is intrinsically linked to the provision of essential services which, among others includes cooling, Tabreed’s operations are guided by national policies on District Cooling. Through these, Tabreed acts as an active contributor to The United Arab Emirates’ Nationally Determined Contribution (NDC)¹ registered with the UNFCCC, and The United Arab Emirates’ First Long-Term Strategy (LTS)². In particular, the UAE’s National Water and Energy Demand Side Management Programme 2050 (UAE DSM Programme) targets a 42%-45% reduction in energy use and a 51% reduction in water use compared to business-as-usual scenarios by 2050, and the district cooling technologies are expected to contribute to this target. In particular, Dubai has set a target to achieve a 30% penetration of district cooling and retrofit 47,000 buildings by 2030.

Tabreed is also one of the signatories of the Global Cooling Pledge, which was an initiative of the UAE when it hosted during the 2023 United Nations Climate Change Conference (COP28).³ The pledge aims to raise ambition and international cooperation through collective global targets to reduce cooling related emissions by 68% from today by 2050, significantly increase access to sustainable cooling by 2030.

1.2 Tabreed’s commitment to sustainability

At Tabreed, we embrace this responsibility by actively pursuing sustainability and climate action, and by driving positive change through a comprehensive approach. In our forthcoming Sustainability Strategy, with transparency at its core, we will be charting out a clear course for significant progress on our sustainability journey. The strategy report will not only outline our long-term ESG objectives, but also detail a roadmap with actionable steps for achieving them across several key focus areas. By continually adopting best practices, exploring cutting-edge solutions, and aligning with established sustainability frameworks, we demonstrate our unwavering commitment to tackling our ESG material topics.

Advancing The Net-Zero Transition

We are actively pursuing a roadmap to achieve Net Zero emissions by 2050, aligning with the UAE Energy Strategy 2050. The roadmap encompasses various initiatives aimed at leveraging renewable energy sources, enhancing

¹ [The United Arab Emirates’ Third Nationally Determined Contribution \(NDC 3.0\) Accelerating Action Towards Mission 1.5C \(November 2024\)](#)

² [The United Arab Emirates’ First Long-Term Strategy \(LTS\) – Demonstrating Commitment to Net Zero by 2050 \(2023\)](#)

³ <https://coolcoalition.org/global-cooling-pledge/>

energy efficiency, and adopting innovative technologies. By employing a combination of these decarbonisation levers, we are committed to reducing our carbon footprint and contributing to a sustainable future. Our ongoing efforts with Sky Cool, HyET-solar thin films, Solar panels, VFD, geothermal energy and other ongoing exploration of technologies are testament to our climate change mitigation strategy.

Our Decarbonisation Philosophy

Our philosophy integrates pioneering technology and effective energy strategies to steer us toward sustainable and carbon-neutral future. Here, we outline the core principles that guide our decarbonization efforts.

- **Energy Efficiency & Optimisation:** Enhancing the operational efficiency of cooling plants and distribution networks through operational excellence, advanced operations and control systems.
- **Technology Upgrades:** Upgrading existing systems with the latest cooling technologies to boost efficiency and reduce environmental impact.
- **Renewable Energy Integration:** Integrating renewable energy sources, such as geothermal and solar, to power our operations, significantly reducing dependency on non-renewable energy sources.
- **Supply Chain Management & Decarbonisation:** Collaborating with suppliers to ensure that goods and services are sourced with sustainability in mind, promoting the use of low-carbon materials and partnering with suppliers committed to reducing their environmental impact.
- **Innovation & Strategic Partnerships “as a cross-cutting enabler”:** Utilising innovation through strategic partnerships as a key driver to accelerate decarbonisation, focusing on piloting and scaling up breakthrough technologies and practices that transform cooling system efficiencies.
- **Compensating for Residual Emissions through Offsetting:** Investing in verified carbon offset projects to neutralise our residual unavoidable emissions and move towards net-zero.

Energy Efficiency & Optimisation:

District cooling of modern, high density and large infrastructure facilities is inherently more efficient than other conventional forms of cooling. District cooling utilises approximately 50% of the energy required for other forms of cooling and therefore significantly reduces CO2 emissions. Over the years, Tabreed has intensified its efforts to reduce energy consumption further through improved operational efficiencies. The company constantly monitors the operational efficiencies of its plants. Given the volumes involved in Tabreed’s operations, even small improvements can have a significant environmental benefit. We have reduced our Emissions Intensity by 32% between 2021-2023.

Thermal Energy Storage (TES) systems enhance Tabreed’s ability to manage peaks in district cooling demand and bridge the gap between energy supply and demand. TES systems store chilled water in large tanks, available to use when cooling demand increases. The peak load demand for energy to generate the cooling can be shifted to off-peak by utilizing stored energy from TES units. In this manner, no additional production must be started during times of peak cooling demand, which decreases total energy that would otherwise be consumed at the plants and also reduces costs. Tabreed uses thermal energy storage technology in many of its plants to help achieve larger savings in electricity consumption. We partnered with HTMS to pilot a Nano-Particle fluid called Maxwell at Tabreed AD-017 DCP in Khalifa City, Abu Dhabi. Maxwell is an engineered suspension of sub-micron-sized aluminium oxide particles in a base fluid, which enhances the system’s ability to transfer heat, resulting in a significant energy consumption reduction of approximately 15%.

Technology Upgrades

In our pursuit of decarbonisation, we recognise the transformative impact of technological advancements. By systematically upgrading our cooling systems with the latest innovations, we not only enhance operational efficiency but also significantly reduce our environmental footprint. These upgrades are a testament to our

commitment to leading the industry in sustainable practices and energy conservation. A prime example is the integration of **Variable Frequency Drives (VFDs)**, which optimise the energy consumption of our equipment, demonstrating our proactive approach to energy optimisation. Variable Frequency Drives (VFDs): Our ambitious “Tasheel” programme successfully completed its third phase, focusing on retrofitting facilities with VFDs. VFDs are smart technology that optimises energy use by adjusting power based on cooling demand. By implementing VFDs, we expect to save over 223 million kWh in the next decade, preventing the release of 105,000 metric tons of CO₂ emissions. This initiative exemplifies our commitment to operational excellence and a sustainable future.

Renewable Energy Integration

Renewable energy is one of the cornerstones of our mission. We are actively piloting key projects to explore various renewable energy sources to identify the most suitable options for optimising our operational efficiency and reducing emissions in our processes. This aligns perfectly with our pathway to net zero and reinforces our vision to be a leader in sustainable cooling provider. At the forefront of the global and national shift towards renewable energy, we are leading the way in climate action by exploring and deploying the innovative solutions.

- **Geothermal Energy** In our partnership with Abu Dhabi National Oil Company (ADNOC) to decarbonise the cooling of buildings, we successfully completed the pilot testing of geothermal energy for district cooling in Masdar City, Abu Dhabi in 2023. This has been a breakthrough for the Gulf region and has paved the way for G2COOL. Officially launched in December 2023, G2COOL is significantly reducing the carbon footprint of building cooling in Masdar City and is contributing to the UAE’s National Energy Strategy 2050 by diversifying the energy mix. The plant harnesses naturally occurring hot water from the geothermal wells through absorption cooling technology to produce chilled water for Tabreed’s district cooling network.

Supply Chain Management & Decarbonisation

Our focus on supply chain sustainability is increasing, and we are working towards concrete measures to make a positive impact. This commitment complements our dedication to procuring materials and services that ensure the continued well-being of our district cooling plants and reliable cooling delivery for our customers.

To create a strong foundation for ethical sourcing, we encourage all our suppliers to foster a work environment that respects human rights, embraces diversity and equal opportunity, and promotes an inclusive and ethical culture. In 2023, we introduced sourcing thresholds to ensure efficient management of our sourcing process. Supplier tiering is a strategic tool for us as it empowers us to manage our supply chain more effectively, mitigate risks, and optimise resource allocation for a resilient and efficient procurement processes.

Our commitment to sustainability extends beyond the district cooling we provide, as we recognise that a significant portion of our impact lies within our supply chain. By embracing supply chain decarbonisation as a critical pillar in our decarbonisation philosophy, we aim to deliver more responsible and resilient energy ecosystem. This critical area allows us to expand our positive impact throughout the value chain, building upon the criteria we have established for supplier screening and onboarding. By prioritising local procurement, we significantly cut down on transportation distances for materials, thereby reducing greenhouse gas emissions associated with long-haul freight. This approach not only decreases our dependency on fossil fuels but also diminishes the need for extensive packaging and storage, further contributing to lower overall carbon emissions.

Water Management

Water efficiency is a top priority for Tabreed. We collaborate with professional water treatment partners, like Cooltech, our water treatment subsidiary, to optimise their operations and minimise water consumption per unit of cooling produced. This metric is a key performance indicator (KPI) that we closely monitor and actively manage.

Looking beyond traditional sources, Tabreed and Cooltech work with government authorities like the Department of Energy (DOE), TAQA Distribution Company (Formerly ADDC and AADC), and Sustainable Water Solutions (SWS) to explore and implement alternative water sources such as Treated Sewage Effluent (TSE). Furthermore, we collaborate with the DOE to utilise cooling tower blowdown water for landscape irrigation. Environmental

responsibility is paramount, and Tabreed and Cooltech work with the Dubai Municipality Environment Department and DOE to ensure discharged water from cooling towers and TSE polishing plants meets all regulatory limits. Cooltech takes sustainability a step further by developing innovative solutions for even higher water efficiency. These solutions include specialised chemicals that function at higher cycles of concentration (COCs) and combine cleaning and passivation processes to minimise water usage. Additionally, Tabreed invests in bag filtration systems for makeup water, eliminating backwash wastewater by removing suspended solids. Our commitment towards responsible water management is stemmed on utilising a diverse range of sources for our district cooling plants.

To achieve sustainable water and wastewater management, we have aimed at investments towards upgrading and maintenance of infrastructure and water systems. This includes implementing technologies that will increase water efficiency by at least 20%, such as treated sewage effluent (TSE).

Waste Management

Our long-standing partnership with Tadweer (Center for Waste Management) has been instrumental in our ability to play a contributing role in diverting 80% of Abu Dhabi's waste away from landfills by 2030. The Waste Reduction Action Plan (WRAP), outlined in our Integrated Management Policy (IMS), enables us to track and manage waste generated across various locations: our head office, TOMCO's Bolisaty for waste manifests from project sites, and Al Eskan Al Jamae LLC for waste from our labor accommodations. Waste reduction report for Tabreed and TOMCO is submitted to Tadweer. The Waste Reduction Report details our solid waste generation, outlining the types and quantities of waste we dispose of. The report also analyses demographic, socioeconomic, and technological factors that influence how much waste we produce. The regular reporting enables us to plan for responsible waste management and to be compliant with the annual target of waste reduction rate as per the guidelines of Tadweer.

Further information on our Environmental Stewardship can be found in our latest [ESG report](#).

1.3 Sustainability Governance

To align corporate strategies with environmental, social, and governance (ESG) principles, the Board has directed the Executive Management Team to develop an overarching ESG-related objective, complete with defined milestones for integration into the company's scorecard.

All ESG and sustainability related matters, including climate risks, fall under the scope of Tabreed's Executive Management Team. The team is comprised of the Chief Executive Officer (CEO), Chief Financial Officer (CFO), Chief Operating Officer (COO), Chief Development Officer (CDO), Chief Asset Management Officer (CAMO) and Chief Legal Counsel (CLC). Notably, these executives also serve as members of the ESG committee along with three other members, further solidifying their commitment to overseeing and steering our ESG initiatives.

The ESG Committee, chaired by the CEO serves as a central hub for comprehensive ESG governance. Moreover, within the ESG Committee, specialized subcommittees are established. The subcommittees play a vital role in proposing strategic goals and action plans specific to each ESG dimension, contributing valuable insights and expertise to the broader ESG Committee's decision-making process. Currently, all ESG-related matters are covered in Board meetings but not as a fixed-standing agenda item, demonstrating our commitment to environmental, social, and governance (ESG) practices, we consistently report on our ESG performance within our integrated annual report, as mandated by the Dubai Financial Market (DFM).

2. Tabreed Green Financing Framework

In March 2022, in order to meet the commitments described above, and finance projects that will deliver benefits to support Tabreed's vision of being a leading cooling provider by utilizing sustainable, reliable and cost-efficient energy solutions, Tabreed created its inaugural Green Financing Framework 2022, under which it secured an AED 600 million inaugural Green Revolving Credit Facility to advance sustainable cooling solutions.

In February 2025, Tabreed decided to update the Green Finance Framework to align with evolving best practice and reinforce its commitment to decarbonisation and sustainability. This updated Framework is in accordance with the ICMA Green Bond Principles (GBP) 2021, including the updated Appendix I of June 2022⁴ and the APLMA/LMA/LSTA Green Loan Principles (GLP) 2023⁵.

In alignment with these Principles, for each Green Financing Instrument issued, Tabreed will adopt the GBP's/GLP's four core components as well as its recommendation for external review, as set out in this Framework:

- 1) Use of Proceeds
- 2) Process for Project Evaluation and Selection
- 3) Management of Proceeds
- 4) Reporting

Bond(s), loan(s) and sukuk(s) issued under this Framework may take the form of public transactions or private placements, in bearer or registered format, and may take the form of senior unsecured or subordinated issuances. Such bonds, loans and sukuks entered into under this Framework will be standard recourse-to-the-issuer obligations and investors will not bear the credit risk of the underlying allocated eligible asset exposures.






⁴ ICMA's Green Bond Principles, June 2021 - <https://www.icmagroup.org/assets/documents/Sustainable-finance/2022-updates/Green-Bond-Principles-June-2022-060623.pdf>

⁵ APLMA/LMA/LSTA's Green Loan Principles, February 2023 - <https://www.lsta.org/content/green-loan-principles>

2.1 Use of Proceeds

An amount equal to the proceeds from Green Finance Instruments issued by Tabreed will be used to finance and/or refinance, a portfolio of Eligible Green Projects as defined by the eligibility criteria (hereinafter “**Eligibility Criteria**”) in this Framework. Eligible Green Projects may include assets (hereinafter “**Assets**”), capital expenditures (hereinafter “**CapEx**”), operational expenditures (hereinafter “**OpEx**”) and research and development related expenditures (hereinafter “**R&D**”) associated with the Eligibility Criteria outlined below. Assets and CapEx shall qualify for financing & refinancing with no look-back period, while, OpEx and R&D will qualify with a maximum three-year look-back period.

Under this Framework, equity investments, such as acquisitions of majority or minority stakes, qualify only when they relate to “pure-play companies” with over 90% of revenues coming from green activities as outlined in the Eligibility Criteria below.

Alignment with the GBP	Alignment with the UN SDGs ⁶	Eligibility Criteria
Energy Efficiency		<p>Investments in acquisition, construction, development, upgrading and maintenance of District Cooling (DC) projects powered by the grid including:</p> <ul style="list-style-type: none"> • New DC plants, for both existing and new buildings • Existing DC assets <p>Investing in solutions leading to an increase in operational energy efficiency by at least 20% in relation to DC projects meeting the above criteria</p>
Sustainable Water and Wastewater Management	 	<p>Investments in construction, development, upgrading and maintenance of infrastructure and water systems for DC with at least 20% increase in water efficiency</p> <p>Investments in construction, development, upgrading and maintenance infrastructure and systems that reduce freshwater consumption, such as using TSE (treated sewage effluent) or seawater</p>
Green Buildings		<p>Investments in the acquisition, development, construction and renovation of buildings that have a minimum green building certification of:</p> <ul style="list-style-type: none"> • LEED Gold • Estidama 3 Pearls (with a minimum 20% improvement in energy performance over ASHRAE 90.1 2007)
Renewable Energy		<p>Research & Development, investments and expenditure in construction, operation and transmission from renewable energy sources, including:</p> <ul style="list-style-type: none"> • Solar PV • Geothermal facilities with direct emissions intensity of $\leq 100\text{gCO}_2/\text{kWh}$

⁶ UN Sustainable Development Goals: <https://sustainabledevelopment.un.org/?menu=1300>

2.2 Project Evaluation and Selection Process

The Project Evaluation and Selection Process will ensure that the proceeds of any Green Financing Instrument are allocated to finance or refinance Eligible Green Projects that meet the criteria set out above in section 2.1 Use of Proceeds.

Tabreed will establish a Green Finance Working Group (the “**GFWG**”), which will be made up of representatives from the below departments:

- Finance
- Operations Strategy & ESG

The GFWG will be chaired by the CFO and will meet on an annual basis or as required earlier.

The objectives of the GFWG are:

- To review all projects presented to Tabreed’s Investment Committee to assess eligibility for Green financing in accordance with the pre-determined Eligibility Criteria set out in Section 2.1 Use of Proceeds of this Framework, and ensure that any Eligible Green Project (or portion thereof) is not being financed by more than one Green Financing Instrument at any one time
- To ensure all Eligible Green Projects have been assessed from an Environmental and Social Risk standpoint,
- To oversee the arrangements established to ensure the Green Financing Instruments remain in alignment with latest GBP/GLP
- To oversee the arrangements established to ensure Green Financing Instruments proceeds are utilised in accordance with the uses specified in the Framework; and the reinvestment of equivalent amounts relating to projects that no longer satisfy the Eligibility Criteria and,
- To oversee the introduction and operation of arrangements to generate the information required to produce periodic Reports, in accordance with the Framework and the Green Financing Instruments issued, and the post-issuance reporting (both allocation and impact reporting) on a timely basis.

Environmental Management Approach

Tabreed prioritises environmental responsibility through a robust Integrated Management System (IMS) that incorporates internationally recognised standards like ISO 14001 (environmental management), ISO 45001 (health & safety), and ISO 50001 (energy management). Tabreed adheres to all applicable UAE environmental regulations, securing the necessary permits. The stringent controls govern water discharge, waste management, and air emissions, with regular reports submitted to the relevant authorities. Tabreed closely monitor air quality at the plants to ensure compliance with environmental regulations and minimise impact. The commitment extends to managing hazardous materials by ensuring chemicals, plastic containers, and operational processes are free of carcinogens such as PFAS/PFOA. At Tabreed, environmental considerations are integrated into project planning from the outset, ensuring alignment with occupational health, safety, and environmental (HSE) standards. Furthermore, Tabreed integrates efficient and green operations into the business planning and strategic goals.

Additionally in 2023, Tabreed started reporting on biodiversity impact as one of the updates in DFM’s ESG Reporting Guidance. As Tabreed currently operates 19 cooling plants in and near desert regions, staff training has been delivered in collaboration with Arabia’s Wildlife Centre on handling wildlife such as scorpions and snakes. This collaboration enhances both employee safety and responsible wildlife management.

2.3 Management of Proceeds

An amount equal to the proceeds of Green Finance Instruments will be tracked and monitored through an internal tracking system. Tabreed's Finance / Treasury team will manage the allocation of an amount equivalent to the net proceeds of its Green Finance Instruments to Eligible Green Projects.

To ensure that each equivalent amount is allocated to Eligible Green Projects, the details of these projects will be entered into a green finance register (the "**Register**"). The Register will contain details of each Green Finance Instrument issued, including pricing date, maturity date, principal amount, profit rate, ISIN number and equivalent amount applied. Details of each Eligible Green Project will also be listed in the Register, including the type of project (Assets, CapEx, OpEx or R&D), project description, project location, total project cost, amount allocated and settled currency.

Tabreed expects to allocate proceeds to Eligible Green Projects, selected in accordance with the Eligibility Criteria and the Process for Project Evaluation and Selection presented above, within 3 years of issuance of the Green Financing Instrument. Tabreed will strive to ensure that the amount of Eligible Green Projects is at least equal to the proceeds of outstanding Green Financing Instruments.

Pending full allocation, unallocated proceeds from Green Financing Instruments will be managed in accordance with Tabreed's treasury management policy and may be used for other cash management purposes or any other treasury business. If an Eligible Green Project no longer meets the Eligibility Criteria, the proceeds will be reallocated to other Eligible Green Projects as soon as reasonably practicable.

2.4 Reporting

On an annual basis, Tabreed will publish on its website an allocation report and an impact report on its Eligible Green Projects Portfolio, as detailed below. This reporting will be updated annually until full allocation of the net proceeds of any Green Financing Instruments issued and in the event of any material changes.

2.4.1 Allocation Reporting

Tabreed will provide information on the Eligible Green Projects Portfolio on the Tabreed's website. The information will contain at least the following details:

- 1) The total amount of proceeds allocated to the Eligible Green Projects
- 2) Breakdown of allocation by project category
- 3) Breakdown of allocation by project location / geography
- 4) Refinancing versus new financing
- 5) The balance of unallocated proceeds

2.4.2 Impact Reporting

Tabreed intends to align its impact reporting with the approach described in the [ICMA Handbook – Harmonised Framework for Impact Reporting \(June 2024\)](#)⁷ and will provide reporting on relevant environmental impact metrics, which may include:

⁷ [ICMA Handbook – Harmonised Framework for Impact Reporting \(June 2024\)](#)

Eligible Green Project Category	Impact Reporting Indicators
Energy Efficiency	<ul style="list-style-type: none"> • Amount of energy saved (% and MWh) • Estimated amount of CO₂ emissions avoided / reduced (tCO₂e)
Sustainable Water and Wastewater Management	<ul style="list-style-type: none"> • Amount of water / sewage water recycled (litres) • Savings / reduction in water use (%)
Green Buildings	<ul style="list-style-type: none"> • Level of green building certification • Estimated amount of CO₂ emissions avoided / reduced (tCO₂e)
Renewable Energy	<ul style="list-style-type: none"> • Amount of renewable energy capacity purchased or generated (MW) • Estimated amount of CO₂ emissions avoided / reduced (tCO₂e)

3. External Review

3.1 Second-Party Opinion (SPO)

Tabreed has appointed Sustainalytics to provide an external review of the Tabreed Green Financing Framework and confirm its alignment with the ICMA GBP 2021 and the APLMA/LMA/LSTA GLP 2023. This Second Party Opinion document will be made available on Tabreed’s website.

3.2 Post issuance external verification

Tabreed’s annual reporting will also be subject to external verification by an independent third party, which will verify:

- the compliance of Eligible Green Projects financed by the Green Financing Instruments proceeds with eligibility criteria defined in the use of proceeds section in this Framework.
- allocated amount related to the Eligible Green Projects financed by the Green Financing Instruments; and,
- the management of proceeds and unallocated proceeds amount.

The external verification report will be published on Tabreed’s website.

4. Amendments to this Framework

Tabreed will aim to adhere to best practices in the market and will review the Framework’s alignment to updated versions of the Principles as and when they are released. As such, this Framework may be updated and amended from time to time. Any such updated and amended Framework will either keep or improve the current levels of transparency and reporting disclosures, including the corresponding review by an External Reviewer, be published on Tabreed’s website and replace this Framework. Any green bonds/sukuk/loans subsequently issued will be subject to the updated and amended Framework.

Disclaimer

This material contains general background information about Tabreed's Green Finance Framework ("**Framework**") and is non-exhaustive. It is information given in summary form and does not purport to be complete. It is not to be relied upon as advice or recommendation to investors or potential investors and does not take into account the investment objectives, financial situation or needs of any particular investor. This material should be considered with professional advice when deciding if an investment is appropriate. National Central Cooling Company (Tabreed) accepts no liability whatsoever with respect to the use of the material or contents herein. Tabreed reserves all rights including the right to amend the Framework at any time without notice. All information contained herein shall not be copied or disseminated for whatever purpose.