370
sites powered by renewable energy across TAWAL's operations

14.6%
reduction on scope 3 GHG emissions

88%
of end-of-life assets waste reused or recycled

04. Environmental performance and climate

Principles 7, 8, 9

Thriving Economy

Ambitious Nation

stc Group is fully aligned with Saudi Vision 2030 and the Saudi Green Initiative, reflecting its commitment to building a more sustainable and resilient future for the Kingdom. With a target of achieving net zero emissions by 2050, stc is driving environmental innovation by adopting renewable energy, optimizing operations and implementing energy-efficient technologies.

Powering a greener future

Climate and emissions

Global concerns about a warming climate have put the spotlight on private companies to play their part in reducing emissions. At stc, we are dedicated to addressing the challenges posed by extreme weather events linked to high levels of GHG emissions.
We have established ambitious goals, including a comprehensive target for the entire organization to reach net zero emissions by 2050, a commitment that was validated by the Science-Based Targets initiative (SBTi) in 2023, with backing from UNGC and GSMA climate policies.

To track our carbon reduction efforts, we adhere to the guidelines established by the Task Force for Climate-related Financial Disclosures (TCFD), which have been integrated into the ISSB Standards and SBTi. Our climate action roadmap outlines our guide to meet near-term targets, including a 50% reduction in absolute Scope 1 and 2 emissions and a 46.2% reduction in Scope 3 emissions by 2030 versus our 2019 baseline.

Our path to net-zero achievements and targets

2019
- Joined the global movement of leading companies aligning their business with the Paris Agreement to reach net zero emissions by no later than 2050, in line with the United Nations' Framework Convention on Climate Change (UNFCCC) 1.5° C scenario
- Committed to adopting science-based targets (SBTi)

2020
- Identified carbon footprint and impact baselines
- Explored renewable energy options

2021
- Signed first renewable energy pilot project contract for 17 sites across KSA
- Developed Scope 1 and Scope 2 emissions boundaries and baselines
- Developed a robust, detailed GHG inventory

2022
- Achieved verified submission to the SBTi
- Improved Company-wide emission data management procedure
- Committed to planting 1 million trees

2023
- Validated and approved stc's net zero and interim science-based 2030 targets by SBTi
- Participated in largest-ever voluntary carbon credit auction
- Participated in Saudi Green Initiative (SGI) Forum during COP28

2024
- 5.6% and 3.6% reduction on Scope 1 emissions across stc KSA and Group, respectively
- 370 sites powered by renewable energy across TAWAL's operations
- 14.6% reduction on Scope 3 GHG emissions

2030
- Reduce Scope 1 and 2 emissions by 50% and Scope 3 emissions by 46.2% from 2019 baseline, in alignment with 1.5°C UNFCCC scenario

2050
Achieve net zero carbon emissions

Powering a greener future continued

Climate strategy

Our climate strategy sets a strong vision with clear, measurable objectives, ensuring all Group departments and subsidiaries integrate sustainability into their business practices. Leveraging our strong reputation, proprietary technologies and market leadership, we are committed to driving sustainable transformation across the ICT sector. Our approach goes beyond operational efficiencies as we aim to influence, support and collaborate with customers, communities and partners across our value chain to maximize our collective climate impact.

In terms of our strategy around climate risk, we consider the 2 main types of climate risk as per IFRS S2 and TCFD, focusing on transition and physical risks. Transition risks arise from the shift to a lower-carbon economy, including regulatory changes, market shifts and evolving consumer preferences that can affect financial performance. Physical risks include acute risks from extreme weather events and chronic risks from long-term climate changes, both of which can disrupt operations and supply chains.

To validate GHG targets through the SBTi framework, stc has launched a robust climate strategy aimed at tracking performance, seizing competitive advantages and improving climate action in the GCC and MENA regions. Our carbon footprint is calculated in accordance with the international GHG Protocol Corporate Accounting and Reporting Standard.

To compensate for unavoidable emissions, we have invested in verified carbon credits from the Regional Voluntary Carbon Market Company (RVCMC). This initiative not only addresses our hard-to-abate emissions, but also contributes to sustainability efforts, including community capacity building, biodiversity development and improvements in land use.

Our strategy involves integrating climate considerations into our operational framework and effectively mitigating the physical and transition risks.

Our priority pillars for climate action are backed by science-based targets. Our approach emphasizes strong leadership and governance to guarantee we meet our goals.

Pillars	Objectives	Programs	2024 initiatives	Key metrics/indicators
Optimizing stc's performance	Promote continuity and quality of information, maintain carbon reduction commitments and provide metrics and targets for improvement and analysis	• GHG emissions governance • Manage Scope 1 emissions • Manage Scope 2 emissions	• Improved energy efficiency of data centers • Improved energy efficiency at tower sites • Recycling program for network devices • Takeback program	• **5.6%** and **3.6%** reduction in scope 1 emissions across stc KSA and stc Group respectively • **1,646 tons** of devices recycled
Developing eco-friendly products and solutions	Reduce climate impact from materials, products and services used by stc and across the Group's value chain	• Carbon enablement • Sustainable customers • Engaged supply chain	• Sustainable products and services through stc Cloud, iot squared, solutions, and specialized by stc emergency response products such as Tari'. • The smart waste management solution, developed and managed by iot squared, is an advanced system designed to oversee the entire waste value chain, from production to final disposal	• Revenue from sustainable products • **14.6%** reduction in Scope 3 emissions • Supplier engagement score • Smart waste management boosted recycling rates by 25%
Managing climate-related risks and financial impacts	Manage climate-related risks so as to future-proof stc Group's operations and uphold alignment with stakeholder expectations	• Climate risk evaluation • Climate resilient assets and services	• Re-evaluation of the risk assessments guided by IFRS S2 recommendations • Integrating and reviewing sustainability policies across subsidiaries to confirm alignment with business operations	• Climate risk analysis conducted • Progress made towards aligning with IFRS S2 recommendations
Demonstrating climate leadership	Empower employees and suppliers to influence climate action at local and global levels	• Internal and external empowerment • Implement circular economy considerations across supply chain	• Recycling program • ESG training program • Internal capacity building • GCC Telco Alliance • GCC Innovation Hub	• Amount of materials recycled • Number of collaborations in GCC Alliance

Powering a greener future continued

Climate governance

At stc, we recognize effective climate governance is essential to driving meaningful action and long-term resilience. Our governance framework takes into consideration climate-related risks and opportunities in the decision-making at all levels, reinforcing accountability and strategic oversight.

Climate action is led by the Sustainability General Manager and endorsed by the Group Chief Strategy Officer (GCSO), climate considerations are increasingly being integrated into relevant operations and business units. The Sustainability Management Committee, chaired by the Group CEO (GCEO), is responsible for reviewing and approving climate action plans, aligning them with stc's broader corporate strategy.

Through this structured governance approach, stc is committed to mitigating climate risks, improving operational sustainability and making certain that its leadership in advancing climate action within the ICT sector.

In 2024, stc took the initial steps to establish a Climate Action Working Group, bringing together representatives from the Strategy Sector (Sustainability), center3, Shared Services and Technology. This cross-functional group is designed to develop coordination and integration of climate initiatives across key business units, helping stc achieve its climate targets. While the establishment of the working group will be completed in 2025, the formation marks a significant milestone in strengthening our climate governance framework.

To translate our climate commitments into tangible progress, we have established a robust set of policies and position statements that guide our efforts, making sure we stay on track to meet our climate targets. These policies include the following:

Environmental position statement

Sustainability policy

Responsible Supply Chain positioning statement

Supplier Code of Conduct

Climate risk framework

In 2024, we continued to improve our climate risk assessment in alignment with IFRS S2 recommendations, strengthening a more robust integration of climate-related risks into our business strategy. Our analysis continues to cover short, medium and long-term physical and transition risks, leveraging the latest climate data and industry developments to bolster the resilience of our framework.

Our approach to analyzing climate-related risks and opportunities builds on stc Group's risk management practices, incorporating a structured evaluation of potential risks, financial materiality and impact prioritization. We assess the various ways in which climate change could physically and financially impact our operations, using internal data, industry insight and scenario modeling to determine both the likelihood and severity of each risk.

Our assessment builds on the following 3 scenarios to encapsulate our climate risk assessment. These scenarios align with public domain scenarios from the IPCC, IEA and NGFS. These scenario analyses provide strategic foresight, enabling us to adapt and strengthen our resilience against evolving climate challenges.

- **Scenario 1 – Business as usual:** This scenario assumes GHG emissions will continue to rise at their current rate, driven by inadequate actions and insufficient mitigation efforts. As a result, the world would become significantly warmer and more vulnerable to climate-related physical risks and impacts.
- **Scenario 2 – Delayed transition (2.0°C scenario):** In this scenario, global annual emissions remain unchanged until 2030, after which robust policies are needed to limit warming to below 2°C.
- **Scenario 3 – Net zero carbon transition (1.5°C scenario):** This is the most ambitious scenario, aiming to limit global warming to 1.5°C through rigorous climate policies and innovation, achieving net zero emissions by 2050.

Powering a greener future continued

Climate risks

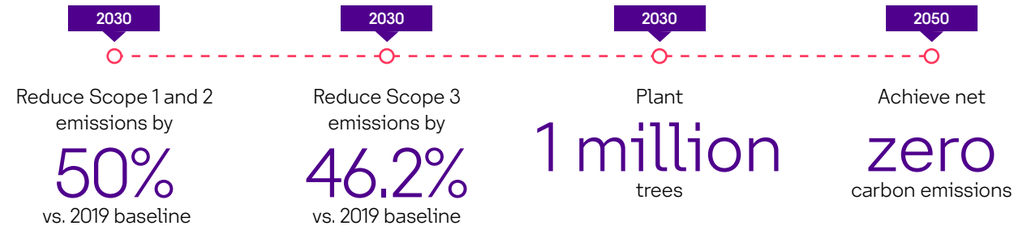
Category	Nature	Risk	Description	Assets	Financial impact	Time horizon
Physical	Acute	Extreme weather	Severe storms, hurricanes, or flooding impacts the infrastructure and disrupts services	Marine cables		<2 years (Short term)
Physical	Acute	Changes in temperature and precipitation patterns	Changes in temperature and precipitation patterns impact telecommunication towers	Towers		5-10 years (Medium/Long term)
Physical	Chronic	Water scarcity and quality	Inefficient cooling systems and data centers leading to increased energy consumption and reduced cooling efficiency	Data centers		>10 years (Long term)
Physical	Chronic	Rising sea levels and storm surges	Damage from rising sea levels on coastal areas infrastructure leading to service disruptions and costly repairs.	Towers		<2 years (Short term)
Transitional	Policy and regulation	Policy and regulatory changes related to climate change	Increase of electricity price owing to requirements for emission reductions, renewable energy adoption and energy efficiency standards.	Buildings		2-5 years (Medium term)
Transitional	Policy and regulation	Liability risks associated with the transition to a low-carbon economy	Requirements for minimum energy performance of buildings to ensure transition to net zero	Buildings		>10 years (Long term)
Transitional	Technology	Technological innovation and disruption	Market moves away from reliance on fossil fuels for logistics and emergence of less carbon-intensive practices	Logistics/ supply chain		<2 years (Short term)
Transitional	Market	Shifts in consumer preferences and behavior towards sustainable products and services	Consumers adopt more sustainable behavior and switch to lower carbon products and services	Channels		>10 years (Long term)
Transitional	Policy and regulation	GHG emission cost	Introduction of carbon pricing in Saudi on direct emissions to incentivize emission reductions	Finance		2-5 years (Medium term)
Transitional	Policy and regulation	GHG emission cost	Introduction of carbon tax in suppliers' country resulting on a higher cost of operations for supplier companies	Logistics/ supply chain		2-5 years (Medium term)
Transitional	Market	Supply chain disruption and increasing material costs	Extreme weather events disrupt supply chain and procurement of materials	Logistics/ supply chain		2-5 years (Medium term)
Transitional	Technology	Renewable energy adoption	Late adoption of renewable energy leads to higher energy cost for business activities	Buildings		>10 years (Long term)

Powering a greener future continued

Metrics and targets

stc has pledged to achieve net zero emissions by 2050, covering Scope 1, 2 and 3 emissions as part of its comprehensive climate strategy. Our near-term emission reduction targets have been validated by the Science-based Targets initiative (SBTi), reinforcing our commitment to science-aligned climate action.

Our climate-related targets



Our performance

stc is making steady progress toward achieving its targets, with measurable achievements in emission reduction and reforestation. In 2024, we recorded an **overall 3.6% decrease in our GHG emissions scope 1** This decrease was based on a 5.6% decrease in Scope 1 emissions for stc KSA, and a 3.6% reduction for stc Group, reflecting our ongoing efforts to improve energy efficiency and reduce direct emissions. Additionally, Scope 3 emissions saw a significant 14.6% decrease, demonstrating the impact of our sustainability initiatives across the value chain.

Scope 2 emissions have decreased by 2% across KSA with an overall increase across stc Group driven by business expansion and operational growth.

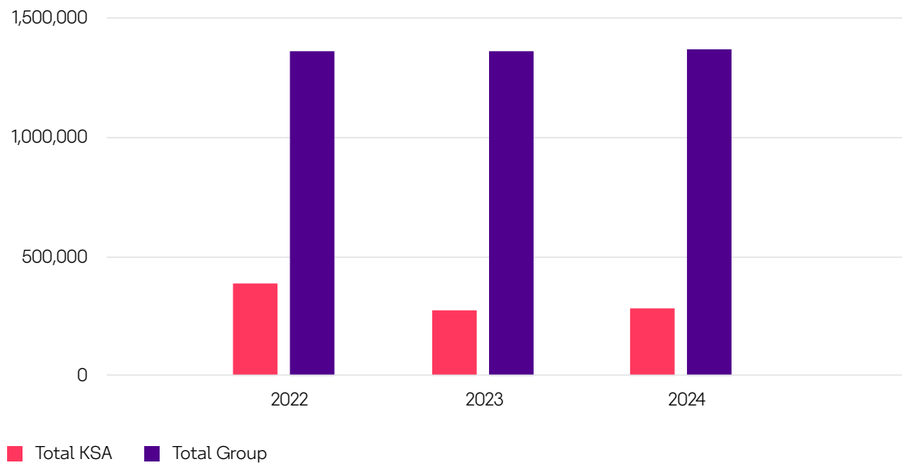
As stc continues to scale its services and infrastructure, electricity consumption has risen accordingly. Although this rise was anticipated, we remain focused on improving energy efficiency, integrating renewable energy solutions and optimizing operations to mitigate Scope 2 emissions in the long term.

Our ongoing efforts reflect our commitment to sustainability and the updates below highlight our progress to date.

Entity	Year	GHG emissions (tCO2e) Direct GHG emissions (Scope 1)	Indirect GHG emissions (Scope 2)	Total GHG emissions (Scope 1 and 2)
KSA*	2022	10,616	378,889	389,505
	2023	10,013	267,232	277,245
	2024	**9,456**	**262,128**	**271,584**
	%change	↓ **5.6%**	↓ **1.9%**	↓ **2.0%**
stc Group	2022	187,217	1,174,589	1,361,806
	2023	174,870	1,192,877	1,367,747
	2024	**168,560**	**1,288,041**	**1,456,601**
	%change	↓ **3.6%**	↑ **7.9%**	↑ **6.5%**

* KSA refers to stc KSA and its headquarters-based subsidiaries.

Scope 1 and 2 emissions (tCO2e)



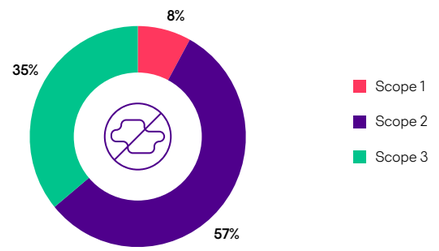
		Scope 3 Total (tCO2e) stc Group 2023	2024	% Change
Category				
1, 2	Purchased goods and services* Capital goods	445,614	**324,822**	↓ 27.1%
3	Fuel- and energy-related activities (not included in Scope 1 or Scope 2**	284,006	**310,644**	↑ 9.4%
4	Upstream transportation and distribution	83,026	**36,583**	↓ 55.9%
6	Business travel	4,111	**3,494**	↓ 15.0%
7	Employee commuting	27,264	**22,254**	↓ 18.4%
9	Downstream transportation and distribution	9,209	**9,654**	↑ 4.8%
11	Use of sold products	58,378	**71,016**	↑ 21.6%
	Total	911,608	**778,466**	↓ **14.6%**

*Excludes procurement activities conducted through stc Bahrain and Kuwait procurement departments

** Restatement: In line with our commitment to continuous improvement, we have restated 2023 category 3 values. Enhanced access to historical records has allowed us to integrate full data covering all assets in 2023 which led to increase in emissions.

GHG emissions (tCO2e)	stc Group 2023	2024
Scope 1	174,870	**168,560**
Scope 2	1,192,877	**1,288,041**
Scope 3	911,608	**778,466**
Total	2,279,355	**2,235,067**

stc Group 2024 emissions distribution



Powering a greener future continued

Case studies and notable projects

Advancing toward sustainable logistics (Phase 2)

Background

We are dedicated to making certain our logistics activities have a positive impact on the local community and the environment, thereby promoting sustainability. In Phase 2 of our transformative journey toward sustainable logistics, we have established a clear roadmap detailing our objectives and the initiatives we have taken to achieve them. Our strategy focuses on 3 primary goals: promoting responsible consumption and production through improved demand planning, optimizing operations to reduce Scope 1 and Scope 2 emissions as we drive greater efficiency, and contributing to a circular economy by maximizing material reuse and upholding responsible waste disposal practices.

Approach

To track our progress, we have implemented key performance indicators (KPI) across each initiative. In improving demand planning, we focus on reducing capital employed, maintaining forecast accuracy, and optimizing Circularity of customer premises equipment (CPE) inventory turnover. To lower Scope 1 emissions, we are actively reducing the number of diesel forklifts and minimizing shipments. Our efforts to decrease Scope 2 emissions include streamlining the use of electric forklifts, with efficiency gains further supported by the reduction of paper-based processes through digitization. Additionally, we are strengthening the visibility of disposed materials by maintaining sustainable material reuse practices and safeguarding the responsible disposal of non-recyclable waste.

Outcomes

Progress in increasing demand planning has led to a reduction in capital employed from 94 MSR to 90 MSR, and maintaining forecast accuracy at 92% and increasing CPEs inventory turnover from 9.0 to 9.1. Our focus on reducing Scope 1 emissions has resulted in a 10% decrease in diesel forklifts, from 30 to 27, and an 11% reduction in shipments, from 3,664 to 3,276. In addressing Scope 2 emissions, we successfully reduced the number of electric forklifts by 4%, from 23 to 22.

Efficiency improvements have been significant, with a reduction of paper-based processes by 83%, from 6 to 1, reflecting our commitment to digital transformation. Additionally, our increased visibility of disposed materials has resulted in a reuse and recycling rate of 88%, confirming 100% safe disposal of waste.

Next steps

Moving forward, we will continue to monitor and refine our logistics performance, exploring innovative approaches to increase sustainability across all operational areas. By leveraging data-driven insight and fostering continuous improvement, we aim to further optimize efficiency, reduce environmental impact and strengthen our commitment to responsible logistics practices.

83%
reduction of paper-based processes

Reforestation and climate change

Reforestation positively affects climate change and is crucial for preserving and restoring biodiversity. For this reason, stc Group has committed to planting one million trees by 2030, aiming to sequester over 25,000 tons of CO_2e each year. This initiative will help grow forest cover, extending the natural habitat for local wildlife and contributing to environmental conservation.

In the first year of this initiative, stc KSA commissioned 85,000 trees, representing 8.5% of our overall target, through the efforts of our district teams. Additionally, an RFP was published and circulated in the market for the remaining trees to be planted in 2025 and beyond. This initiative will include smart tree planting technology, allowing us to automatically track carbon emission reduction and reinforcing our commitment to nature-based solutions.

We are also committed to reducing the environmental impact of our operations, especially with regard to protected areas and endangered species. Prior to initiating any projects, we perform site assessments and surveys to pinpoint ecological concerns and establish best management practices in accordance with local laws and regulations.

In addition, stc Bahrain launched the Trees for Life campaign in 2021 in collaboration with the Supreme Council for Environment and the Ministry of Municipalities Affairs and Urban Planning, reinforcing its commitment to environmental sustainability. This initiative aligns with Bahrain's Vision 2035, which aims to double the number of trees in the Kingdom from 1.8 to 3.6 million. In 2024, stc Bahrain expanded its efforts by planting 27,172 trees across the Kingdom, bringing the total number of trees planted since the campaign's inception to over 55,000.

stc Bahrain is actively focused on supporting national afforestation efforts, helping to combat desertification, reduce emissions, mitigate rising temperatures and improve air quality. To further solidify its aspiration, stc Bahrain distributed over 1,000 trees to its staff to encourage tree planting and environmental awareness.

27,172
trees planted by stc Bahrain

Powering a greener future continued

Energy efficiency

As stc continues to expand its operations and upgrade its digital infrastructure, managing energy consumption efficiently remains a key priority. With increasing demand for connectivity, data services and network expansion, energy use has naturally grown to support business growth. However, through targeted efficiency measures, operational optimizations and a shift toward cleaner energy sources, we are working to balance this growth with responsible energy management.

In 2024, total overall electricity consumption increased across stc KSA (including headquarters-based subsidiaries) and stc Group, mainly as a result of new building developments and network expansion, including the addition of 574 new base stations. However, with the implementation of energy efficiency initiatives, we were able to reduce our electricity consumption by 8.44% across our technical facilities (exchanges). At the same time, fuel consumption for petrol and diesel decreased, reflecting efforts to improve fleet efficiency and reduce reliance on fossil fuels. Additionally, although total energy use rose, energy intensity (GJ per petabyte of data) declined, demonstrating improvements in network efficiency and data processing capabilities.

Through continuous investments in energy optimization, technology upgrades and sustainable initiatives, stc remains committed to reducing its environmental impact, maintaining the reliability and performance of its services.

Enhancing energy efficiency of our network

Improving the energy efficiency of our network is an essential focus within stc's sustainability strategy. As one of the world's leading telecommunications companies, we understand the importance of responsibly managing our energy consumption. We meticulously track energy usage in kilowatt-hours (kWh) at each site, whereby daily monitoring allows us to identify optimization opportunities. By integrating advanced energy-saving features, we ensure our 5G and 4G networks function effectively, maintaining a reliable user experience.

Our energy-saving practices are implemented dynamically at the cell level, i.e. the smallest unit of network coverage where users connect to the mobile network, during off-peak hours, typically from midnight to early morning. This enables us to intelligently power down carriers (a carrier is a bandwidth allocation), shut down radio frequency channels and engage sleep modes, thus reducing unnecessary energy use. Additionally, the incorporation of eco-modes and intelligent sleep functionalities contribute to overall energy efficiency across our network. These measures are vital in supporting our goals to lower emissions and improve operational efficiency, ultimately contributing to a more sustainable digital infrastructure.

To support our commitment to energy efficiency, we have implemented several key initiatives across our operations. Our data centers operate under stringent sustainability standards, achieving exemplary power usage effectiveness (PUE) metrics through the integration of advanced cooling and monitoring systems. Additionally, we are upgrading our mobile networks with energy-saving software features that have led to measurable reductions in energy consumption. At our towers, we leverage renewable energy sources and innovative technologies to further optimize energy use. These initiatives collectively demonstrate our proactive approach to creating a more sustainable network infrastructure.

Energy optimization for data centers

Our data centers prioritize sustainability in policy, design and technology. Facilities built after 2018 must achieve an average annual PUE of no more than 1.6 at full IT load. Despite higher PUEs during low IT load and initial operations, we met the target in 2024 with PUEs between 1.4 and 1.6 during testing, aligning with the NEIDC benchmark.

Our approach includes smart system monitoring, optimized cooling, effective PUE management and TCOS certification to reduce environmental impact and maintain efficiency. Key measures include:

- **Mechanical equipment optimization:** Utilizing primary chilled water networks with variable frequency drives (VFD) to cut power use.
- **Energy efficiency mandates:** Enforcing strict energy criteria for ongoing monitoring and optimal equipment operation.
- **Efficient design:** Targeting a PUE of 1.5 through efficient electrical and mechanical solutions.
- **Power and cooling efficiency:** Improving cooling systems by segregating hot and cold aisles.
- **Local sourcing:** Using locally produced materials to lower transportation needs and carbon emissions.

New era infrastructure cloud-native data center program

We build new data centers across all countries where we operate, focusing on improving energy efficiency and sustainability throughout their lifecycle.

Our new data centers incorporate sustainability features at every stage, from design and procurement to construction. Key technologies implemented include:

- Improved PUE
- Energy conservation and increased server efficiency
- Optimized chiller plant performance and thermal management
- Effective airflow and humidity control
- Enhanced power supply systems and lighting, along with highly efficient cooling systems that minimize water usage

PUE of new data centers is not absolute but presented here as a function of occupancy. Newer data centers utilization rate is currently lower than the older ones, resulting in higher PUE for the new ones. As utilization increases, PUE is expected to improve and align with design targets.

Our new data centers have achieved **TIER-III uptime certification** – by which these are built and assured for 99.982% uptime, which is only 1.6 hours downtime per year. They have also achieved **TCOS (Technical Committee Operational Standards) Gold certification**, which means they meet rigorous operational standards beyond the basic requirements. This includes optimizing energy efficiency, cooling, uptime and resource management.

Construction is ongoing for a state-of-the-art data center in Bahrain that will operate fully on solar power.

	KSA			Bahrain			Kuwait		
Data centers	**2022**	**2023**	**2024**	**2022**	**2023**	**2024**	**2022**	**2023**	**2024**
Number of exchanges	223	223	**225**	2	2	**2**	24	24	**13**
Number of data centers owned by stc*	9	17	**17**	2	2	**2**	2	2	**2**
Power usage effectiveness (average PUE) of old data centers	2.24	2.27	**1.95**	2.10	1.80	**1.79**	1.63	1.90	**1.41**
Power usage effectiveness (average PUE) of new data centers**	1.91	2.12	**2.10**	-	-	**-**	-	-	**-**

*Data centers for stc Kuwait are rented, not owned.

** No new data centers for stc Bahrain and stc Kuwait.

Powering a greener future continued

Energy efficiency at tower sites

stc towers in Saudi Arabia are managed by our subsidiary TAWAL, the region's largest telecom tower company. With a portfolio of 16.2K towers — representing over 40% of the Kingdom's total — TAWAL plays a critical role in providing integrated ICT infrastructure across the country.

TAWAL promotes operational excellence and profitability by facilitating tower sharing, which decreases capital expenses for network rollouts and lowers operating costs for managing multiple sites. This approach is particularly beneficial in congested urban areas, improving infrastructure use, reducing network redundancies and minimizing visual pollution from dense equipment installations.

A key pillar of TAWAL's strategy is energy efficiency, targeting reduced energy consumption across its active towers. Nearly 99% of TAWAL's energy consumption occurs at tower sites, especially base stations. We optimize on-site energy use by utilizing air-cooling systems, implementing larger battery backups for hybrid energy solutions and using automatic lighting at headquarters.

TAWAL has ISO 14001:2015 certification for Environmental Management Systems and tower sites have various sustainable solutions: 5G sleep mode, power consumption optimization, scalable smart pole solutions for IoT adoption, an IoT-based early warning system for tower safety, and "drone as a service" for site inspections to improve design assessments and preventive maintenance through drone-enabled inspections and audits.

In 2024, **370 TAWAL tower sites in KSA** and abroad operated primarily on renewable energy marking **a significant increase from 164 towers in 2023,** contributing an additional **4,630 MWh of renewable energy.** In addition, 959 sites use a hybrid energy source, and over 19,000 towers are connected to the power grid. In Bahrain, we commenced our path toward more sustainable operation through the implementation of the first site operated fully though renewable energy.

	KSA			Bahrain			Kuwait*			Other international locations		
Base stations	**2022**	**2023**	**2024**	**2022**	**2023**	**2024**	**2022**	**2023**	**2024**	**2022**	**2023**	**2024**
Number of base stations	16,106	16,131	**16,228**	1,105	1,007	**996**	2,332	2,492	**2,883**	-	5,070	**5,370**
Number of base stations powered by renewable energy	69	115	**82**	0	0	**1**	0	0	**0**	-	49	**288**
Number of base stations powered by diesel	1,045	785	**1,016**	75	60	**35**	502	506	**434**	-	26	**-**
Number of base stations powered by other types of energy	1,051	1,211	**959**	1,030	947	**960**	0	0	**0**	-	-	**-**

* The number of base stations in Kuwait for 2022 and 2023 has been restated and differs from figures disclosed in last year's report.

TAWAL sites powered by RE
370

Annual PV system production (MWh)
5,474 MWh

Annual CO_2 emission reduction
3,096 tons

Annual cost saving
574,618

Automation for TAWAL's site activity overhaul plans

The automation for site activity overhaul plans project for TAWAL's IT operations focuses on improving maintenance efficiency and extending the lifespan of generators. By implementing an automated maintenance scheduling system, TAWAL can guarantee timely upkeep, reducing downtime and the risk of generator failure. This approach improves operational efficiency and provides a clear maintenance schedule that facilitates generator replacements and service interventions.

The initiative emphasizes detailed record-keeping, supporting future scheduling and makes certain of continuous equipment maintenance. As a result, TAWAL aims to meet its operational objectives while also potentially reducing carbon emissions related to generator maintenance and operations. This project represents a strategy that prioritizes both efficiency and environmental consideration in TAWAL's IT operations.

Case study

Reducing energy consumption in 5G and 4G mobile networks through software features

Background

The initiative to reduce energy consumption in 5G and 4G mobile networks was driven by several factors: rising operational costs associated with energy use, increasing demand for sustainable and energy-efficient solutions in mobile networks, and the need to contribute to corporate sustainability goals.

Challenges

The project faced challenges in balancing network performance and user experience with the goal of energy savings. Additionally, integrating new software features into existing infrastructure posed the risk of potential service disruption.

Approach

To address these challenges, the team identified and prioritized software features that could effectively reduce energy usage. A pilot phase was implemented, allowing selected features to be trialed in a designated area. Ultimately, around 10 energy-saving software features were deployed across the network. Continuous monitoring and measurement of the impact on energy consumption was conducted, with collaboration from network vendors and stakeholders to ensure seamless integration and operation.

Benefits

As a result of this initiative, a **5% reduction in energy consumption** across the network was achieved. This not only increased operational efficiency, but also led to lower energy costs and improved sustainability metrics for the organization.

Next steps

Moving forward, the organization plans to explore additional software features aimed at further reducing energy consumption. A comprehensive review of the project's long-term sustainability impacts will also be conducted to assess future potential developments.

Comment

The implementation of these energy-efficient software features has assisted in reducing energy consumption and maintaining network performance. This project serves as a reference for future initiatives in our network and demonstrates that sustainability and performance can go hand in hand.

5%
reduction in energy consumption

Powering a greener future continued

Optimizing energy efficiency at our HQ

Our approach to energy efficiency is guided by a strong focus on smart technologies and sustainable operational practices. This is mainly built on the Smart Campus centralized building management system (BMS), which plays a key role in optimizing energy consumption across our facilities. This system enables us to monitor, control and efficiently manage energy use, making sure every building operates at its highest performance level.

Since 2017, and continuing through 2024, we have implemented a wide range of initiatives to reduce energy consumption across both administrative and technical facilities at our HQ, this includes:

- Optimizing HVAC systems by setting air conditioning temperatures between 23–24°C for chilled water systems.
- Turning off split and package AC units during non-working hours.
- Reducing central water heating system temperature to 50°C during winter months, to improve heating efficiency.
- Ensuring regular operation and maintenance routines such as cleaning air filters, washing cooling coils and insulating water-cooled ducts to guarantee systems run smoothly and efficiently.
- Enhancing lighting efficiency by installing motion sensors and timers to control lighting usage, replacing traditional bulbs with energy-efficient LED lighting, and maximizing the use of natural light where possible.
- Upgrading older facilities with double-glazed windows and automatic double doors, improving thermal insulation to increase building performance.
- Replacing outdated chillers and pumps with energy-efficient models, contributing to significant reductions in power consumption.

The continued expansion of the BMS across more buildings has improved our ability to effectively monitor and control energy usage, leading to more informed decisions and proactive energy-saving measures.

Our commitment to energy efficiency is supported by internal policies that promote energy conservation practices. This includes raising awareness among employees about energy-saving behaviors through targeted programs and safeguarding the proper operation of systems to minimize energy waste, especially during off-peak hours.

Looking ahead, we plan to complete the installation of the Smart Campus centralized BMS across all facilities. This will boost system efficiency, improve real-time monitoring and drive further reductions in energy consumption. Our goal is to continuously improve energy efficiency, reduce operational costs and contribute to stc's broader sustainability and climate goals.

Improving energy efficiency for cloud

The Telco cloud operates in a highly dynamic environment where compute resources frequently transition between idle and active states. This fluctuation can lead to inefficient energy utilization, particularly when resources remain idle for extended periods. To address this challenge, the Cloud Operations team developed and enhanced new standard operating procedures (SOP) that include periodic checks to monitor idle or underutilized resources within the cloud environment.

By implementing this proactive approach, the Group is improving energy efficiency across the entire cloud ecosystem, achieving an impressive **energy saving of 30%**. This initiative not only optimizes the overall cloud environment, but also promotes a sustainable approach to energy usage in cloud operations.

Performance metrics

In 2024, total electricity consumption increased across both stc KSA (including headquarters-based subsidiaries) and stc Group. This rise was primarily driven by network expansion, the commissioning of new buildings and the addition of 574 new base stations, all of which required additional energy to support growing operational needs. Specifically, electricity consumption in stc KSA increased by 2%, meanwhile at the Group level, it increased by 12% between 2023 and 2024.

Despite the increase in total energy use, stc achieved reductions in fuel consumption, demonstrating progress in reducing reliance on fossil fuels. Petrol consumption at stc KSA decreased by **5.4%**; at the Group level, it declined by **4.7%**. Additionally, diesel consumption at stc KSA fell by **11.5%**, and at the Group level, it decreased by **7%**. These reductions reflect improvements in fleet efficiency and operational optimizations.

Furthermore, when measured against data traffic growth, energy intensity has improved. In the meantime, the total energy consumption (in gigajoules) increased across both stc KSA and stc Group, the energy consumption per petabyte of data decreased. At stc KSA, energy intensity improved from **74.77 GJ/PB in 2023 to 63.45 GJ/PB in 2024,** and at the Group level, it dropped from **373.79 GJ/PB to 337.78 GJ/PB.** This improvement highlights improved energy efficiency in data processing and network operations, reinforcing stc's commitment to delivering more with less energy.

Electricity consumption by infrastructure (MWh)	KSA*			stc Group		
	2022	2023	2024	2022	2023	2024
Buildings**	156,320	150,741	**188,335**	175,056	175,754	**195,787**
Data centers***	158,495	-	**-**	173,018	177,195	**286,386**
Base stations****	-	-	**-**	1,339,164	1,384,024	**1,534,049**
Exchanges	358,163	314,819	**288,261**	359,978	316,629	**288,261**
Total	672,978	465,561	**476,596**	2,047,217	2,053,604	**2,304,483**

*KSA refers to stc KSA and its headquarters-based subsidiaries.

** stc KSA buildings consumption has increased as a result of expansion of build area through commissioning of new buildings in 2024.

*** As of 2023, data pertaining to our data centers in stc KSA are considered under the Group, following the establishment of centre3.

**** Base stations for stc KSA are not applicable as its has been fully transferred to TAWAL. The increase in energy consumption across base stations is due to the commissioning of 574 new sites, and intense deployment of 5G equipment.

Fuel consumption (liters)	stc KSA			stc Group		
	2022	2023	2024	2022	2023	2024
Petrol consumption	4,451,959	4,168,144	**3,944,944**	5,290,426	4,312,517	**4,108,042**
Diesel consumption	121,952	128,032	**113,352**	65,115,487	63,751,211	**59,339,151**

Energy consumption	KSA*			stc Group		
	2022	2023	2024	2022	2023	2024
Direct energy consumption (GJ)	174,804	147,441	**139,009**	2,695,610	2,493,936	**2,282,703**
Indirect energy consumption (GJ)	2,422,730	1,676,021	**1,715,746**	7,369,983	7,392,976	**8,296,140**
Total energy consumption (GJ)	2,597,534	1,823,462	**1,854,755**	10,065,593	9,861,160	**10,578,843**
Energy intensity (GJ/petabytes)	127.51	74.77	**63.45**	454.86	373.79	**337.04**

*KSA refers to stc KSA and its headquarters-based subsidiaries.

Powering a greener future continued

Case study

Cloud environmental sustainability

Background

Telco cloud is a dynamic environment where compute resources often transition between idle and active states, leading to inefficient energy use during idle periods. To tackle this, we are implementing innovative mechanisms to promote sustainability in cloud computing. By adopting intelligent resource management strategies, we optimize computing power allocation to match real-time demand. Advanced power management techniques place idle resources into low-power states. These measures reduce our carbon footprint and boost operational efficiency, reinforcing our commitment to sustainable telecommunications.

Approach

Our Cloud Operations team has streamlined our SOPs by incorporating periodic checks to monitor idle or underutilized resources within our cloud environment. This approach allows us to regularly assess resource utilization, identifying areas where computing power may be idle or underutilized.

By introducing this monitoring strategy, we can make informed decisions about resource allocation, supporting effective use of our cloud infrastructure's capacity. This improves energy efficiency by reducing waste, maximizing performance, lowering operational costs and reducing environmental impact. These advancements demonstrate our commitment to sustainable cloud operations and responsible resource management.

Outcomes

Our improved cloud monitoring and management resulted in a 30% energy savings, reducing costs and environmental impact. This optimization supports our network growth and sustainability goals.

Next steps

As a next step, we will streamline our processes to optimize the overall cloud environment, promoting even greater efficiency and sustainability in our operations.

Sustainable waste solutions in action

A circular economy promotes the efficient use of resources by emphasizing recycling, reusing and reducing waste. This thinking applies to all the resources that we draw on to generate value for customers and stakeholders. We are therefore committed to reducing our waste, from water through to paper and used devices, and to ongoing improvements in making our operations more circular.

Sustainable waste solutions

Effective waste management is essential to our sustainability strategy. Given the significant use of electronic equipment, it is crucial for us to implement suitable waste management practices. One of our most substantial initiatives is a comprehensive recycling program that operates across all stc buildings and sites, encouraging individuals to actively partake in waste-reduction efforts. Our ultimate goal extends beyond mere waste reduction; we aim to foster a more circular economy. We are already making progress with stc's takeback program for improved end-of-life product management and a recycling initiative focused on network-related electronic components. Additionally, we have established systems to optimize purchasing decisions for materials such as furniture and carpets. In 2024, we continued our shift to eSIM technology, issuing over 1.8 million eSIM cards, which has avoided the use of more than 7,000 kg of plastic as well as electronic chips by eliminating the need for physical SIM cards.

Managing e-waste and network waste is a critical responsibility for any telecom or ICT company. At stc, we uphold responsible disposal of network equipment and e-waste through a reliable partner, in compliance with the regulations established by the National Center for Environmental Compliance (NCEC). Our efficient tracking system enables us to assess the lifecycle of our assets, adopt responsible disposal practices and investigate recycling possibilities.

In 2024, our network operations through TAWAL generated 1,517 metric tons of waste from its core activities, with an impressive 67% being recycled.

Promoting a circular economy across our supply chain

At stc, we are committed to reducing waste and making our supply chain more sustainable. By shifting away from the traditional "take-make-dispose" model, we focus on reusing, recycling and responsibly managing resources. Through initiatives like biodegradable packaging, expanded recycling programs and e-waste management, we are working toward a more circular economy that minimizes environmental impact.

To standardize our warehouse inventory management, we have implemented the use of 100% biodegradable bags. By opting for this eco-friendly alternative, we reduce our environmental footprint and cut down on waste, marking a shift to a circular economy that values resource conservation over the traditional "take-make-dispose" approach.

In 2024, our end-of-life asset recycling program throughout the value chain successfully collected 4,236 tons of waste, with almost 48% of this amount being reused and 40% recycled; the remaining portion was disposed of responsibly. Our e-waste recycling initiatives are verified by the National Centre for Waste Management, and we receive quarterly reports that document our progress. Within processes in stc KSA, we have achieved a reuse and recycling rate of 88%, and the remaining disposed materials are managed safely.

A crucial element of our circular economy initiative is our trade-in program, which invites customers to exchange their used devices for discounts on new purchases. This not only extends the lifespan of products, but also helps to reduce overall consumption. By the end of 2024, the program had collected, refurbished and recycled 52,818 devices. More than 97% of these devices were successfully refurbished and sold as renewed devices to customers, complete with a 6-month guarantee. This initiative not only offers affordable options for customers, but also aligns with our sustainability objectives by minimizing waste.

Paperless work environment

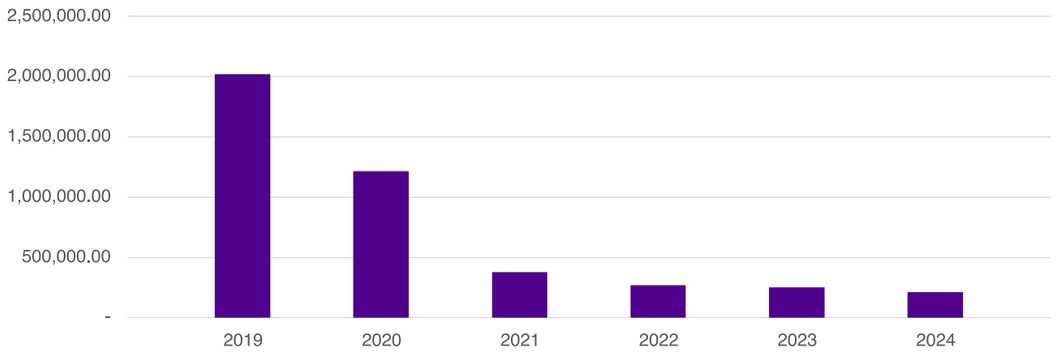
At stc, we are committed to reducing our environmental footprint through digital transformation and paperless operations. In 2023, we introduced a comprehensive paperless office policy, reinforcing our commitment to sustainability. The policy's implementation is closely monitored through a quarterly reporting system, tracking paper consumption metrics and supporting continuous progress. To emphasize the significance of this initiative, we have integrated it into our quality index, reinforcing its impact across our operations.

Accelerating digital adoption in 2024

As part of our ongoing efforts to embrace digitization and automation, we have significantly expanded digital processes across **stc Group**. In 2024, we successfully increased the number of Group-wide processes and services on our internal intranet platform (stc Hub) to over 3,000. This strategic shift has optimized operations and led to reduction in costs, improving both efficiency and sustainability.

As part of its digital transformation and sustainability efforts, **stc KSA** (including headquarters-based subsidiaries) has significantly reduced its paper consumption through the printed papers initiative. Since the baseline year 2019, it has achieved an **89.5% reduction in annual paper consumption as at 2024**, reinforcing its commitment to operational efficiency. The continued downward trend in paper consumption highlights the **stc KSA's** (including headquarters-based subsidiaries) efforts to drive responsible resource management and minimize its waste footprint.

Paper Consumption- KSA*



*KSA refers to stc KSA and its headquarters-based subsidiaries.

TAWAL has taken a significant step toward a paperless future by deploying internal and external digital systems to reduce paper usage:

- **Internal system:** The Tawal Sufaraa application enables employees to complete all work-related transactions digitally, including employment letters, salary letters and other HR services.
- **External system**: The Tawal ERP procurement module fully digitizes supplier-related transactions, including supplier registration, bidding processes and negotiations, eliminating the need for paper-based workflows.

Sustainable waste solutions in action continued

Meanwhile, **stc Kuwait** has achieved a major milestone by implementing a 100% paperless procurement process. The company is also aiming for a fully digital recruitment process and has introduced digital receipts and bills for customers. Their next goal is to digitize all internal communications and transition entirely away from traditional paper-based processes.

stc Bahrain has taken a different approach, focusing on paper recycling initiatives. Through a partnership with local recycling facilities, they make sure collected paper and cardboard materials are properly processed and repurposed, contributing to a circular economy.

Across stc Group, we remain dedicated to expanding digital solutions that reduce paper use, improve efficiency and drive sustainable business practices. Our paperless strategy is a key pillar of our broader commitment to environmental responsibility and innovation.

Trade-in program

At stc, we believe old devices should not go to waste. Our trade-in program makes it easy for customers to exchange or recycle their used smartphones and electronics, reducing clutter and environmental impact and earning credit toward new devices. Instead of letting old phones sit in drawers or contribute to e-waste, we refurbish, clean and resell them at an affordable price, making technology more accessible and sustainable.

Big step forward in 2024

Building on the success of 2023, stc surpassed its 2024 target, demonstrating a growing commitment to circular economy:

- Total devices collected and recycled: 52,818 (up from 44,000 in 2023) – a 20% increase, achieving 106% of our target.
- Devices given a second life: 97% of recovered devices were successfully reused, maintaining our commitment to circularity.

By continuously developing the program and prioritizing customer experience, affordability and sustainability, stc remains committed to reducing e-waste, optimizing resource efficiency and driving a more circular economy in the ICT sector.

ESG KPIs	2023 Baseline	2024 Target	2024 Actual	% Target achievement
Number of recovered devices through trade-in program	44,000	50,000	**52,818**	**106%**
Percentage of recovered devices reused through the trade-in program	97%	97%	**97%**	**100%**

Performance metrics

As part of our commitment sustainable resource management, stc continues to increase its waste diversion, recycling and responsible disposal efforts across its operations.

In 2024, stc KSA's (including headquarters-based subsidiaries) general waste increased mainly as a consequence of expanded construction activities. However, the end-of-life assets waste declined significantly by 40.6% between 2023 and 2024. Additionally, the percentage of waste recycled improved from 16% to 40%, demonstrating improved waste management practices.

At the stc Group level, general waste generation decreased substantially by 60.3%, from 6,337 tons in 2023 to 2,516 tons in 2024, marking a significant reduction in overall waste output. Meanwhile, paper consumption continued to decline, with stc KSA reducing usage from 1.25 tons in 2023 to 1.05 tons in 2024.

These figures highlight progress in waste reduction and recycling efforts, with a focus on circular economy principles, despite the temporary increase in construction-related waste at stc KSA (including headquarters-based subsidiaries). Looking ahead, continued emphasis on waste diversion, recycling programs and operational efficiencies will boost sustainability performance.

	KSA**			stc Group		
General waste	2022	2023	2024	2022	2023	2024
Total general waste generated in HQ* (t)	750	700	**1,000**	6,550	6,337	**2,516**

* Increase in waste generated at stc KSA is due to increased construction activities.
**KSA refers to stc KSA and its headquarters-based subsidiaries.

	KSA*		
End-of-life assets waste	2022	2023	2024
Total waste generated (t)	-	7,131	**4,236**
% of waste reused	-	74%	**48%**
% of waste recycled	-	16%	**40%**
% of waste responsibly disposed	-	10%	**12%**

*KSA refers to stc KSA and its headquarters-based subsidiaries.

	KSA*		
Paper consumption	2022	2023	2024
Paper consumption (t)	1.37	1.25	**1.05**

*KSA refers to stc KSA and its headquarters-based subsidiaries.

TAWAL performance metrics

	TAWAL (KSA only)		
Network waste generated (Tons)	2022	2023	2024
Hazardous material (lead acid batteries, lithium (t), etc.)	500	413	**496**
Non-hazardous material (electrical materials, metals, etc.)	484	448	**1,021**
Total	**984**	**861**	**1,517**

	TAWAL (KSA only)		
Network waste recycled (%)	2022	2023	2024
Hazardous material (lead acid batteries, lithium (t), etc.)	60%	98%	**67%**
Non-hazardous material (electrical materials, metals, etc.)	96%	90%	**72%**
Total	**78%**	**94%**	**67%**

Sustainable waste solutions in action continued

Case studies and notable projects

Waste management solution - iot squared

iot squared provides an advanced waste management solution designed to revolutionize waste collection by leveraging IoT-enabled smart bins, AI-driven analytics and intelligent route optimization. Through real-time monitoring, predictive insight and automated scheduling, this solution increases operational efficiency and costs, minimizes environmental impact and ensures regulatory compliance.

With a strong focus on smart city development, iot squared empowers municipalities and enterprises to create cleaner, more efficient and sustainable waste management systems. By integrating advanced data analytics, fleet tracking and geofencing, the platform heightens resource optimization, prevents waste overflow and streamlines collection processes.

Expanding beyond waste: Smart cities and smart mobility

Beyond waste management, iot squared is actively driving smart city innovation and intelligent mobility solutions. By integrating real-time asset tracking, AI-powered analytics and iot connectivity, we optimize both public and private sector operations.

Our solutions tackle key urban challenges, including:

- Inefficient resource utilization
- Lack of historical data insight
- Public safety risks and environmental concerns

Through cutting-edge digital waste monitoring, waste-to-energy initiatives and sustainable infrastructure development, iot squared is playing a pivotal role in advancing Vision 2030's sustainability goals through reducing landfill dependency, promoting circular economies and fostering green job creation.

By embracing innovation, iot squared is not just managing waste; we are shaping the future of smart, sustainable cities.

Real-world impact

As at 2024, iot squared has achieved the following.

14
municipalities (out of 17) served in KSA

80,000+
connected waste bins

3,000+
managed waste trucks

900,000+
waste collection trips supervised

7M+
tCO2e saved

25%
enhancement in recycling rates

Resource reclamation and optimization in IT

Background

With the rapid growth of digital technology, many organizations struggle with wasted resources in their IT infrastructure. Problems like poor hardware use, high energy consumption and managing electronic waste led to environmental and financial challenges. The resource reclamation and optimization initiative tackles these issues by using sustainable IT practices to reclaim unused resources, improve system performance and lower the carbon footprint of IT operations. This case study looks at how these strategies can provide both environmental and economic benefits.

Approach

As part of our Go-Rapid strategy, the Applications Operations Group (AO GD) launched the GO-GREEN strategic initiative to improve the environmental impact of our operations. This initiative focuses on raising awareness about green technology practices, reclaiming and reusing IT resources, reducing energy consumption and achieving global accreditation in environmental management systems. By aligning our resources with business needs, we can monitor and forecast capacity for efficient use, minimizing waste and increasing performance.

Outcomes

In 2024, the AO GD reclaimed resources valued at ৳ 36.66 million through hardware optimization, leading to significant cost savings and improving business operations. This effort not only supports important applications, but also delivers benefits such as better customer experiences, faster response times, increased efficiency and greater sustainability. This success highlights the team's commitment to using resources effectively and cost-efficiently.

Next steps

We plan to raise awareness and build partnerships with industry leaders to promote the importance of sustainability, establishing our Group as a leader in Green IT.

Comments

Applications Operations GM Badr A. Alshewair noted, "Our commitment to sustainability efforts will continue in alignment with our Go-Rapid strategy and GO-GREEN program."

Future plans

Looking ahead to 2030 and beyond, stc plans to increase sustainability initiatives at its main campus in Saudi Arabia by constructing state-of-the-art waste and water management facilities. A comprehensive waste management plant will be established to minimize environmental impacts and improve resource management, featuring an advanced collection network designed to handle up to 18,000 kg of waste through innovative equipment for collection, segregation, treatment and disposal. Simultaneously, a water treatment plant will repurpose water for irrigation and essential sanitary activities, including toilet flushing. This facility will integrate a gray water collection network with manholes, lift stations, flow-through water tanks and a pumping station capable of treating 250 cubic meters of water daily. Both projects are integral to stc's commitment to sustainability and are scheduled for completion by the end of 2025.

Optimizing water consumption

Water savings are crucial for companies operating in the Middle East, where water scarcity is a challenge owing to arid climates and limited freshwater resources. For stc, implementing effective water conservation strategies aligns with both environmental responsibility and corporate sustainability objectives, contributing to the preservation of this vital resource, which is essential not only for the ecosystem, but also for the well-being of communities in the region.

Moreover, reducing water usage can lead to significant cost savings through decreased utility expenses and improved operational efficiency. As stc leverages innovative practices, such as water recycling and rainwater harvesting, it will strengthen its reputation as an environmentally conscious leader in the region.

stc acknowledges the risks of water shortages and other resource constraints, wholeheartedly supporting the aims of Saudi Vision 2030 in this regard. Saudi Vision 2030 prioritizes water conservation and sustainable management as vital to the Kingdom's development strategy. It promotes innovative water management practices, including desalination and wastewater treatment facilities, and raising public awareness about responsible water use.

Our water consumption mainly supports sanitation and air conditioning, with additional resources sourced through tankers for backup use.

Performance metrics

	KSA**			stc Group		
Water consumption (m^3)	**2022**	**2023**	**2024**	**2022**	**2023**	**2024**
Total water consumption*	430,603	403,864	**444,636**	819,478	714,626	**478,259**

* The increase in water consumption at stc KSA in 2024 is primarily attributed to the expansion of the built-up area, along with a rise in the number of employees on-site due to the relocation of subsidiaries into the headquarters.

**KSA refers to stc KSA and its headquarters-based subsidiaries.

Case studies and notable projects

Water optimization at stc's HQ

Water conservation is an important part of our sustainability efforts at our HQ (including stc KSA and other headquarters-based subsidiaries), aimed at reducing consumption, promoting efficient water use and optimizing wastewater management. Our approach focuses on implementing technological solutions and encouraging responsible water usage across all facilities to minimize our environmental impact.

In 2024, we introduced several initiatives to reduce water consumption, including:

- Installing water reducers on faucets
- Replacing manual faucets with sensor-based systems
- Adjusting water flow timings on automatic sensor faucets to optimize usage
- Optimizing water flow in flushing systems, helping to reduce overall water consumption without compromising functionality

Our commitment to water sustainability also extends to **wastewater management**. In 2024, we completed the design and project planning for a gray-water system station, which will allow us to recycle wastewater and reuse it in flushing systems. To support the proper implementation of this initiative, we began preparing the necessary infrastructure, including the installation of new water networks aligned with updated design standards. This project will significantly reduce freshwater consumption and promote resource efficiency.

Looking ahead, we plan to complete the installation of the gray-water system station across our facilities, further strengthening our ability to recycle and reuse water efficiently. Alongside these technical measures, we continue to promote awareness of water use and savings among facility users to support responsible consumption practices and maximize the impact of our water conservation efforts.

Case study

Sustainable water resource management solution

Background

Our solution uses satellite-based narrowband internet of things (NB-IoT) technology for real-time monitoring of water sources to improve water resource management in remote environments. Through smart flow meters connected to satellite IoT terminals, and making use of intuitive analytics dashboards, we enable cost-effective data collection and transmission from water infrastructure in remote areas. This system is low-cost, low-power and user-friendly, addressing the needs of underserved areas.

Challenge

We aim to tackle the effective monitoring and management of water resources in remote regions, which lack reliable data on water usage and availability, negatively impacting communities, agriculture and ecosystems. Our focus on underserved regions aims to address water scarcity, resource allocation inefficiencies and promote environmental sustainability.

Approach

The solution employs a secure process that includes:

- Data collection and transmission: Automated data collection via smart flow meters
- SIM-based authentication: Helps ensure secure connectivity
- Data processing and analysis: Processes data for user insight
- Secure data transfer: Ensures protected transmitted data integrity
- User access and control: Helps provide users with ease of access to data

Outcomes

Our innovation simplifies water resource management, allowing automated data collection and real-time transmission via satellite. Users have access to actionable insight through user-friendly dashboards. Key impacts include the following.

Quantitative results:

- Improved monitoring coverage: 100% coverage in previously inaccessible areas
- Reduction in operational costs: Enhanced cost efficiency
- Efficiency gains: Streamlined operations

Qualitative results:

- Enhanced decision-making: Improved strategies based on data insight
- Stakeholder confidence: Increased trust among users
- Community impact: Better water access for thousands, reducing conflicts over resources
- Environmental benefits: Supports sustainable practices and reduces over-extraction

Next steps

Our solution is scalable, with a vision for a connected system that promotes sustainable water resource management, empowering communities and safeguards future water availability.