



SPgroup

Empowering the Future of Energy

FY2023/24 Sustainability Report



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About This Report

This is SP Group's (SP or the Group) fifth sustainability review and incorporates the reporting recommendations of the Taskforce on Climate-related Financial Disclosures (TCFD) and includes the key initiatives and highlights the performance of our operations across our key business areas for the Financial Year 23/24 from 1 April 2023 to 31 March 2024, unless otherwise stated. The scope of this review covers SP's operations in Singapore, China, Vietnam and Thailand.

The report is to be read in conjunction with the Chairman's message and other sustainability-related information on our website, [SP Energy Hub](#). We have included historical data for comparison.



About SP Group

SP Group is a leading utilities group in Asia Pacific, empowering the future of energy with low-carbon, smart energy solutions for our customers. We own and operate electricity and gas transmission and distribution businesses in Singapore and Australia, and sustainable energy solutions in Singapore, China, Vietnam and Thailand.

The Group's tagline – "Empowering the Future of Energy" – reflects our 2030 ambition to create a low-carbon, smart energy Singapore and be a regional leader in sustainable energy solutions.

As Singapore's national grid operator, about 1.6 million industrial, commercial, and residential customers benefit from our world-class transmission, distribution, and market support services. These networks are amongst the most reliable and cost-effective in the world.

Supporting The Singapore Green Plan 2030 and energy transition

At SP, we maintain a reliable world-class grid and support The Singapore Green Plan 2030 (the Green Plan) to build a resilient future by developing a green economy and promote sustainable living. SP provides a full suite of sustainable energy solutions including district cooling, electric vehicle [EV] charging, renewables, and energy as a service to help bring the Green Plan to fruition.

Our solutions and capabilities include:



Solutions to enable Decarbonisation

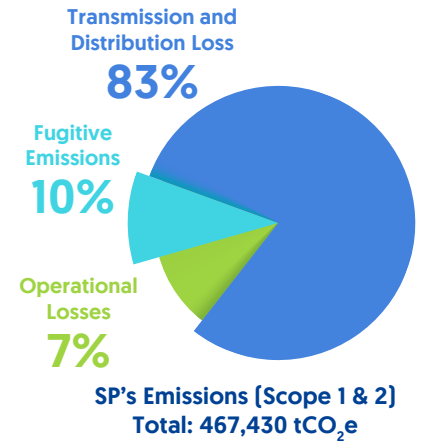
The Intergovernmental Panel on Climate Change [IPCC] 6th assessment report calls for urgent action to decarbonise and keep temperature rise to 1.5°C. SP's sustainable energy solutions enable green buildings and sustainable infrastructure to be energy efficient. EV charging and renewable energy enables decarbonisation of the transport and power sectors, while digital energy management tools empower customer's choices for a greener future.

Our Sustainability Strategy

Our emissions

93% of our scope 1 and 2 emissions arise from hard-to-abate emissions such as the transmission losses from the electrical grid and fugitive losses from the gas pipelines. The remaining 7% of emissions can be attributed to operational needs, including vehicle usage, Sulphur Hexafluoride (SF6) fugitive losses, diesel, and refrigerants. Reducing these emissions require a decarbonisation of electricity and gas as well as availability of green alternatives.

As we gear towards ensuring a sustainable future for all and aligning with Singapore’s ambition to achieve net zero by 2050, SP is also unveiling its ambitions to reach net zero by 2050.



Our aim to reach net zero by 2050

SP's net zero strategy is underpinned by three strategic pillars, allowing us and our customers to reduce emissions in support of Singapore’s goals.

Net Zero Integrator



As the grid operator of Singapore, SP will be integrating low-carbon power sources such as the electricity imports, domestic solar, hydrogen-ready power plants and potentially geothermal power plants and hydrogen in the future to decarbonise the power system.



Electricity imports



Low-carbon generation



Renewables integration



Accelerating the switch to EVs

Sustainable Operations



Safety and sustainability go hand-in-hand within our scope of operations. Despite our operating emissions constituting a small portion of our overall emissions, we are introducing different initiatives to reduce such emissions, while bringing our suppliers along the sustainability journey.



Safety



Switch to EVs



SF6 Replacement



Green Buildings



Ductile iron pipes replacement

Transition Enablers



We provide an ecosystem of sustainable energy solutions to enable our customers to reach their sustainability targets.



District cooling



Energy-efficient building solutions



EV Charging



Climate Services



Solar

Our constraints

While we aim to reach net zero by 2050, Singapore faces constraints in renewable energy deployment and nascency in hydrogen technology. As more than 90% of our emissions are beyond our direct control - our aim to reach net zero is therefore contingent upon i) complete decarbonisation of Singapore’s power generation and replacement of natural gas with hydrogen; ii) reliability, availability and economic viability of technological advances and low-carbon technologies, such as EVs for industrial uses, green transportation, fuels, SF6 and refrigerant replacements; and iii) effective international collaboration in areas such as carbon credits (e.g. Article 6 of the Paris Agreement).

Our Impact

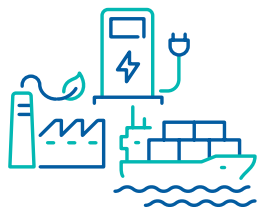
Net Zero Integrator



- ▶ **1466.9 MW** of low-carbon generation connected in Singapore
- ▶ **\$530 million** of capital investment deployed towards transition opportunities

- ▶ **0.15 min** and **0.0671 min** System Average Interruption Duration Index (SAIDI) achieved for Electricity and Gas respectively

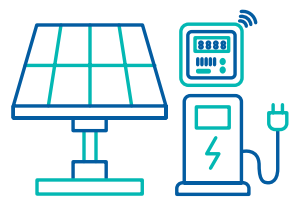
Sustainable Operations



- ▶ Lost Time Injury Frequency Rate of **0.22** per million working hours
- ▶ EVs constitute **44%** of our vehicular fleet.
- ▶ **Scope 1** emissions: **70,333** tonnes carbon dioxide equivalent (tonnesCO₂e)

- ▶ **Scope 2** (market-based) emissions: **393,874** tonnesCO₂e
- ▶ **Scope 3** emissions: **684,860** tonnesCO₂e
- ▶ Sustainability engagement with **36%** of suppliers

Transition Enablers



- ▶ **278,000 RT** of district cooling capacity in operation and secured regionally
- ▶ **1,700 MW** in photovoltaic (PV) generation capacity in operation and secured regionally and **2.9 million** RECs sold since 2021
- ▶ More than **1,300 EV** charging points installed in Singapore

- ▶ Over **1.2 million** electricity and water smart meters installed
- ▶ Emissions avoided – **1.734 million** tonnes CO₂e, equivalent to planting more than **86 million** rain trees or **1.5 million** cars off the road for a year¹

People and Communities



- ▶ **159,000** hours of training and development provided to employees
- ▶ Training and development invested on employees is **5 times** the national average

- ▶ **\$5.3 million** in donations and staff volunteering towards various community causes and industry initiatives

¹ Emissions avoided since 2020, assume one mature rain tree absorbs 0.0201 tCO₂e a year and annual carbon emissions from 1 internal combustion engine (ICE) car generates 1.1tCO₂e/year.

Sustainability Governance

Board's role

The Board of Directors (Board) has the overarching responsibility for sustainability and provides strategic direction for the organisation's sustainability practices, while also reviewing long-term business and organisational goals.

The Board plays a critical role in key investment and funding decisions, ensuring robust internal controls to protect the company's assets, and reviewing both financial and non-financial performance. Board meetings, held at least four times a year, include discussions on sustainability and climate-related issues at two of these meetings.

Additionally, the Board Executive Committee (ExCo) assists the Board in overseeing the performance of the Company, its subsidiaries, and associated companies, providing direct advisory supervision on SP's sustainability strategy, material environmental, social, and governance (ESG) issues, work plans, and performance targets.

Management's role and internal controls

Reporting to the Board is the Executive Leadership Team (ELT) which has the strategic responsibility to assess and manage sustainability issues for SP. Heading the ELT is the Group Chief Executive Officer, who has executive-level responsibility for ESG matters.

The Head of Sustainability reports to and seeks guidance from the ELT on the sustainability roadmap and initiatives. The Sustainability team monitors climate change issues and conducts Greenhouse Gas (GHG) reporting, corporate sustainability reporting and TCFD implementation.

Risk management

SP utilises both 'Top-Down' and 'Bottom-Up' approaches to encourage communication and participation from management and employees. Effective risk management entails the consideration of all aspects of the business to enable the Board and Management to identify and assess risks properly and promptly. The 'Top-Down' approach provides oversight and guidance on material risks from both the Board Risk Management Committee (BRMC) and Management, conducting thorough analysis to mitigate strategic risks. The 'Bottom-Up' approach empowers employees to identify and escalate risks in their daily operations to Management, ensuring that major risks are communicated and necessary actions are approved. This approach enables every employee in SP to proactively participate in highlighting the risks they encounter in the course of their work.

Climate resilience

In 2021, we commissioned a study to assess our climate change resilience and to identify the climate-related risks and opportunities material to our business. Two scenarios were identified to understand the extent of the risks and opportunities – “Net zero (1.5°C pathway)” as the best-case scenario and “Business-as-usual (2.5 - 4°C pathway)” as the worst case.

In defining the physical risks for these scenarios, we selected two of the climatic projections developed by the IPCC on a global scale, characterised by the Representative Concentration Pathway (RCP) which is the concentration pathway extending up to 2100.

For transition risks, the parameters were selected from Network for Greening the Financial System (NGFS) to understand how climate change would affect transition risks such as policy and technology trends in the future.

In 2022, we conducted a localised study for Singapore on the flooding risk on the electrical transmission and distribution assets and the findings were largely in line with our original assessment in 2021.

Insights from climate risk assessment

Physical risks

Parameter	Impact	SP's strategic response
Riverine Flooding Coastal Flooding Heavy Precipitation	Flooding may lead to erosion of our aboveground infrastructure and underground cables may become susceptible to deterioration if there is moisture ingress.	Our above ground infrastructures are located above the nationally mandated Minimum Platform Level (MPL). Maximum flood levels are below the MPL. We will monitor updates for future Singapore flood maps.
Air Surface Temperature Change	An increase in air surface temperature will reduce the efficiency of the T&D network and accelerate the rate of insulation degradation of equipment.	Currently, maximum air surface temperatures are within the equipment specifications.
	Air surface temperature rise can result in a larger district cooling load and result in efficiency losses.	
	Increased temperatures can cause a decrease in the conversion efficiency of solar PV cells, affecting the maximum possible power output.	

As climate risk is an evolving topic, we will be monitoring the changes to climate projections to accurately evaluate the scale of impact to identify the adaptation actions accordingly.

Transition risks

Material risk parameter	Impact	SP's strategic response
Policy and Legal	Increased expectations from regulatory bodies for organisations to track and publicly report on GHG emissions or climate risks. Under both scenarios, there may be penalties associated with non-disclosure.	Since FY21/22, climate risks disclosure has been included in the annual Sustainability Review.
Market	A shift in investor preference and emergence of responsible investment mandates. In striving to achieve net zero, failure to incorporate climate risks into the company's strategy may diminish investor confidence and reduce access to capital.	With International Financial Reporting Standards (IFRS) climate risk disclosure becoming mandatory by 2027, we are building internal capacity for climate risk and its impact to our value chains.
Technology	<p>Changing the energy mix due to the adoption of distributed renewable energy resources may impact overall grid stability and flexibility. This is especially so since capacity additions in solar and storage capacity are expected to increase in both scenarios.</p> <p>Investments in energy-efficient technologies will be required to meet national energy efficiency targets.</p>	<p>SP will actively invest in the upgrading of our grid network infrastructure and adopt new technologies to make our grid network "smarter".</p> <p>For more details, please refer to the Future of Grid section.</p>

Transition opportunities

As Singapore aims to transition to a net zero future by 2050, SP, as the grid operator, has to interconnect low-carbon electricity imports, domestic distributed renewables and hydrogen-ready combined cycle power plants. We anticipate this to be a significant opportunity for the energy transition.

Another opportunity identified is the increased adoption of sustainable and low-carbon solutions by corporations that are looking to reduce their emissions and overall environmental footprint. As a sustainable energy solutions provider, we have started leveraging these opportunities to enable our customers to achieve their climate ambitions.

The initiatives are further elaborated in the respective sections for each business area under Future of Grid: Integrating net zero solutions while maintaining reliability and Transition Enablers: Sustainable Energy Solutions

To manage our climate-related risks and opportunities, and ensure we are enabling a low-carbon and smart energy future, we have established metrics to track our performance and drive improvement. A primary focus is the reduction of GHG emissions from our direct business activities, which contributes to Singapore's net-zero emissions ambition.

Metrics and Targets

We undertake an annual data collection exercise to calculate the GHG emissions from our business activities following the principles in the Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (revised edition) and GHG Protocol Scope 2 Guidance.

Emissions, tonnesCO ₂ e	FY21/22	FY22/23	FY23/24
Scope 1	78,173	76,721	70,333
Scope 2	Location Based		
	423,225	350,507	397,097
	Market Based		
	419,959	347,291	393,874
Intensity (Scope 1+2) (CO ₂ e/MWh)	10.06	8.34	9.05

Our scope 2 emissions and overall intensity have increased this year. This is largely due to the increase in grid emission factor resulting from increased use of diesel for electricity generation and an increased volume flow through the grid. The decrease in scope 1 emissions is mainly due to a more granular methodology of estimating our fugitive emissions.

While SP has announced our 2050 net zero strategy in support of Singapore's energy transition, decarbonising the energy sector requires long term planning and the implementation of complex projects to support.

In FY22/23, we made our inaugural reporting of scope 3 emissions. One of the largest contributors of these emissions are from our capital goods category. We have conducted a survey amongst a sample of our tier 1 suppliers to understand where they are in terms of their sustainability journey. For contacted suppliers that have not started, we have conducted a basic ESG training to assist them to decarbonise and contribute to sustainability.

Emissions (Absolute, tonnesCO ₂ e)	FY22/23	FY23/24
Scope 3	757,536	684,860

Our scope 3 calculations are currently based on the spend-based methodology, but we are actively engaging our suppliers to get them to move towards providing supplier specific emissions data. This will enable us to gain greater clarity in our scope 3 emissions and enable us to effectively figure out solutions that can encourage suppliers to decarbonise. The decrease in emissions for Scope 3 was due to a reduction in emissions from investments category.

To reduce the impact of our direct operations through the support of renewable energy, we have pledged to cover 100 per cent of the electricity consumption at our Singapore headquarters with Renewable Energy Certificates (RECs) from October 2020 onwards. Since FY22/23, we have also started utilising RECs as green energy proofs of electricity purchased in our China and Vietnam offices.

SP's low-carbon initiatives such as district cooling, solar and electromobility have enabled customers to avoid more than 717,426 tonnesCO₂e in FY23/24. This is equivalent to planting almost 35 million rain trees or taking 652,206 cars off the road for a year. Measuring this progress against the target of helping customers reduce their carbon footprint, these initiatives achieved a 29-fold increase in CO₂ avoided since 2018. The significant increase in the avoided CO₂ for our customers demonstrated an increased demand for sustainable energy solutions and highlighted our role in enabling our customers reduce their carbon footprint.

Future of Grid:

Integrating Net Zero Solutions while Maintaining Reliability

Electricity imports


Singapore is strategically transitioning to a more sustainable energy landscape to fulfill its ambitious decarbonisation objectives. Central to this endeavour is the plan to import 30 per cent of the projected electricity supply from regional power grids. By tapping into cleaner energy sources beyond its borders, Singapore aims to reduce its carbon footprint significantly.

To realise this vision, Singapore is targeting the importation of up to 4 GW of low-carbon energy by 2035. This shift will not only contribute to mitigating climate change but also position Singapore as a leader in the global energy transition.

The adoption of High Voltage Direct Current (HVDC) and High Voltage Alternating Current (HVAC) systems is integral to facilitating the transmission of green electrons from resource-rich markets to Singapore shores. These advancements ensure the reliability, availability, and security of the energy supply, laying a robust foundation for a sustainable energy future.

SP is actively collaborating with various agencies and importers to bolster technological capabilities in preparation for future electricity imports. This proactive approach underscores Singapore's commitment to embracing innovation and staying ahead in the rapidly evolving energy landscape.

A milestone in Singapore's energy journey was the commencement of the first multilateral cross-border electricity trade between four ASEAN countries under the Lao PDR-Thailand-Malaysia-Singapore Power Integration Project. This initiative launched in June 2022 marks the first renewable energy import into Singapore.



*To realise this vision, Singapore is targeting the importation of up to 4 GW of low-carbon energy by **2035**.*

Upskilling to learn about the future of hydrogen

Based on Singapore's national hydrogen strategy announced by the Ministry of Trade and Industry Singapore, hydrogen can potentially supply up to 50 per cent of Singapore's projected electricity demand by 2050. In place of fossil fuels, hydrogen can complement and diversify our power mix alongside solar, imported electricity, and other potential low-carbon energy sources.

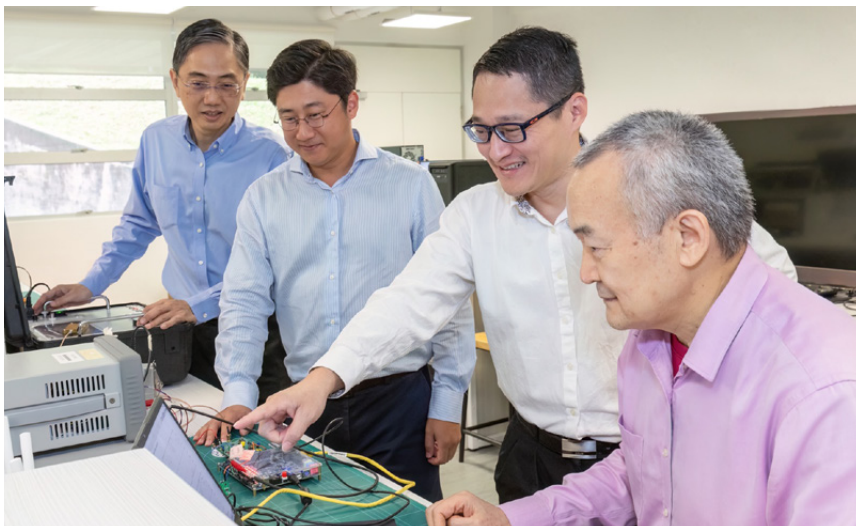
Singapore Institute of Power and Gas (SIPG), the training arm of SP Group, developed a two-day FUSION course to upskill our engineering workforce to learn more about how hydrogen can be tapped as a renewable energy source safely.

The engineers and technical officers from SP PowerGrid attained a broader understanding of the opportunities for hydrogen in Asia, hydrogen production, storage, and transmission, as well as end uses for hydrogen in various industries, in addition to the skills required for engineers to work in the hydrogen economy.

Digital Twin & SP-NTU Joint Lab

The Digital Asset Twin is a virtual replica of SP's electricity network assets. It aims to enable network operators to monitor and analyse the condition and performance of grid assets, in order to mitigate potential issues. When fully developed, it is envisaged that the Digital Asset Twin will also enable informed decisions for prioritised and timely renewal and maintenance of grid assets.

Through in-house digital development capabilities, SP has built the core of the asset dashboard as well as key Artificial Intelligence (AI) engines and algorithms to integrate with sensors in real time. The SP-NTU Joint Lab provides components of an Asset Health system and cost-effective condition monitoring sensors. As costs of sensors, digital and communication solutions reduce, they can potentially be applied to the large number of distribution assets, such as the 18,000 transformers across SP's 12,000 substations.



SP-NTU Joint Lab

*When fully developed, it is envisaged that the Digital Asset Twin will also **enable informed decisions** for prioritised and timely renewal and maintenance of grid assets.*

Electricity network

Singapore has one of the best electricity and gas network systems in the world. However, supply interruption is inevitable and may occur due to various reasons including network failure, damage by third parties, faulty equipment at customer sites or issues with the source of the supply.

To minimise the possibility of supply interruption, SP follows a systematic regime of maintenance, timely replacement of ageing equipment and close monitoring of equipment performance.

If a power failure occurs, we take four remediation actions to minimise the impact and downtime:

1

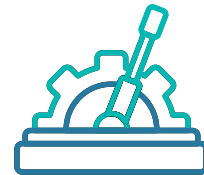
Remote switching



When a power fault is detected, the first course of action disconnects the affected equipment from the network and reconnects it to an alternative supply source. Since 2019, we have implemented remote switching capabilities for all 6.6kV distribution networks substations, allowing for quicker restoration should a supply interruption occur.

2

Manual switching



This is conducted when remote switching is unable to restore the power supply. Power faults in low-voltage networks, such as damage to over ground boxes that are used to transmit electricity to customers, are usually resolved through manual switching.

3

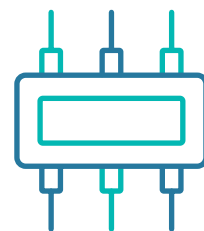
Mobile generators



These generators are immediately deployed when power faults are reported and are used to provide temporary electricity supply while the network issues are being resolved.

4

Cable jointing



This is conducted when switching is unable to resolve the power fault and the mobile generators cannot access the substation where the fault has occurred.

Gas network

SP has adopted an asset life cycle approach to our asset management so that we can manage risks and ensure that our gas network is consistently developed, maintained and operated in a safe and reliable manner. The gas transmission network is monitored round the clock in a system control centre.

Regular inspections and maintenance are also conducted on our network assets to maintain reliability. An asset renewal programme tracks asset performance and replaces deteriorating assets efficiently. Patrol and leak surveys of the pipelines are conducted to detect illegal third-party activities and gas leaks respectively.

We monitor network pressure closely by deploying pressure sensors across the entire transmission network. Our gas network operations team monitors the pressure readings to ensure that network pressure at different nodes is maintained within an optimal range.

To enhance our remote monitoring capability and productivity, we have developed a prototype machine learning solution that learns from pressure data to detect deviations from expected pressure levels and alert the operations team of an anomaly in the gas network.

A supervisory control and data acquisition system is deployed on the transmission system to avail remote monitoring and operations capability, which enables us to respond immediately to incidents. When incidents occur, the response is centrally managed to ensure that performance recovery is quick and directed, thus minimising disruption to customers.

An asset renewal programme **tracks asset performance and replaces deteriorating assets** efficiently



Upholding reliability through network renewal



Paya Lebar 230kV substation

A highly reliable grid is a prerequisite for the energy transition, especially as increased electrification is expected to take off in the coming years. This is made possible by the ongoing renewal of transmission and distribution assets. SP PowerGrid (SPPG) systematically replaces ageing assets and installs new infrastructure to ensure that the grid remains robust, efficient, and capable of accommodating the evolving energy demands.

In 2024, SPPG completed two major renewal projects at the Paya Lebar 230kV and Kallang Basin 66kV substations, overcoming numerous challenges along the way. These multi-year projects encompassed the construction of new building extensions, the removal and replacement of old equipment. As these are major transmission assets that are critical to the grid, works had to be planned and executed cautiously to minimise network risks, working in a specific sequence to suit the network operating conditions as well as other maintenance activities undertaken at the same time.

Apart from such network constraints, other engineering challenges which were overcome along the way included working in tight space-constrained conditions – difficulty in delivery of bulky transmission equipment – while other obstacles included the long-term effects of the COVID-19 manpower crunch and travel restrictions. In overcoming these challenges and expeditiously renew ageing assets, SPPG continues to ensure grid reliability and resilience, thereby laying the foundation for the energy transition.



Kallang Basin 66kV substation

Greening substations to support energy transition

Solarising substations

SP is on track to install rooftop solar panels at 37 electricity substations by 2025. With a total installed capacity of 15.7 megawatt-peak (MWp), these solar panels will deliver up to 21,000 megawatt-hour (MWh) of renewable electricity into Singapore's grid annually – enough to power more than 4,500 four-room Housing Development Board (HDB) flats for a year. The installed capacity of each substation will not exceed 1 MWac (Megawatt of AC Power). This endeavour is in line with Singapore's commitment to expand the use of renewable energy within its energy framework and will contribute to the Energy Market Authority's (EMA) objective of installing a minimum of 2 gigawatt-peak (GWp) of solar capacity by 2030.



Jurong Island substation. First substation with solar panels installed.

Thermal storage and energy storage system

The EMA and SP will be launching a groundbreaking ice thermal Energy Storage System (ESS) at the George Street Substation, marking the first time the two organisations will implement an ice thermal storage facility outside of a district cooling plant. The pilot project, part of the substation's renewal works and set to be completed in the third quarter of 2026, will optimise space utilisation within the substation. The ESS will contribute up to 1,500 Refrigeration tonne-hour (RTH) of ice thermal energy to SP's Marina Bay district cooling network, resulting in the potential curtailment of up to 2 megawatts (MW) of electrical load, equivalent to powering 170 four-room HDB flats for a day. SP also operates a 2.4 MWh ESS and Woodlands substation providing regulation services. These initiatives align with EMA's objective to deploy over 200 MW of ESS post-2025. Furthermore, the ESS has the potential to mitigate supply intermittency issues associated with renewable energy sources like solar power, as well as support peak load demand shaving and grid resilience through balanced electricity load management.

Stabilising power system with demand response

SP has been an active participant in the Interruptible Load (IL) and Demand Response (DR) programmes since 2016, and has partnered with the PUB as the DR aggregator. This provides PUB with greater flexibility in managing energy demand, and allow us to achieve cost savings. At the same time, our participation will support the national effort for energy resilience, and bring system-level benefits to all users.

Building on our capabilities in demand response, EMA and SP will pilot a Residential Demand Response (R-DR) programme to empower households equipped with smart meters to actively reduce electricity consumption during demand peaks in the power system. Targeted to be launched by second half of 2024, this pilot is the first-of-its-kind in Singapore to call upon households to make a significant difference for a more resilient and sustainable energy future.

First-of-its-kind in Singapore to call upon households to make a significant difference for a more resilient and **sustainable energy future**



The residential demand response pilot will use the SP app to send alerts to participating households to temporarily reduce or defer their electricity consumption. Households can take action by deferring the use of home appliances such as washing machines or dishwashers, or increase the temperature or even switch off air-conditioning. Participants will in turn enjoy benefits such as financial incentives.

Sustainable Operations

Safety and sustainability go hand-in-hand in our daily operations. Nothing can be sustainable without first being safe. Though our operating emissions constitute a small portion of our overall emissions, we go the extra mile to reduce and limit the impact of our growth in operating emissions.



Safety

Workplace safety

At SP, safety is our highest priority and we strive for zero accidents. The commitment to safety stems from our top management. They play an instrumental role in developing and committing to a safe working culture.

SP adheres to the Group Safety & Health Policy, which states the organisation's commitment to the safety and health of its people. The policy is approved and formally endorsed by the Group Chief Executive Officer and Group Chairman. The policy clearly articulates that safety is SP's highest priority, and its contractors are expected to uphold this commitment. The management is committed to continually enhance its safety management system to ensure that works are carried out as safe as reasonably practicable.

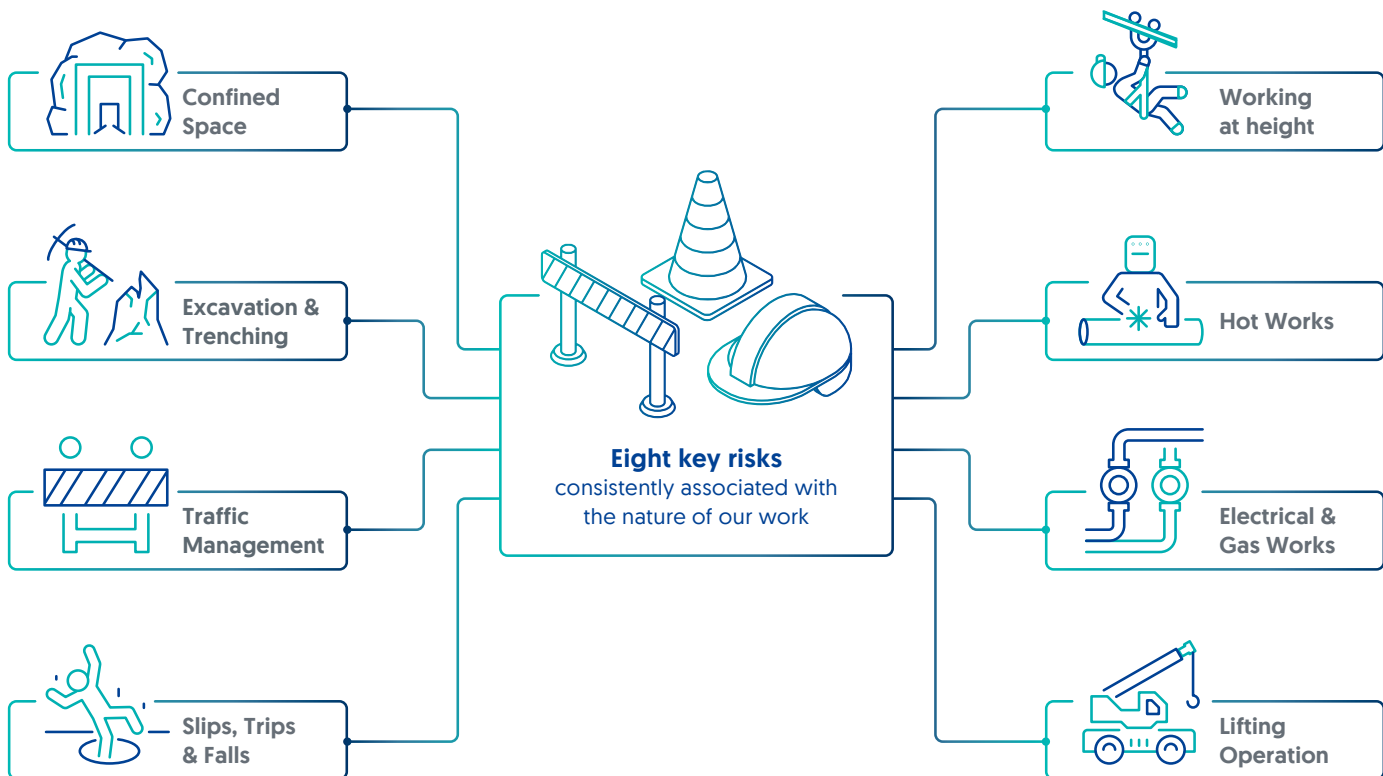
Overall health and safety management is governed by the Management Safety & Health Committee (MSC) which is chaired by the Chief Corporate Officer and comprises senior management representatives of each business unit. The respective business units have their own Workplace Safety & Health (WSH) committees chaired by senior management to provide health and safety leadership in those units. Each WSH Committees comprises representatives from management, Union representatives, and ground staff from the various operational entities.

SP's Workplace Health and Safety Strategy provides the strategic direction for sustainable safety and health performance improvement. The strategy consists of four key pillars which drive the safety and health programme across the Group: accountability, capability building, health & safety assurance, and contractor partnership. Each business unit will use these guiding principles to set their key objectives and formulate their safety, health, and well-being programmes.

SP's Occupational Health and Safety Management System is certified according to the ISO 45001 framework and covers all of SP's Singapore operations. This system is subject to regular annual reviews including an internal and external audit by ISO 45001 auditors as well as a safety & health management review by the MSC. Should any areas for improvement be identified during these reviews, they are followed through to completion.



Eight key risks consistently associated with the nature of our work:



Any incidents, including near misses, that occur within SP's premises or as a result of work activities performed by the Group and/or its contractors are reported to the MSC and thoroughly investigated. The person involved in or is witness to the incident shall notify the reporting officer as soon as reasonably practicable. The reporting officer then notifies management and the MSC of the incident within one hour. An investigation team is then formed to investigate the incident, establish accountability and make recommendations to prevent a recurrence.

Safety programmes are regularly reported to the MSC and WSH committees to ensure they are on track. To address risks associated with our nature of work, SP had established various risk control activities, namely safety inspections by the Management team, Group Safety and Health (GS&H), closed circuit television (CCTV) and independent WSH inspectors, project safety reviews for all SP projects, and triennial risk assessment workshops conducted by sections and GS&H officers. Over 350 management staff conduct site safety inspections to bring the message of safety to all staff and contractors. In FY23/24, we recorded almost 30,000 inspections (physical and remote monitoring) conducted at our work sites.



SP Group CEO (centre) conducting a safety inspection.

To ensure relevant information on occupational health and safety is readily available to our staff, we utilise a safety information management system portal that is available to all staff to access information on health and safety via our intranet. Documentation relating to ISO 45001, learnings from past incidents, training materials are available to staff via the portal.

We also host regular communication sessions and on-site training, such as monthly section communication sessions to share up to date health and safety information to field staff, regular safety engagement with contractors to communicate key issues and share best practices. Additional health and safety information is regularly communicated to staff and contractors via various platforms, such as mass email, Yammer, safety alerts, safety circulars, town halls and safety briefings.

Safety Circle of Excellence

The Safety Circle of Excellence (SCOE) was commissioned in 2022 by SP's Group Chief Executive Officer, co-chaired by the Chief Corporate Officer and SPPG Chief Executive Officer, supported by Head of Group Safety & Health and senior management from Projects, Operations and Procurement. The committee aims to actively engage business partners with meaningful conversations to make workplace safer for all staff and contractors.



SP Group Safety Circle of Excellence meeting with representatives from key business partners.

The committee was renewed in January 2024 with new key contractor partners and meets on a quarterly basis. Through this committee, SP contractors identified and facilitated implementation of best safety practices, strengthened safety mindset, and created an open platform for feedback on safety improvements.

The exchange of ideas allows collaboration with contractors to conduct trials on technological solutions to improve site safety, resolve site safety issues and drive better safety performance at SP Group's worksites.



To ensure all our staff and contractors are aware of and maintain the Group's standards for health and safety, training is provided through various channels. All new staff are required to attend a safety induction e-training course when they join the company. Annually, a safety e-learning refresher course is rolled out to all staff to provide more in-depth learning about safety in various work environments and mitigation measures to address key safety risks. There is an assessment at the end of each module to reinforce key concepts and learnings.

For contractors, a mandatory safety course conducted in the native language of foreign workers called Safety@SP has been provided since 2014. The objective is to raise safety awareness and to equip them with the necessary skillsets and knowledge to carry out works safely at our worksites. All workers are required to undergo Safety@SP prior to deployment onto SP worksites. In 2021, the course was extended to include practical stations, covering high-risk work activities, to enhance the learning experience of the participants.

Project safety management course targeted at all contractor project managers, WSH officers, project coordinators and supervisors was rolled out in January 2022. The course was designed internally and customised to enhance their capabilities and enhance site safety management skills. The training also helps them better understand SP's safety requirements and the importance of working safely.

Greening our operations

Adopting low-carbon energy insulating fluid for our transformers

SP is actively exploring green alternatives to mineral oil, traditionally used in distribution transformers. Mineral oil, while effective, has drawbacks – it is flammable, posing safety risks, and can be harmful to the environment if leaked.

Ester fluid has emerged as a superior solution, offering numerous advantages: it boasts a significantly higher flash point, reducing fire risk, and is readily biodegradable, minimising environmental impact. In addition, ester fluid is non-toxic and promotes extended equipment life. Transitioning to ester fluid not only improves safety and sustainability but also reduces SP's carbon footprint, making it a key technology for SP's journey towards achieving net zero emissions.

Two 1.5MVA 22kV/LV distribution ester transformers have been operating reliably at Changi Expo since 2015. With distribution ester transformers proving their effectiveness, SP has awarded contracts in 2023 and 2024 for their further installations throughout the network. Paving the way for adoption at transmission level, SP will commission the first 66kV ester power transformer in 2024.

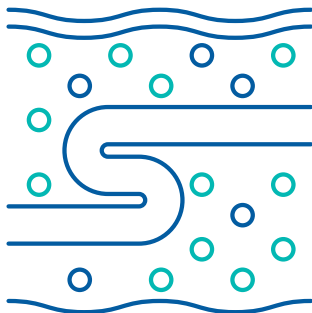


Renewing gas mains with polyethylene pipes

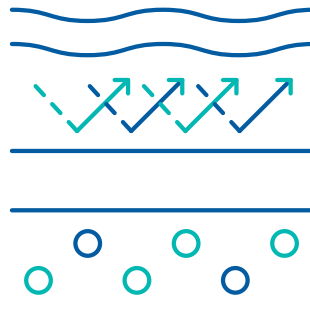
The performance of gas mains deteriorates as they age due to environmental and operational conditions. Hence, renewal of gas mains is necessary to ensure that safety and reliability is upheld.

Whilst ductile iron (DI) pipes have traditionally been used as gas mains, polyethylene (PE) pipes are now being used as replacement whenever renewal of gas mains is conducted.

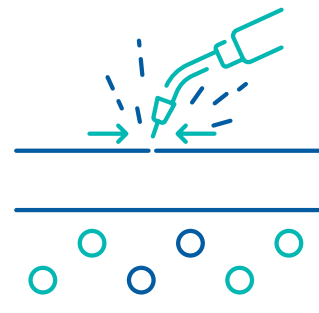
Advantages of PE over DI pipes:



More resilient to soil movements due to its flexibility



Resistant to corrosion as it does not rust or corrode



Stronger joints as the joints of the PE pipes are heat fused

PE pipes used for gas mains have a more superior performance as compared to DI pipes. With the increased deployment of PE pipes in the gas network, the fugitive release of the gas being transported is expected to be reduced.

Conversion to electric vehicles

As of March 2024, we have converted about 44 per cent of our service vehicles from diesel engines to engines to EVs, avoiding an estimated total of more than 54 tonnesCO₂e since we started the conversion. We will increase the electrification of the fleet in the coming years when suitable EVs such as twin-cabin truck, lorry and prime mover are homologated.



Distributed Energy Resources Management System (DERMS)

To better optimise the management of small-scale Distributed Energy Resources (DER) such as solar and EVs across the network, SPPG has embarked on the pilot development for a Distributed Energy Resource Management System (DERMS). DERMS is a monitoring and control platform which serves to support SPPG's network operators with real-time information and control capabilities to optimise DER connections.

The next phase of the DERMS pilot is focused on solar forecasting and capabilities to prepare for increasing EV adoption, and will be test-bedded at selected SP substations. When fully developed, DERMS will be able to support network operators in the sustainable integration of solar and EV-related DERs into the network, while effectively managing reliability and system costs.



DERMS

support SPPG's network operators with real-time information and control capabilities

Green buildings

One of SP's core strengths is the ability to integrate many of our solutions to work cohesively to achieve optimal energy efficiency, sustainability and decarbonisation. This is evidenced by our green buildings at our Kallang headquarters and the upcoming development, Labrador Tower.



GET™ Control deployment at SP HQ

As a testament to our commitment to energy efficiency and sustainability, we are implementing our GET™ Control solution at our Head Office in 2 Kallang Sector. Together with our Facility Management (FM) team, over 200 sensors have been installed throughout the building in July 2024.

GET™ Control is a building intelligence system enabled with Internet of Things (IoT) and Artificial Intelligence (AI) to optimise air flow control and energy efficiency in office buildings and retail malls.

The system adapts the cooling in real-time based on changes in occupancy and ambient weather conditions to enhance occupant thermal comfort while improving building energy efficiency and operations.

Deployment at SP HQ would bring the total Gross Floor Area (GFA) managed by GET™ Control to more than 46,450 square metres, making it a key solution to support our sustainability journey.





Labrador Tower

Labrador Tower, a new office-and-retail project, started construction in 2021 and is set to achieve TOP in 2024. The commercial building situated above an underground substation, is a showcase of SP's sustainable energy solutions and has attained certification as a Green Mark Super Low Energy (SLE) building under the Singapore BCA Green Mark Certification Scheme. This award highlights its best-in-class energy performance, use of renewable energy and other intelligent energy management strategies. The building incorporates energy-saving features such as a smart air conditioning system, high-performance façade, optimal building orientation and floor plates. With its various sustainable features, Labrador Tower is expected to use 40 per cent less energy annually compared to other conventional similar-sized buildings.

Combining a 255 kWp rooftop photovoltaic system, the GET™ Control, an efficient chiller plant, thermal energy storage and electric vehicle charging stations, these sustainable energy solutions work with regular building systems like lighting and controls to achieve the SLE certification. With SLE buildings, SP aims to propel the nation in achieving its Green Plan, which targets 80 per cent of buildings to be green, with 80 per cent of new buildings to be SLE and an 80 per cent improvement in energy efficiency by 2030.

Sustainable financing

SP announced that it has secured a S\$650 million committed green loan facility from Bank of China, DBS Bank, Maybank Singapore, OCBC and UOB in December 2023. This is SP's largest green loan secured and will be aligned to SP's updated Green Financing Framework. The loan will be used to finance and/or refinance loans relating to the construction, development, ongoing operations and maintenance of SP's upcoming Labrador Tower development.

As part of SP's ongoing commitment towards a low-carbon future, the company also refined its Green Financing Framework to reflect SP's latest sustainability roadmap. The enhanced Framework will deepen the integration of SP's sustainability roadmap into its financing strategy and provide greater visibility of how SP aims to create positive environmental impact and empower a low-carbon, smart energy future for Singapore and the region.

The Framework was found to be credible and aligned to the latest relevant international principles and guidelines by DNV Business Assurance Singapore Pte. Ltd ("DNV"), who was appointed to provide a second party opinion on the updated Framework. One of the revisions include tightening of the eligibility criteria for green buildings to minimally achieve the BCA Green Mark GoldPlus Certification, or equivalent standards, to be considered for green financing.

In addition, SP also announced that it has entered a strategic alliance with CMB Financial Leasing Co., Ltd., via SP's wholly-owned subsidiary, Shirui Energy Technology (Shanghai) Co., Ltd. Under this partnership, CMB Financial Leasing Co., Ltd. will provide competitive financing services to support SP Group's deployment of renewable energy solutions in China.

SP announced that
it has secured a
S\$650 million
committed green
loan facility

Transition Enablers:

Sustainable Energy Solutions

District cooling: keeping cities cool

District cooling and heating solutions are sustainable, energy-efficient, and low-carbon solutions that enables cities, districts and companies to achieve their decarbonisation targets. In Singapore, SP is the largest district cooling operator with 206,000 Refrigeration Tonnes (RT) secured capacity, providing cooling across all segments. As of 2023, SP is executing six district cooling projects across Singapore to bring this efficient cooling solution to the commercial, industrial and residential segments.

Our portfolio of district cooling projects provides significant carbon abatement opportunities. When fully operational, it is estimated to reduce 160,000 tonnes of CO₂ annually, equivalent to carbon sequestered by 8 million trees and removing 145,000 cars off the road.

Some of our notable projects include:



Marina Bay



Tampines Eco town



Tengah residential town



ST Microelectronics

Expanding our Marina Bay district cooling network with more developments and new satellite plants

SP Group is expanding our Marina Bay district cooling network and providing energy-efficient cooling services to four more developments in the Marina Bay area, namely Marina View, Clifford Centre, OUE Bayfront and The Fullerton Heritage (consisting of Fullerton Bay Hotel, Clifford Pier and Customs House).

SP also signed MOUs with City Developments Limited (CDL) and Singapore Land Group (SingLand) to design, build, own and operate satellite plants within the upcoming Central Mall and Central Square redevelopment project, and Marina Square respectively. When operational in 2027, both satellite plants will have a combined cooling capacity of up to 15,000 RT and augment the Marina Bay district cooling network.

*reduce its carbon emissions by at least **10,400 tonnes** over the 30-year operating period*



In April 2024, we also onboarded Suntec City to our Marina Bay district cooling network. SP will take charge of Suntec City's cooling system operation, optimise its chiller plant, and connect it to the network by 2027.

Leveraging SP's district cooling technology will enable Suntec City – with its five office towers, retail mall and convention centre – to reduce its carbon emissions by at least 10,400 tonnes over the 30-year operating period. This is akin to removing more than 315 cars from our roads annually.

The inclusion of Suntec City will create opportunities to deliver energy efficient cooling to a wider range of developments in the area, including Marina Centre and Bugis, thereby offering sustainable cooling solutions to more customers. With an installed capacity of approximately 20,000 RT, this brings the total current cooling capacity in operation and secured by SP through its district cooling networks in Singapore to 206,000 RT – making SP the biggest provider of district cooling solutions in Singapore.



Artist impression of Banpu Next

Securing our first district cooling project in Thailand

SP Group’s joint venture (JV) with Banpu Next has been awarded a tender to design, build, own and operate a district cooling system at Government Complex Centre Zone C in Bangkok. This is SP’s first district cooling project in Thailand.

Slated to complete in 2024, the district cooling system will operate a total cooling capacity of up to 14,000 RT, providing sustainable cooling for Zone C’s total gross floor area of 660,000 square metres.

The project will enable Zone C to save about S\$1.57 million in electricity costs per year, achieve energy savings of 20 per cent, and reduce emissions by up to 3,000 tonnes annually. This equates to removing about 20,000 internal combustion engine vehicles from the roads.

The JV company will install an EV charging station at the facility and explore potential deployment of additional sustainable solutions including EV buses, solar power systems, and energy storage systems.



MOU signing ceremony

Creating Singapore's largest EV fast charging network

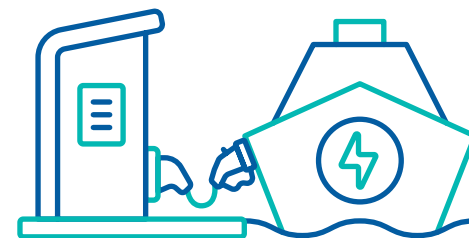
SP Mobility (SPM), the mobility arm of SP Group, was seeded from the electrification of SP's own service vehicle fleet. SPM celebrated its sixth anniversary in February 2024, operating over 1,000 public charging points across the island to support Singapore's green mobility transition.

In this nascent stage of EV adoption, we hope that our continuing efforts to reward consumers for choosing EVs will enable this important transportation transition.

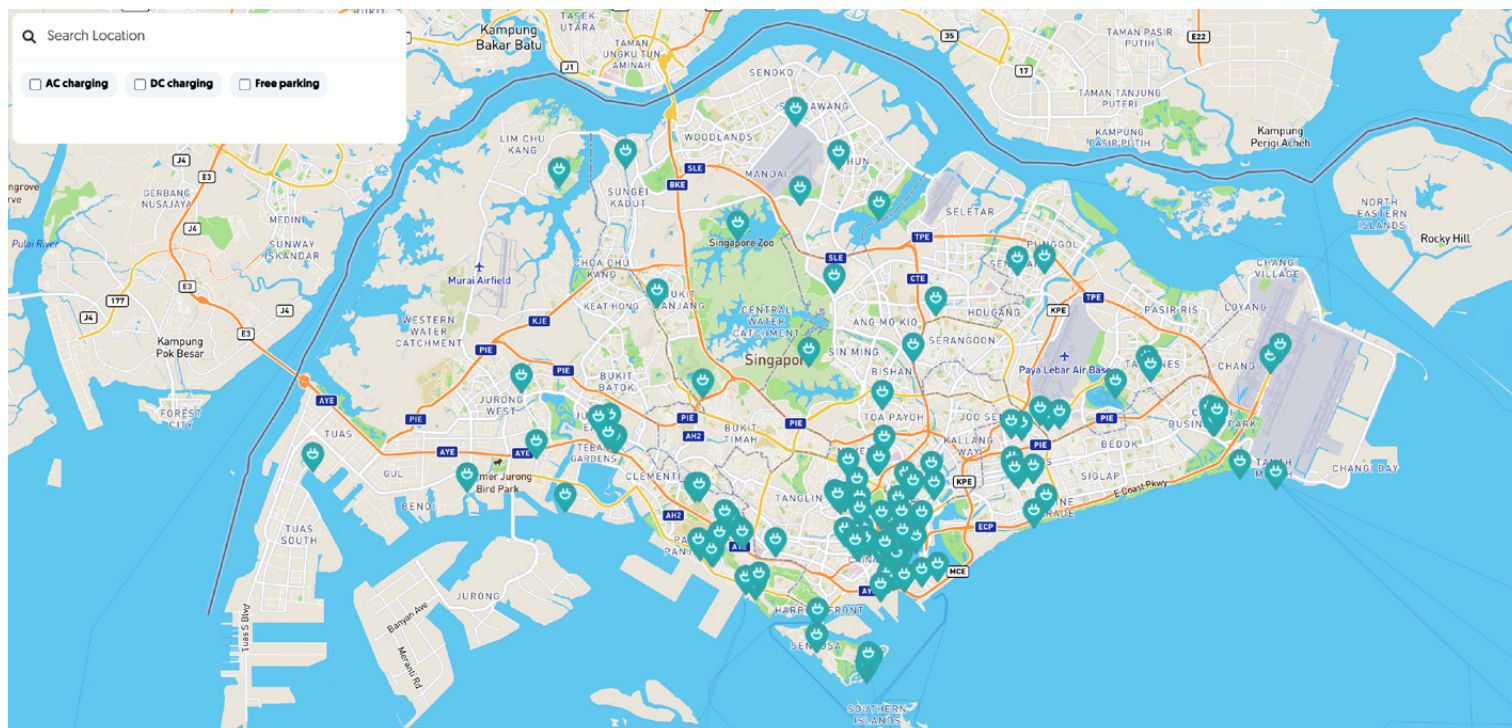
As part of the national agenda to deploy more EV chargers across HDB estates, SPM was appointed in a tender by the Land Transport Authority (LTA) in November 2022, to install close to 5,000 charging points in the Northeast and Eastern regions of Singapore.

In FY23/24, SPM installed more than 300 charging points across more than 100 HDB car parks, enabling more HDB residents to make the switch to EV once the infrastructure has been installed, empowering their decarbonisation journey.

In a new milestone, SPM and its partner, Pyxis, were awarded by the Maritime Port Authority of Singapore to operate Singapore's first charging point for electric harbour crafts. Commissioned in April 2024, this opens up a new frontier of mobility as we look to decarbonise both on land and on sea.



First charging point for electric harbour crafts



Network of SP's EV chargers

Renewables

SP continues to grow our domestic and regional renewables portfolio, expanding our secured capacity to 1.7GW by March 2024.

Frasers Property going green with SP solutions

SP is enabling Frasers Property to achieve its net-zero targets through our suite of sustainable energy solutions – in Singapore and the region.

Our latest initiative is the installation of rooftop solar photovoltaic systems across seven Frasers Property retail malls – Singapore's largest single solarisation rollout for retail malls.

When fully operational by end-2024, solar energy will contribute on average two per cent of energy needs of the participating buildings. This is projected to enable Frasers Property to reduce carbon emissions by 370 tonnes and achieve cost savings of more than S\$200,000 annually.

SP signed a partnership agreement with Frasers Property on 9 April 2024 that strengthens our long-standing collaboration to implement integrated sustainable solutions at properties in Singapore and overseas.

In Singapore, Tampines 1 and Century Square will form two of three key injection nodes for our distributed district cooling network at Tampines. We have also deployed our GET™



A collaboration between Frasers Property and SP on energy-saving solutions, both parties inked a partnership agreement during a signing ceremony on Tuesday, 9 April 2024

TenantCare across 17 of its properties in Singapore and installed 16 electric vehicle charging points on Fraser Property premises, with another 12 points upcoming.

In Vietnam, SP and Frasers Property are working together to jointly develop and implement integrated smart building energy management solutions in Binh Duong Industrial Park near Ho Chi Minh City. This partnership will help the industrial park accelerate the adoption of green energy solutions, enable energy savings and carbon emissions reduction for all tenants.



Binh Duong Industrial Park

Expanding renewables footprint in Asia

In the first 18 months of our market entry into Thailand, we have secured 40 megawatt-peak (MWp) of rooftop solar projects in operation and under construction, and a pipeline of over 100 MWp of projects across Thailand for established brands like Asia Composite Material and Malee Group.



Huizhou Solar Farm (140 MWp)

SP has partnered Malee Group, a leader in Thailand's beverage manufacturing industry, to tap on solar power to green its energy mix. Our 1.0 MWp rooftop solar photovoltaic system will provide for approximately 15 per cent of the energy requirements at Malee Group's factory in Nakhon Pathom while reducing carbon emissions by 700 tonnes per year.

In addition to Malee Group, SP has over 35 MWp of rooftop solar projects in operation and under construction; and secured a pipeline of over 100 MWp of projects across Thailand. Key partners include Asia Composite Material, Compact International and SAICO, who have leveraged SP's strong engineering expertise, regional experience and operational excellence to embark on their green energy transition.

In Vietnam, SP acquired a 50 MWp grid-connected operational solar farm in Binh Dinh province, located in the south-central coast of Vietnam. The Solar Farm will generate 80 GWh of clean electricity to the Vietnam Electricity power grid annually and will help Vietnam to reduce its carbon emissions by up to 48,000 tonnes annually.

In China, SP made a first investment in agrivoltaic assets in Guangdong, China. With a total installed capacity of 78 MWp, the project will integrate solar PV with 7.8 MWh battery energy storage systems across four existing agricultural sites in Dabu County, located in Meizhou, Guangdong Province. The solar-plus-storage model will improve the stability and resilience of the power grid with the capability to support periods of high electricity demand and tight electricity supply. When completed at the end of this year, the project is expected to generate 91.3 gigawatt-hour (GWh) of clean electricity and help Meizhou avoid over 91,000 tonnes of carbon emissions annually. Additionally, SP acquired 75 MWp of rooftop solar assets from Pufeng Xunlian Investment (Shanghai) Co. Ltd. The rooftop PV assets are located across multiple provinces such as Anhui, Guizhou, Hebei, Heilongjiang, Henan, Hubei, and Shanxi, and will provide green energy to industries such as the manufacturing of automobile parts and metal fabrication. These renewable energy assets will generate more than 75 GWh of green electricity annually, helping China to avoid more than 44,000 tonnes in carbon emissions each year.

Building efficiency solutions

Energy efficiency plays a central role in tackling climate change and is one of the key ways the world can meet energy service demand with lower energy use. As energy efficiency offers some of the fastest and most cost-effective actions to reduce GHG emissions, SP recognises the importance of educating our customers and supporting their adoption of energy-efficient practices.

With our innovative sustainable energy solutions, we enable customers to make decisions that can help reduce their carbon footprint and increase cost savings where possible. SP deploys a host of digital solutions for business districts, commercial buildings, and households to be more energy efficient, and we aim to expand our offerings to more customers to become more sustainable.



SMART INSIGHTS . ENERGY EFFICIENCY . OCCUPANT EXPERIENCE . SUSTAINABILITY



Monitoring & Analysis



Forecasting AI



Alarms & Fault Detection AI



Distributed Energy Resources



IEQ & Microclimate



EV Charging Station Network



User Engagement

GET™ Insights

Analyse and optimise utilities to manage costs and carbon emissions

GET™ TenantCare

Digitalise tenant utilities and billing to improve efficiency and revenue assurance

GET™ Control

Intelligent IEQ control system for enhanced occupant comfort

GET™ Engaged

Educate and engage stakeholders to advance sustainability

GET™ Mobility

Intelligent and reliable charging station management for a better EV experience

For commercial and industrial complexes and districts, we developed Green Energy Tech - a suite of digital solutions that integrates different building systems and diverse data sources to create a seamless, sustainable energy management experience for customers. Powered by the Internet of Things (IoT) and AI, GET™ enables building owners to make smarter decisions that improve the overall building performance, sustainability and occupant well-being.

For residential customers, the SP app then evolved to become an integrated tool for promoting sustainable behaviour amongst local residents through gamification, measuring their carbon footprint, 'greenifying' their power usage by purchasing Renewable Energy Certificates (RECs), providing a platform to charge their EVs, and so much more.

Powering green energy transformation

SP has partnered Rangsit University, a leading private university in Thailand, to bring our suite of integrated, sustainable and digital solutions to create a smart energy low-carbon academic campus. These include 2 MWp of rooftop solar PV across nine buildings on the campus and a floating solar PV system on one of the university's ponds, along with a centralised energy management and storage system. We also deployed our GET™ Control system that maximises air-conditioning efficiency and enhances occupant comfort.



Rangsit University

When completed in 2024, our solutions will help Rangsit University green up to 21 per cent of its total energy consumption and lower its carbon emissions by 1,400 tonnes annually. Notably, RSU's Facility and Environmental Management Office will be 100 per cent powered by solar energy and will be the first building in a Thailand university campus to aim for net-zero status.

To further this green partnership, SP and RSU will conduct a feasibility study to implement more integrated sustainable energy solutions across the campus. These include a district cooling system to provide energy efficient air conditioning, increasing the scale of solar PV and energy storage systems deployment, and further expanding the integration of the GET™ suite of digital energy management tools on campus.

Promoting sustainability through the SP app

SP app stands out in the realm of environmental innovation, not just for its technological prowess but also for its unique features, which embodies a commitment to ecological mindfulness and societal transformation. It's not just an app but a powerful tool orchestrating sustainable living.

Within its digital ecosystem, the GreenUP initiative is the foundational pillar of education and empowerment, encompassing eco-challenges, a robust content library, an insightful Carbon Footprint Quiz, a comprehensive GreenUP Report, an expansive Green Marketplace, and the pioneering My Green Credits™ (MGC) programme.



Consumption Insights



Bill Payment



GreenUP



My Green Credits



My Carbon Footprint

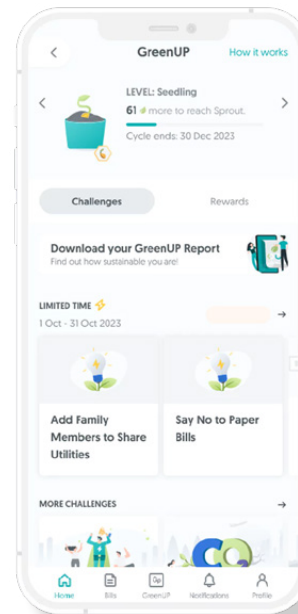
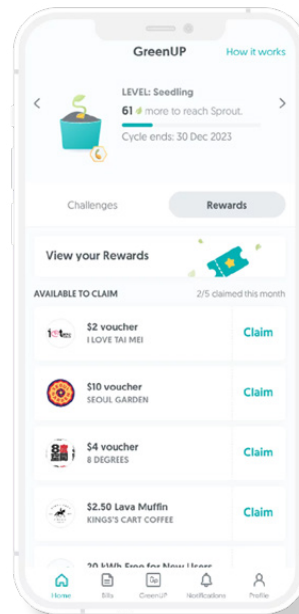
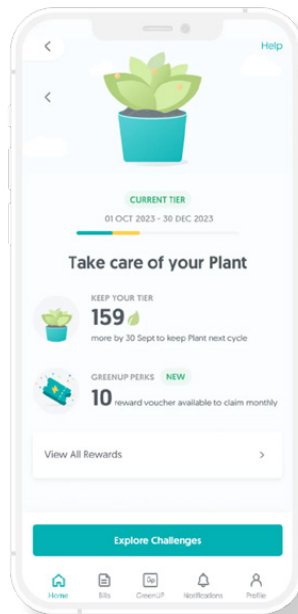


EV Charging

GreenUP: Educating and empowering sustainability

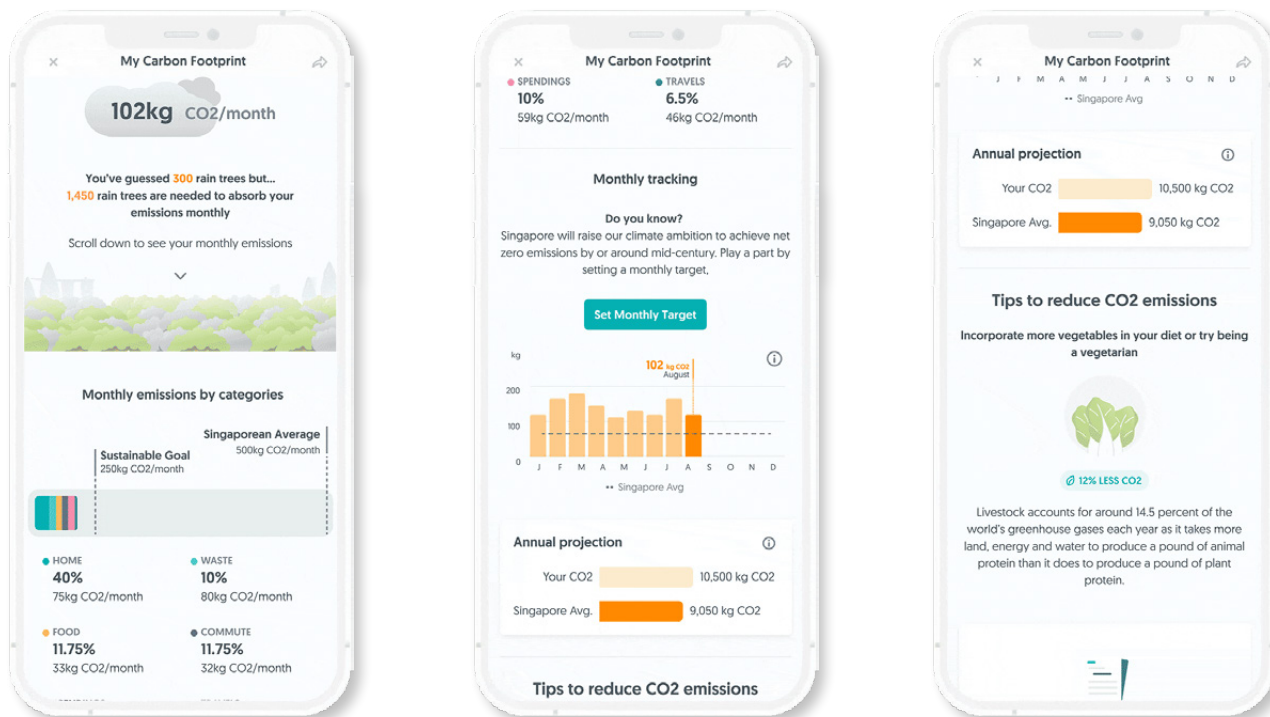
The GreenUP initiative, a cornerstone of the SP app, is designed to empower users to adopt sustainable practices. This feature-rich platform offers an immersive educational experience, guiding users to make informed decisions about energy consumption and greener living.

By participating in eco-challenges and engaging with rich content such as reuse, reduce, and recycle activities and the Carbon Footprint Quiz, users can contribute to Singapore's net-zero ambitions and earn rewards along the way.



Carbon Footprint Quiz and GreenUP Report: Driving sustainable actions

Our Carbon Footprint Quiz allows users to measure and understand their environmental impact. It evaluates consumption patterns and lifestyle choices, encouraging positive competition for collective action towards green targets. The outcomes offer actionable insights to minimise carbon footprint. Complementing this is the GreenUP Report, which users can download monthly. It shows a snapshot of the user's sustainability journey, offering a breakdown of their environmental impact. This motivates individual action and ensures users are well-informed about their contributions, fostering accountability and progress.



Green Marketplace: Catalysing eco-conscious consumption

The Green Marketplace is a curated platform that connects users with a wide range of green products and services. It's a testament to our commitment to sustainability, offering users a trusted avenue to make purchases that align with their environmental values.

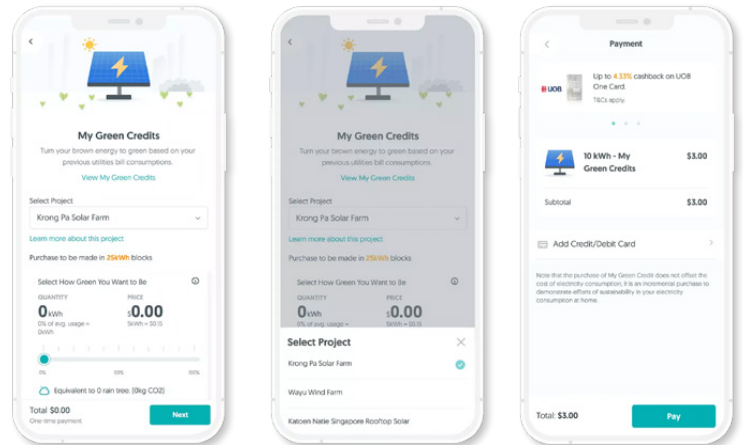


Innovative decarbonisation: My Green Credits™ and strategic partnerships

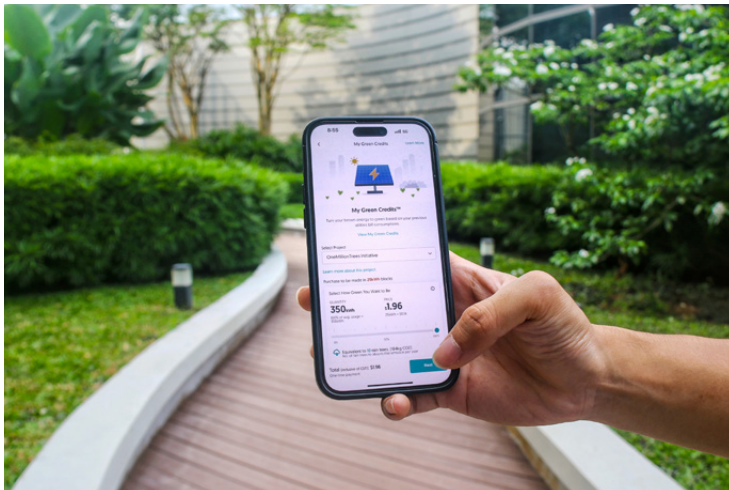
My Green Credits™ (MGC) is a part of the SP app launched in October 2020. It is a simple way to buy Renewable Energy Certificates (RECs) in kilowatt-hours (kWh) to help the environment by "greening" part of their electricity usage each month. This initiative makes it easy for people to support sustainable energy and helps them understand how to contribute to a low-carbon economy.

SP has a strategic partnership with UOB which offers UOB EVOL cardholders the chance to offset 100 per cent or more of their electricity's carbon footprint when they pay their SP utilities bills with their UOB EVOL card. This partnership shows SP's commitment in helping users make sustainable choices and offering value-added services that help them do so.

The MGC initiative allows SP to support its customers in making responsible energy choices. SP is committed to enabling participation in the transition to a low-carbon economy by fostering innovative partnerships.



Climate services



tracking their emissions on a granular level to develop actionable insights. As every organisation has different sustainability priorities, our SaaS (Software as a Service) ESG service provides customisable dashboards for corporates and their regional operations to track specific metrics relevant to them.

Our climate services business supports the Singapore's vision to be a carbon trading hub. Since 2021, we have sold more than 2.9 million RECs to 78 MNCs and corporates spanning over 9 different geographies while we continue to grow our nascent carbon credit business. We provide RECs from our own assets in Singapore and the region to corporates to make creditable green energy claims. In addition, we are collaborating with UOB for a second year where EVOL card users can use My Green Credits to green their household electricity usage.

Corporates and SMEs start their sustainability journey by measuring and

sold more than
2.9 million RECs
to 78 MNCs and
corporates spanning
over 9 different
geographies

People and The Community

With the aim of becoming Asia Pacific's leading sustainable energy solutions player and preparing for Singapore's energy transition, SP has been thoughtful in providing targeted training to our team, equipping them with the right skills and knowledge to excel in their field. SP is also committed to sustained giving to meet the evolving needs of the communities in which we operate in, creating lasting impact for beneficiaries from across the age spectrum.



Workplace health & well-being

SP developed a comprehensive workplace health programme which is based on the World Health Organization (WHO) model for healthy workplaces. The programme has been developed with the objective of preventing occupational disease and promote personal health and well-being. This initiative is backed by the Union of Power and Gas Employees (UPAGE) and supported by the joint efforts of the MSC, the Workplace Health Programme (WHP) committee, and the ReCharge committee.



The WHP committee spearheads workplace health initiatives to drive total WSH within the organisation, in line with WHO framework of healthy workplace. WHP develops and implements SP's groupwide workplace health programmes in collaboration with the ReCharge Committee.



The ReCharge committee aims to create a dynamic and energetic workplace to strengthen company unity and promote preventive healthcare. This is done through encouraging active participation in sports and fitness, increase awareness of preventive healthcare approaches, social and festive events that liven up the workplace and encourages team bonding.

In FY23/24, we hosted a series of health promotion programmes for all SP staff. Highlights include:

An **annual health screening** available to all staff at no charge. This provides staff with an assessment of their current health status such as cholesterol levels, BMI, and diabetes risk so that they can take timely action if required. The data collected is also taken into consideration when developing their work plan for the following year.



Turning-23 (Weight Management) Programme was launched for all staff to manage their BMI. SP partnered Sengkang General Hospital to provide private consultation sessions for participants and monthly virtual health talks to offer insights and tips on weight management, at no cost to employees.



A lifestyle survey is conducted with staff as part of our health promotion initiative. The outcome of the survey guides **programme development targeted at everyone's interest areas**, such as physical or mental health workshops or smoking cessation programmes.



LIVE WELL portal was set up as a one-stop centre for health and well-being information for all SP staff. The portal provides access to health information, self-help resources, publicity of upcoming programmes and employee assistance programme.



A **network of Care Ambassadors** was established to offer peer support, and they underwent a management training workshop to acquire skills in psychological first aid to help staff who are suffering from mental health issues.



In conjunction with World Mental Health Day, **SP Mental Health Week** took place in October 2023 to create awareness of mental health issues and to reach out to staff who may need assistance in managing their mental health.



SP Fun Walk 2023



SP Wednesday workout session as part of the Turning-23 Programme

Workplace wellness programmes

SP encourages staff to take care of their health and well-being through participation in activities organised by Workplace Health Programme and ReCharge committees. We adopt a comprehensive approach in the planning and execution of activities by prioritising efforts targeting four key dimensions:

Preventive Healthcare

- Health Screening & Immunization
 - Healthy Talks
- Statutory Occupational Screenings

General Healthcare

- Physical Workouts
- Social activities by ReCharge
 - WHP Bazaar

Intervention Healthcare

- Turning-23 Programme
 - Smoking Cessation
- Chronic Disease Management

Mental Healthcare

- Employee Assistance Programme
 - Self-Help Online Resources
- CARE Ambassadors Workshops
- Mindfulness & Self-Care Talks
 - Financial Literacy
 - Parenting Workshops
- Support for Mature Workers

Key highlights for FY23/24:



As part of **Preventive Healthcare**, SP facilitated seasonal influenza vaccinations held within SP's premises for both employees and their family members at subsidised rates. The subsidy was extended till end-January 2024 so that more employees who missed the onsite event could receive their vaccinations at the clinics.

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SP achieved 100 per cent Compliance with the Statutory Medical Examinations mandated by the Workplace Health and Safety Act. This includes an annual audiometric examination, annual mercury exposure examination, annual spirometry for SCBA (Self-contained Breathing Apparatus) users and more to ensure the safety and well-being of our staff.



Turning-23, a weight management programme continued into Season 6 this year providing staff with **Interventive Healthcare support**. This year, the programme included higher intensity activities where the physical workouts were conducted twice weekly both online and in-person.

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SP collaborated with Parkway Shenton Group to introduce "Healthier SG SP-CDMP," a chronic disease management programme designed to support employees in achieving a better quality of life. Employees diagnosed with chronic diseases are encouraged to join the programme and are incentivised to meet specific targets, at no cost to the employee.



In collaboration with ReCharge with a focus on **General Healthcare**, various health and financial talks were held throughout the year to ensure staff are equipped with relevant knowledge to support their general well-being. The talks covered a range of topics including, planning for retirement, financial planning, managing stress and build healthy habits.

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The well-being of SP's employees remains as one of the main priorities addressed under **Mental Healthcare**. The SP Mental Health Week was a five-day event comprising educational mental health talks, outdoor fun walk and mindfulness practice session conducted by professional trainers.



SP Group has been certified as a Global Healthy Workplace by the Global Centre for Healthy Workplace (GCHW) from 2022 to 2024. The certification recognises SP as an employer of choice while demonstrating sound ethical business principles, performance, and value to stakeholders.

7

Training and development

3,700
Number of employees
[as of end March 2024]

159,000
Training Hours

43
Average training hours
per employee per year

6.1
Average training days
per employee per year

100%
Staff received a regular
performance and
career development
review

To prepare our company for present and future growth, we have trained our employees in “Core” and “Future-Ready” programmes in the following key areas. Examples of the programmes are shown below:

Network Reliability

- Introduction to Digital Twin
- Importing electricity from regional power grid

Electric Vehicle Charging

- Introduction to Electric Vehicle (EV) and EV charging system
- Electric Vehicle Charging System

Cybersecurity

- Threat Vulnerability & Risk Assessment
- Cybersecurity Code of Practice

Energy Efficiency

- Foundational Workshop on Energy Efficiency
- Singapore Certified Energy Manager (SCEM) Training Programme

Data and Artificial Intelligence

- Data Analysis and Analytics - Practical Application
- Introduction to Artificial Intelligence (AI) and Machine Learning

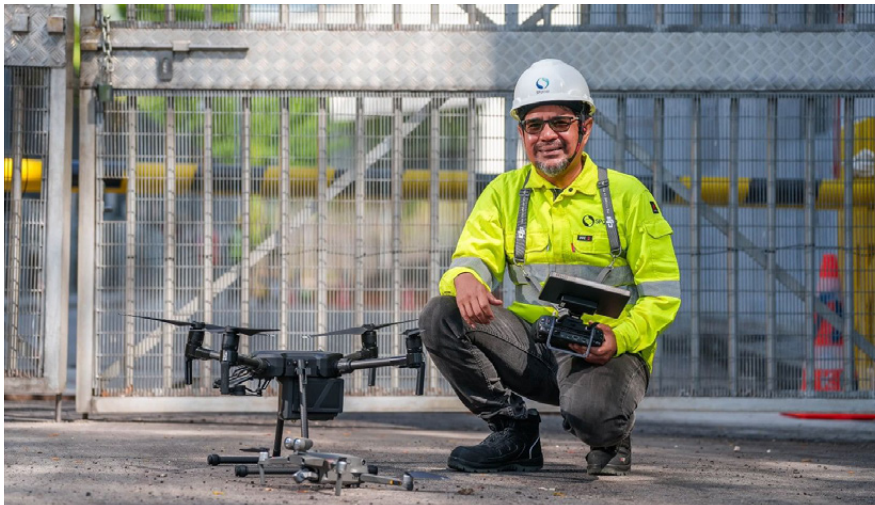
For employees going into retirement, reporting officers engage them about six months prior to re-employment to discuss possible re-employment arrangements, and the training needed should they be redeployed to a different job. There is also flexibility on working arrangements subject to operational needs extended to returning retirees, for example moving into shorter work week as a transition to the eventual retirement.

Preparing for a future-ready workforce

To recognise SP's commitment to advancing future-ready skills, career pathways and sustainable wage growth for its employees, SP has been awarded the Plaque of Commendation (Star), the highest award for organisations. This was presented at the National Trades Union Congress (NTUC) May Day Awards 2024 held on 10 May 2024. The energy company was nominated by the Union of Power and Gas Employees (UPAGE).

As training and upskilling are key drivers to prepare its employees for sustained growth and transformation in the dynamic energy industry, SP has invested S\$52 million in training and development, clocking 1.1 million training hours for its 3,700 employees since 2018. These impressive figures show just how much SP is focusing on training and career development initiatives that ensure its workers are equipped for roles and opportunities to meet evolving industry needs.

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Mr Muhammad Shamil Abu Bakar

Mr Muhammad Shamil Abu Bakar from SPPG's Electricity Operations department benefitted from SP's commitment. His work involved accessing building facades and conducting inspection and maintenance works at SPs substations at height. When SP transitioned to employing drones to enhance safety and efficiency, Mr Shamil received trainings to obtain his Drone Pilot Licence from the Civil Aviation Authority of Singapore.

Caring for our community

Empowering lives, for life

At the heart of SP Group's corporate purpose and culture lies our commitment to sustained giving, adapting to the evolving needs of the social service sector to effect meaningful and lasting impact. Through our philanthropy and volunteerism, we support vulnerable groups across the age spectrum in the community, from seniors, to youth and young children.



Our Board Chairman, senior management, and UPAGE representatives packing SP Power Packs with SP volunteers.

In the past year, these efforts totalled S\$5.3 million in donations and staff volunteering towards various community causes and industry initiatives.

For the third consecutive year, we reaffirmed our support for KidSTART Singapore under the SP Kids at Heart initiative with a S\$1.1 million donation, bringing our total contribution to S\$3.2 million. This latest donation will benefit 2,000 more children, offering them access to educational resources such as digital devices, books and learning activities. The donation will also fund a series of learning journeys to introduce sustainability concepts and inculcate fun, green habits in children.

In addition, we expanded our collaboration with Allkin Singapore (formerly known as AMKFSC Community Services) through a S\$350,000 donation to enable all-rounded development for students at the Allkin Student Academy. This donation will go towards enrichment programmes to boost academic performance, confidence building and artistic development, including STEM workshops and performing arts.



SP Group presenting the cheque for \$1.1 million to KidSTART Singapore. (From left) Stanley Huang, Group CEO, SP Group; Masagos Zulkifli, Minister for Social & Family Development; Rahayu Buang, CEO KidSTART Singapore and Chew Sutat, Chairman, Community Chest.

In uplifting at-risk youth from lower-income families, through educational, counselling and intervention programmes, SP donated S\$500,000 to TOUCH Community Services, S\$480,000 to Care Corner and S\$350,000 to SHINE Children and Youth Services.

Our philanthropy efforts also extend to our corporate partners through our annual SP Charity Golf event. We raised a record S\$700,000 for the SP Heartware Fund thanks to the generosity of our corporate partners. All funds raised will go towards Community Chest programmes for over 25,000 vulnerable seniors.



SP Group Charity Golf 2023



SP Group conferred highest accolade at Community Chest Awards 2023

We held our inaugural Volunteers Festival in October 2023, celebrating the spirit of giving amongst our staff and inspiring more to come on board. Our social service partners presented stories of how volunteering plays a pivotal role in uplifting the community and our staff volunteers, also known as SP Heart Workers also shared their experiences to inspire others. A highlight of the event was the launch of SP's publication "Heart at Work: A Guide to Corporate Volunteering" which helps staff in their volunteering journey and serves as a toolkit for other organisations looking to build their own corporate volunteering programmes.

Our Heart Workers have led in an array of volunteer activities and rallied more staff to make meaningful contributions of their time and talent. Besides

sustained collaboration with our key social service partners, they have also ensured the continuity of signature programmes, such as our annual charity drive to deliver 10,000 power packs tailored to different age segments for lower-income families.

In a national-level pilot led by the National Volunteer & Philanthropy Centre, National Council of Social Service and SG Cares, SP participated in a pilot programme, Project V, to help shape and strengthen the spirit of corporate volunteerism. Through this project, we deepened our partnership with Allkin Singapore in exploring more ways to enhance volunteer programmes with their seniors and children.

In recognition of SP's holistic and sustained efforts in caring for the community, we received the highest accolade, the Pinnacle Award, at the annual Community Chest Awards. This was among a record four awards that SP received last year, with the Charity Platinum Award, Enabler Award, and Volunteer Partner Award as part of the honours. The awards reflect the progression and growth in the breadth and depth of giving that has been made possible through the collective efforts of our employees, customers, business and social service partners.



SP volunteer distributing Power Packs to our beneficiaries 2023

Disclosures



Contribution to SDGs

SDG Target by 2030	Initiatives to support the targets
 <p>7 AFFORDABLE AND CLEAN ENERGY</p>	<p>Clean and Smart Energy - Leveraging on the climate opportunities in the provision of low-carbon solutions, aligning with the SDG 7 targets:</p>
<p>7.1 Energy access</p> <p>Ensure universal access to affordable, reliable and modern energy services</p>	<ul style="list-style-type: none"> Increasing electric vehicle charging stations Enabling access to the Open Electricity Market by empowering customers with options for electricity packages and to enjoy savings
<p>7.2 Renewable energy</p> <p>Increase substantially the share of renewable energy in the global energy mix</p>	<ul style="list-style-type: none"> Renewable energy imports from the region Deploying solar PV projects Encourage use of Renewable Energy Certificates for clean energy claims Launch of My Green Credits™ on the SP app to enable households to match their electricity consumption with an equivalent amount of green energy produced
<p>7.3 Energy efficiency</p> <p>Double the global rate of improvement in energy efficiency</p>	<ul style="list-style-type: none"> GET™ TenantCare Utilities Monitoring and Insights Deploying smart technology and SP app to access half-hourly electricity usage Spreading environmental awareness through GET™ Insights, GreenUP and My Carbon Footprint Deploying smart technologies for Tengah smart energy town
 <p>9 INDUSTRY, INNOVATION AND INFRASTRUCTURE</p>	<p>Reliable and Sustainable Infrastructure – Ensuring resiliency in the infrastructure through addressing the climate risks to uphold reliability of our services in alignment with relevant SDG 9 targets:</p>
<p>9.1 Reliable infrastructure</p> <p>Develop quality, reliable, sustainable, and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all</p>	<ul style="list-style-type: none"> Investing in network infrastructure upgrades Deploying smart grid technologies Asset Health Digital Twin to monitor equipment health – prototype in place Constructing the first large-scale underground substation in Southeast Asia to optimise space in land-scarce Singapore Deploying district cooling and energy-saving solutions Developing urban micro-grid
<p>9.4 Sustainable infrastructure</p> <p>Upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities</p>	<ul style="list-style-type: none"> Capacity upgrades for the Interconnector between Singapore and Peninsular Malaysia to support a regional grid energy import pilot Developing DERMS to enable the effective integration of renewables

Task Force on Climate-related Financial Disclosures (TCFD)

TCFD's Core Element	TCFD recommendations	SP Group's Approach	Addressed in Sustainability Review
Governance	Describe the board's oversight of climate-related risks and opportunities.	<p>The Board is committed to integrating sustainability into SP Group's strategic directions and plans.</p> <p>The Board Executive Committee [ExCo] assists the Board and provides advisory supervision on SP Group's sustainable strategy, material ESG topics and targets.</p>	Board's role, pg [7]
	Describe management's role in assessing and managing climate-related risks and opportunities.	<p>The Executive Leadership Team [ELT] reports to the ExCo and is headed by the Group Chief Executive Officer [GCEO]. The ELT's role is to oversee and manage material sustainability initiatives.</p> <p>The Strategy and Sustainability team monitors climate change issues and gives regular updates to the ELT.</p>	Management's role and internal controls, pg [7]
Risk Management	Describe the organization's processes for identifying and assessing climate-related risks.	The Strategy and Sustainability team and Risk Management team had jointly conducted a climate risk assessment to identify material climate risks under different climate scenarios. The risks identified were then integrated into the Enterprise Risk Management [ERM] Framework	Group Risk Management, pg [7]
	Describe the organization's processes for managing climate-related risks.	<p>The Board Risk Management Committee is supported by the Group Risk Management [GRM] and provides oversight of the business risks that the Group faces.</p> <p>The implementation and management of the ERM Framework are undertaken by the GRM and ERM workshops on material risks are held across business units. "Top-Down" and "Bottom-Up" approaches are adopted across the entire Group so management and employees communicate and participate in effective risk management.</p> <p>The Group Risk Management then reports to the Board Risk Management Committee and provides updates on the risk management activities of the Group's operations.</p>	Group Risk Management, pg [7]
	Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.	All risks that are considered material to operations and are considered as strategic business risks and managed under the Enterprise Risk Management [ERM] Framework, including risks that arise from climate change. Physical and transitional risks are closely monitored by the related business units and escalated to the Risk Management Committee when necessary.	Climate risk assessment and scenario planning, pg [8-9]

Strategy	Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	<p>The adoption of two United Nations Sustainable Development Goals (SDG) shows the Group's support of the global call to action that all would enjoy peace and prosperity by 2030.</p> <p>SP Group had conducted our first climate risk assessment in FY 21/22 based on a net-zero and business-as-usual scenario, where short to long term horizons were considered.</p> <p>The adoption of TCFD's reporting framework was done in FY21/22, focusing on the physical and transition risks and opportunities that occur with climate change.</p>	<p>Sustainability Strategy, pg [5]</p> <p>Climate risk assessment and scenario planning, pg [8-9]</p>
	Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.	<p>Strategy 2030 aims to create a low-carbon, smart energy Singapore and be a regional leader in sustainable energy solutions. SP provide a full suite of solutions to customers and businesses to assist them in their sustainability journey.</p>	<p>Our Impact, pg [6]</p>
	Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	<p>To strengthen the sustainability resiliency of our strategies, SP Group has done a detailed study on two climate change scenarios. Of which, one scenario is considered a net-zero scenario, where warming temperatures are kept below 2°C.</p> <p>To demonstrate our commitment to sustainability, SP Group is committed to reducing our own emissions and also helping our customers achieve their green goals through digital solutions, energy-efficient technologies and accelerating the transition to renewable energy.</p>	<p>Climate risk assessment and scenario planning, pg [8-9]</p> <p>Integrating net zero solutions pg [11-17]</p>
Metrics and Targets	Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	<p>The TCFD reporting framework was adopted in FY21/22 to address the increasing demand for clear, comprehensive and high-quality information on climate-related risks and opportunities.</p> <p>To track the progress of our goals, metrics have been provided since the base year of FY19/20.</p>	<p>Metrics and targets, pg [10]</p>
	Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.	<p>SP Group has been reporting our Scope 1 and 2 GHG emissions since FY19/20, in accordance with the GHG Protocol Corporate Accounting and Reporting Standard.</p> <p>In FY22/23, we have also started reporting our Scope 3 GHG emissions</p>	<p>Metrics and targets, pg [10]</p>
	Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets	<p>Aim to be net zero by 2050.</p>	<p>Sustainability Strategy, pg [5]</p>



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