





ENVIRONMENT

Heatwaves and extreme cold weather are among the increasingly frequent and devastating effects of climate change. In 2023, North America, Europe and even Mainland China experienced both extreme heatwaves and freezing temperatures, causing business disruption, hospitalisation, and even deaths. Climate risk has become a critical issue for corporations that must be understood and mitigated as part of an integrated management approach to restoring resilient natural ecosystems and facilitating a just transition for regions, industries and communities that are facing the greatest challenges.

With the real threat from extreme weather, the Group has taken proactive steps to ensure the impact of its businesses on the environment can be minimised and the businesses can stay resilient. Strategies have been developed to both manage climate risk and identify decarbonisation opportunities, as investment in the likes of renewable and clean energy usage, clean transportation and efficient energy consumption were completed throughout the year. While topics such as biodiversity and protection of nature, water conservation and land, water and air pollution prevention, as well as waste management are at the core of the Group's corporate strategy, respective policies are already in place as an overarching framework, guiding business divisions towards sustainable operations. Moving forward, the Group will continue to monitor its environmental performance, operating in line with its sustainable framework, adopting circular approaches in production and consumption, and reviewing and updating the strategy as appropriate.

GROUP GOALS

- TAKE ACTION ON CLIMATE CHANGE
- PROTECT NATURAL RESOURCES
- PROMOTE A CIRCULAR ECONOMY

CONTENT IN THIS SECTION

- DECARBONISATION
- BIODIVERSITY PROTECTION
- WATER MANAGEMENT
- AIR QUALITY
- CIRCULAR ECONOMY

Linked SDGs



DECARBONISATION

The Group supports the 2015 Paris Agreement, which aims to mitigate the worst effects of climate change by limiting global warming to below 2 degrees – preferably below 1.5 degrees Celsius. Charting the course on a global pathway towards net-zero GHG emissions by 2050 will entail an unprecedented transformation of how energy is produced, transported and used, bringing both challenges and meaningful opportunities to the Group.

Climate Action Strategy

In 2021, the Group identified 10 net-zero transition opportunities for climate adaptation and mitigation to achieve transformational change over the long term based on current business expectations and structure. Owing to the interconnected nature of the Group's

management approaches to climate change and related topics, links are provided in the following table to relevant information located elsewhere in this report.

Table 3 10 net-zero transition opportunities

Transition opportunities & strategies



Renewable and other clean energy

- Invest in and grow the Group's renewable energy portfolio.
- Transition gas to hydrogen network.
- Connect market-leading levels of renewable energy to the grid.
- Increase the procurement of renewable electricity.
- Adopt carbon capture and storage where relevant to waste-to-energy operations.



Finance and investment

- Continue to align capital expenditure towards a net-zero pathway.



Clean transportation

- Scale up electric and hybrid-electric vehicles and infrastructure.
- Lead the way in being first-adopters of hydrogen vehicles and equipment.
- Support the modal shift to sustainable rail transport.



Collaboration, partnerships & advocacy

- Partner with peers, customers, government and other relevant organisations to accelerate the transition.



Circular economy & design

- Reduce, reuse and recycle all forms of waste.
- Design products and systems with circular economy principles in mind.



Climate adaptation

- Protect Group members and assets and be ready for a changing climate.
- Conduct periodic climate-risk assessments of high-risk assets.
- Protect biodiversity to restore healthy ecosystems and further strengthen adaptation.



Transitioning high-carbon assets

- Phase out coal-fired power generation globally by 2035.



Supply chain engagement

- Further develop supplier engagement policies.
- Develop scope 3 emissions reductions targets.



Energy efficiency

- Exhaust all feasible options for energy efficiencies.
- Embrace digitalisation and innovation to transform distribution networks, increase grid flexibility and decrease distribution losses.
- Be a leader in innovation in 5G, IoT applications and smart city solutions.



Carbon offsets

- Reduce the Group's direct carbon footprint as the first priority. Carbon offsets neutralise residual emissions attributable to the Group that are not possible to eliminate.

GHG Emissions Reduction Targets

With the Group's core businesses having set emissions reduction targets, underpinned by expansive action plans, the Group has established its own Group-wide commitment of reducing scope 1 and 2 emissions by 50% by 2035 versus a 2020 baseline, as well as committing to the long-term pursuit of net-zero carbon emissions across its value chain by 2050.

Given that transitioning high-carbon assets will be important to this aim, the Group has also committed to phasing out coal-fired power generation globally by 2035.

Division-level progress

In 2020, the Group tasked all four divisions to undertake three key steps towards action on climate change: assess the pathway to setting science-based targets ideally validated by the SBTi⁽¹⁾; assess the pathway to net zero; and calculate scope 3 emissions.

Divisions have also taken initiatives on conducting separate assessment, updating workplans and aiming towards achieving, or even exceeding the respective reduction targets according to key milestones. In 2023, the Group's core business continued to make substantive progress on their respective action plans as detailed below.



Ports



Hutchison Ports is committed to setting both near-term and long-term targets in line with the SBTi net-zero standard. In 2023, Hutchison Port Holdings Limited received the approval from SBTi for GHG emissions reduction targets, covering scope 1, 2 and 3 emissions by 2033 as compared with a 2021 baseline as follows:

- Reduce scope 1 and 2 emissions by 54.6% versus the 2021 baseline
- Reduce scope 3 emissions by 32.5% versus the 2021 baseline

To conform with SBTi's latest net-zero criteria, the validated targets were set to be more ambitious than the targets published in the 2022 Sustainability Report.

Hutchisons Ports is also committed to achieving a net-zero emission operation by 2050. To achieve these targets, among other initiatives, all of Ports' new investments in mobile and stationary machinery will be fully electric or supplemented with other forms of clean energy going forward. Procuring renewable electricity via Power Purchase Agreements (PPAs) and Energy Attribute Certificates (EACs) will also be widely adopted over time.



Retail

The Retail division received the SBTi validation on its near-term reduction targets in 2022, covering scope 1, 2 and 3 emissions by 2030 compared with a 2018 baseline as follows:



- Reduce scope 1 and 2 emissions by 50.4%
- Reduce scope 3 emissions from purchased goods and services, upstream transportation and distribution, and use of sold products by 58% as per Hong Kong dollar value added
- 33% of supplier emissions from purchased goods and services, upstream transportation and distribution will be subject to science-based targets by 2027

Note 1: SBTi drives ambitious climate action in the private sector by enabling organisations to establish and implement science-based emissions reduction targets.



Infrastructure

The Infrastructure division, which accounts for over 80% of the Group's total scope 1 and 2 carbon footprint, has committed to reducing its scope 1 and 2 emissions by 50% by 2035 versus a 2020 baseline and has further committed to the pursuit of net-zero emissions before 2050. Its major business units have committed to further targets as follows:



AGIG

10% renewable gas by volume in distribution networks by 2030; 100% renewable gas in its distribution networks no later than 2050



Northern Gas Networks

Net zero in operations by 2031, excluding gas shrinkage
Net zero across the value chain by 2050



Dutch Enviro Energy Holdings B.V. (owns AVR-Afvalverwerking B.V. (AVR))

Net zero in operations by 2050



SA Power Networks

Net zero in operations by 2035



HK Electric

Net zero before 2050



UK Power Networks

Net zero for directly controlled operational emissions by 2028, excluding network losses



ista

Net zero in scopes 1, 2 and selected scope 3 categories by 2030



Wales & West Utilities

Net zero by 2050



Northumbrian Water

Net zero for all emissions (scope 1, 2 and 3) by 2050



Telecommunications

CKHGT received its SBTi validation approval in 2022, where near-term reduction targets cover its scope 1, 2 and 3 emissions by 2030, including:



Reduce scope 1 and 2 emissions by 50% by 2030 versus a 2020 baseline

Reduce scope 3 emissions by 42% by 2030 versus a 2020 baseline

CKHGT has committed to net zero in its operations (scope 1 and 2) by 2040 and to setting a comprehensive net-zero target to be validated by the SBTi, which will also incorporate scope 3 emissions.

Group Carbon Footprint

In 2023, with the committed effort in managing emissions, the Group is overall on track to achieve its previously set emission targets. In 2023, total scope 1 and 2 emissions were reduced by 10% versus the 2020 baseline year. These savings were achieved predominantly through transitioning to alternatives that are less carbon intensive during power generation by the Infrastructure division. According to the [10 Net-Zero Transition Opportunities](#)

[strategy](#), it is part of the Group's overall aim to phase out all coal-fired power generation globally by 2035 and reduce gas leakage through gas pipeline replacement programmes. The Ports and Retail divisions are also implementing low-carbon transition programmes, such as decarbonising the generation portfolio, electrification of mobile and stationary equipment, green transportation and other energy efficiency measures across the Group.

Figure 11 Group scope 1 and 2 GHG emissions (tCO₂e) 2021-2023

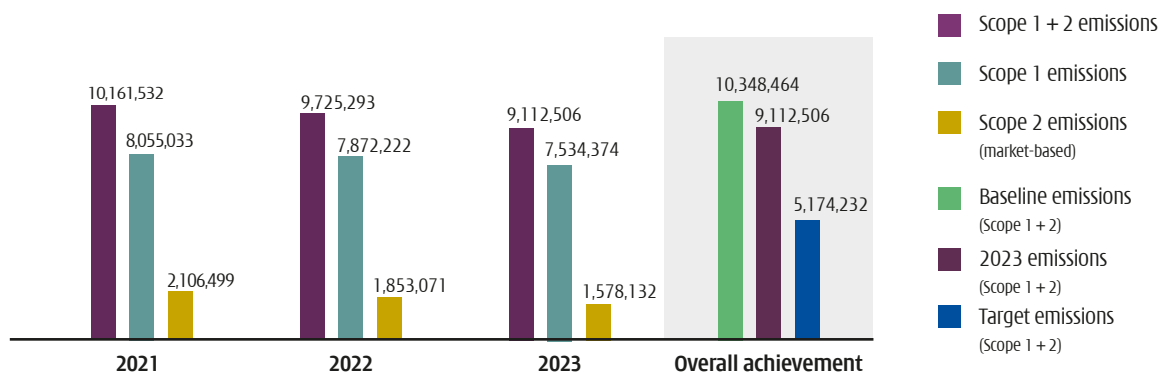
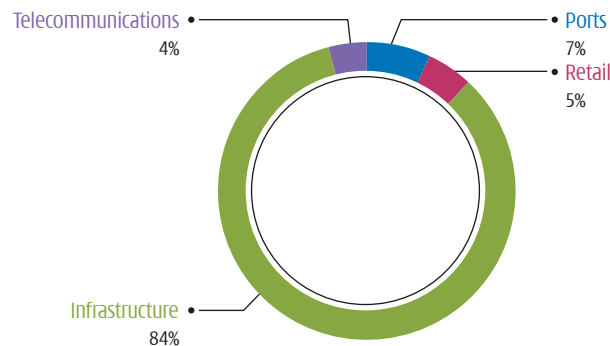


Figure 12 Group breakdown of scope 1 and 2 GHG emissions in 2023



Scope 3 inventory

In view of the complexity on reporting scope 3 emissions, the Group has implemented a series of measures in 2023 to ensure that a comprehensive and accurate inventory can be developed. Specialised engagement programmes and workshops were conducted to involve suppliers and stakeholders throughout the value chain, and progress was made on different business division levels. The Ports division has been managing and establishing its scope 3 inventory since 2022, covering eight categories according to the guidelines from the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard. The Telecommunications division has also started its scope 3 inventory development programme. Wind Tre has started initiating a goal-focused sustainable supply chain programme, aiming to better manage scope 3 emissions by integrating ESG criteria in the supplier evaluation and the tender mechanism, while collecting

the relevant data points. 3 UK is also partnering with independent platform EcoVadis, sourcing accurate ESG data and positively influencing the supply chain.

The collective scope 3 emissions effort is consolidated and presented in Appendix 1. Use of sold products remain the most dominant scope 3 category across the board and the Group's core businesses are taking steps to mitigate these emissions by assigning additional weight to sustainability criteria in procurement practices and engaging with suppliers on opportunities for decarbonisation.

Learn more about the Group's approach to [Supply Chain Responsibility](#).

Renewable and Other Clean Energy

As one of the 10 net-zero transition opportunities, the Group has already committed to investing in renewable and other clean energy projects. The investment has also enabled the Group to facilitate clean energy distribution to customers and communities by connecting alternative energy sources to the grid and transitioning its gas networks to embrace the hydrogen economy.

For example, 3 Austria consumes renewable energy at its 411 kWp solar plant, and Wind Tre self-generates approximately 345 MWh

per annum from its 13 solar installations. In 2023, 3 Ireland built on its solar photovoltaic proof of concept project that rolled out in 2022. 3 Ireland also installed solar generation facilities on an additional 90 sites resulting in an installed capacity of approximately 470 kW. In 2023, the Group generated around 6,331 GWh of renewable and other clean energy, and thus avoided over 4,690 ktCO₂e emissions with the displacement of carbon-intensive energy sources.

Table 4 Clean energy generated by the Group's businesses

Source	Installed capacity (MW)	Generation in 2023 (MWh)	Emissions avoided p.a. (tCO ₂ e)
Biogas*	212	1,698,161	2,234,924
Solar	4,560	1,932,685	488,106
Wind	888	537,947	245,405
Hydropower	7	50,050	13,879
Green hydrogen	1	27	-
Energy from waste	340	2,112,030	1,708,569
Total renewable and clean energy	6,008	6,330,900	4,690,883

Note *: Biogas produces electricity and renewable natural gas. These data include renewable natural gas converted from MMBtu.



Infrastructure

SUPPORTING OF LOW-CARBON HEATING AT HOUSEHOLDS

To help UK customers transition away from fossil fuels as quickly as possible, UK Power Networks kicked off the NeatHeat project to trial new boiler systems, Zero Emission Boiler, in 30 homes across London, the South East and the East of England, offering a low-emissions solution for homes which may be unable to install a heat pump.

Customers participating in the trial are anticipated to cut their emissions by 2.5 to 3 tonnes of CO₂ per year. The trial will also allow UK Power Networks to understand the charging pattern of the smart boiler and test optimisation mechanisms which will provide flexibility to the local electricity network and use existing infrastructure more smartly.



Zero Emission Boiler, UK Power Networks



SHIFTING TOWARDS A LOW-CARBON FUEL MIX

HK Electric is able to acquire, through the Feed-in Tariff (FiT) Scheme, renewable energy generated by private sector customers at rates higher than the electricity tariff and offers Renewable Energy Certificates (REC) for the purchase of customers at the same time. Since the roll-out of the FiT scheme, the total capacity of grid-connected customers' renewable energy power systems has increased to approximately 10.8 MW. Meanwhile, over 29 GWh of zero-carbon electricity generated has been subscribed through the purchase of REC since its launch.



Solar panels at "A Square" Transitional House, HK Electric



UTILISING WASTE COAL MINE GAS

EDL owns and operates a large portfolio of waste coal mine gas-powered stations in Australia. Waste coal mine gas is produced during coal mining as methane gas trapped in coal seams is released. As this product can be a safety hazard and a challenge to mining operations, it is extracted by mine ventilation and coal seam drainage. Historically a waste product that is vented or flared, the methane is now extracted and used by EDL as a power generation fuel - delivering reliable and affordable energy and significantly reducing GHG emissions.



Waste coal mine gas powered stations, EDL

Enabling the hydrogen transition

Hydrogen is a clean source of energy and can be a significant contributor to the transition away from fossil fuels and as outlined by the International Energy Agency in its Net-Zero Emissions 2050 Roadmap. In 2023, the Group, and especially the Infrastructure division, has continued committing resources to invest in this clean energy source by implementing projects such as introducing hydrogen into local fuel mixes and modernising local networks for hydrogen distribution and thus bringing a positive impact to the global decarbonisation movement.

The Group has made remarkable progress in transforming untested concepts into practical solutions in recent years. Several of the Group's business units excel in reducing barriers to large-scale and widespread hydrogen adoption by demonstrating the technical and commercial feasibility of hydrogen adoption and addressing safety concerns. Notably, the Group's gas networks have achieved significant milestones in establishing the feasibility of adapting their existing infrastructure to usher in the new hydrogen economy.



Infrastructure

INTRODUCING RENEWABLE HYDROGEN GAS INTO AUSTRALIA NETWORK

In support of the Australian state and territory ambitions of being net zero by 2050, AGIG is committed to delivering at least 10% renewable gas across its distribution networks by 2023, and with a vision of 100% renewable gas by no later than 2050. During 2023, AGIG has proactively partnered with governments and industry to deliver renewable hydrogen projects across the country and the value chain.

AGIG has expanded the supply of blended renewable hydrogen in South Australia, increasing from 700 homes to nearly 4,000 homes and businesses in Mitchell Park, Clovelly Park and parts of Marion. This expansion is a significant endorsement of the success of this pioneering project, as it marks two years since it began delivering blended renewable hydrogen to homes in the southern part of Mitchell Park in May 2021, demonstrating the ability of the existing gas network to transport renewable gas to homes and its compatibility with existing gas appliances.

AGIG has unveiled Australia's first 100% hydrogen-powered home, HyHome, providing a window into future low-carbon energy solutions for Australia. HyHome, with many of its

appliances running off hydrogen, demonstrates future energy use whereby natural gas is replaced entirely by carbon-free hydrogen. The showcase reflects a critical step in providing customer choice in energy transition.

AGIG received development approval for the Hydrogen Park (HyP) Gladstone project, which puts Gladstone on track to become the first gas network in Australia where the entire gas distribution network will supply homes, businesses and industries with a blend of up to 10% (by volume) of renewable gas. The project is now under construction and is expected to blend into the Gladstone gas distribution network in 2024.

AGIG signed an arrangement to power a South Australian government two-year hydrogen bus trial. Begun in August 2023, the trial's hydrogen fuel cell buses are powered by green hydrogen generated at AGIG's HyP South Australia. The bus trial will carry out over 80,000 customer journeys within the first 12 months and save approximately 90 tonnes of CO₂ emissions per year, at a minimum.



Infrastructure

ENABLING LOW-CARBON HYDROGEN PRODUCTION AND NETWORK DEVELOPMENT

Wales & West Utilities is investing GBP400 million into its gas network from 2021 to 2026 to advance towards net-zero emissions. The goal for Wales & West Utilities is to prepare a network by 2035 that is ready for net zero in regions most poised for a switch to hydrogen, with the ambition to transform the entire network by 2040.

Additionally, Wales & West Utilities has announced a feasibility study to evaluate the capability of existing North Wales infrastructure to transport hydrogen as part of its

future network planning strategy. The study will provide a detailed assessment of the infrastructure needed to advance opportunities for hydrogen in Wrexham and Deeside. The project will also explore supply and demand scenarios to understand the extent of hydrogen roll-out required in the low-carbon future. It will also develop options for changes to the current method for implementing industrial cost-sharing schemes, which allows customers to share the cost of adopting a hydrogen network and could reduce the cost of rolling out hydrogen for industry.

Modernising and digitalising electricity networks

With the increasing number of distributed and standalone powering sources being developed, especially with the increasing popularity of small and rooftop scale solar photovoltaic units, the need for a more adaptable electricity network is needed. The modernisation and digitalisation of the current grid and electricity networks are viewed as one of the factors in furthering community-based

decarbonisation. The Group's electricity distribution businesses are actively supporting connections for distributed renewable energy sources through appropriate mechanisms, such as FiT schemes and EACs. As of 2023, Both UK Power Networks, SA Power Networks, Victoria Power Networks, and Hong Kong Electric have collectively connected over 23GW of distributed renewable energy sources in their respective networks.



TRANSITIONING TO A FLEXIBLE TWO-WAY NETWORK

SA Power Networks has released its Draft Regulatory Proposal for the 2025-2030 period, detailing plans to complete the transformation of its network into a "two-way" system, aiding South Australia's transition to 100% renewable energy. A key aspect of this proposal is the establishment of new systems to enable demand-side flexibility, progressing from existing work focusing on enabling more exports from rooftop solar systems.

With forecasts indicating continued growth in rooftop solar installations, the company expects reverse power flows to surpass the capacity of its network assets at certain times of the year, especially within the low-voltage network. To reduce the need to curtail exports from customer solar systems and ensure a secure electricity supply for all customers, the

company intends to introduce "flexible connection" services for both residential and commercial customers.

The proposal outlines the development of new systems and services to accommodate increased connections of customer loads and generation to the distribution network, such as solar systems, batteries and electric vehicles. These advancements will enable more dynamic balancing of energy import and export, aligning times of peak solar generation with flexible loads such as electric vehicles and hot-water systems. New value for customers will be realised as they utilise low-cost, renewable generation during the day, and respond to market price and network constraints during times of peak demand.

Procuring renewable electricity

In 2023, 32% of the Group's onsite and purchased electricity came from renewable sources, compared to 25% in 2022. Around 80% of renewable energy procured by the Group took place in Europe, where this market is most developed.

The Group's preference for renewable energy follows RE100 technical screening criteria which favours the use of PPAs, as well as onsite generation, as more "additional" in nature. In 2023, it has been actively exploring collaborative approaches to sourcing renewable energy through PPAs. The objective is to ensure stable, long-term supplies of clean energy while achieving economies of scale to reduce average costs.

Often, there are limited options for business units to procure renewable electricity through PPAs, particularly in Asia. The Group therefore encourages its business units to make a start with what is available in their local markets, including EACs and Green Tariffs, and then to continue to work towards developing higher-order options over time.



32%

of onsite and purchased electricity came from renewable sources



Ports



Retail



Infrastructure



Telecommunications

RENEWABLE ELECTRICITY UTILISATION & PURCHASES HIGHLIGHTS ACROSS CORE BUSINESSES

- In 2023, Hutchison Ports KICT in Pakistan developed its first solar system, which generated 140,000 units of electricity, helping to reduce 110 tCO₂ per year. Hutchison Ports MITT in Myanmar has also started its installation of a 100kW grid-connected solar system, while Hutchison Ports ECT Rotterdam in Netherlands has also started upgrading its electricity infrastructure, preparing for the electrical equipment and vehicle transition.
- Kruidvat, Trekpleister, ICI PARIS XL Netherlands have been powering their operations with a 100% renewable energy source. AS Watson has purchased Renewable Energy, through EACs, for its operations in China and Hong Kong as well, which accounts for about 20% of annual electricity consumption, and also in Malaysia, Indonesia, Philippines, Thailand and Turkey, which accounts for about 10% of their annual consumption. Additionally, starting from 2024, all Retail divisions will allocate a fixed budget for the purchase of EACs.
- HK Electric from the Infrastructure division is expanding its local renewable energy capacity in Hong Kong and aims to provide a 1.2Mwp photovoltaic (PV) system with targeted energy generation of 1.2GWh per year. In 2023, additional PV systems were installed at Lamma Power Station and expanded the local solar power generation of HK Electric to 2.4Mw. A power optimiser is adopted at the newly installed PV system at 26 station buildings, which is estimated to enhance annual energy output by around 10-20%.
- **3** Austria is operating with 94% green electricity and plan to convert to 100% in the near future. **3** Austria has also installed an over 2,000m² rooftop PV system at their Vienna headquarters. **3** Ireland is powered by 100% renewable electricity through its electricity procurement. **3** UK is engaged in the procurement of renewable electricity through its energy contract. **3** Sweden achieved 78% purchased renewable electricity and **3** Denmark continued the two-year agreement to procure renewable energy from a local solar park. Also Wind Tre purchased EAC, covering 40% of its electricity consumption, while CKHGT as a group is also reviewing longer-term renewable energy procurement opportunities through Power Purchase Agreement.



Solar panel station at Lamma Power Station, HK Electric

Transitioning high-carbon assets

Natural gas is a cleaner and more reliable alternative energy source than coal, and it can support the Group's vision in reducing carbon emissions from the power generation businesses cost-effectively in the near term. Gas-fired power provides a reliable baseload for the local electricity grid and complements ongoing investment to accommodate the increasing renewable energy sources, such as solar and wind-power units, connecting to the grid network and stabilising overall grid harmony.

The Infrastructure division's investment in coal-fired power generation has reduced from 53% of installed capacity in 2016 to 31% in 2023. Since 2021, the Group has fully phased out coal-fired power generation in OECD countries. It is committed to continuing this process in non-OECD countries as HK Electric has been enhancing its equipment in the Lamma Power Station in Hong Kong to accommodate the coal to gas conversion transition. The full phase-out of coal-fired generation is expected to be completed by 2035.



Infrastructure

COAL TO GAS CONVERSION AT HK ELECTRIC

The L12 project, the last phase of three new 380MW gas-fired combined-cycle generating units under HK Electric's 2019-2023 Development Plan, will all be fully commissioned in early 2024. The unit will further augment gas-fired generation capacity.



Clean Transportation

As one of the identified 10 net-zero transition opportunities, the Group has committed to further investing in the clean transportation sector. In 2023, the Group has continued the electrification process, transitioning into clean energy equipment and electric vehicles, further lowering the carbon emissions of its operations. It is also the Group's objective to stay in line with the EU's strategy to achieve the European Green Deal in transport, which calls for a 90% reduction in transport-related GHG emissions by 2050.



Autonomous electric truck, Hutchison Ports Thailand



Ports



Retail



Telecommunications

LOW-CARBON TRANSPORTATION ALTERNATIVE

London Thamesport from the Ports division will be further enhanced with the launch of the new “Euro Maroc Service” by WEC Lines to provide an eco-friendly alternative to truck transport from West France to the UK. Thus, shippers can reduce their reliance on the heavily congested channel crossing and land travelling distance by utilising vessels, which helps save the distance travelled on land.

In the Retail Division, H&B Benelux, Watsons China and PARKNSHOP Hong Kong have already started using hybrid or plug-in electric trucks for warehouse to store deliveries. Watsons China has been expanding its electric vehicle coverage from Tier 1 cities (Beijing, Guangzhou, Shanghai, Shenzhen) to Tier 2 cities, Tianjin and Chongqing. For Online order deliveries, H&B UK and ICI Paris XL have been using electric vans and e-Cargo bikes for

deliveries in Central London and 13 emission-free zones in the Netherlands, respectively. Four other operations in Asia (Watsons China, Singapore, Taiwan and Thailand) have started using electric vans and electric motorbikes for country-wide deliveries.

To support the initiative of clean transportation, **3** Austria commits to transitioning to electric vehicles for its entire fleet by the end of 2027. While **3** Sweden also has a target of switching 70% of its vehicle fleet to either electric or hybrid power by 2025, this target was achieved by the end of 2023, with 76% of its vehicle fleet switched to electric or hybrid power. Wind Tre has also added 394 electrical vehicles to its entire fleet and has partnered with DHL to lower its carbon footprint, as DHL has already committed to pursuing net-zero emissions in all of its logistics-related activities by 2050.

Electrification progress of Hutchison Ports

Mobile and stationary equipment in operation globally in 2023			Electrification programme 2023-2024	
Type	Total # units	of which electric or hybrid	Locations	CAPEX
Rubber-tyred gantry crane	853	563	Pakistan, Egypt, Mexico, Thailand, United Kingdom, Poland	US\$171M
Straddle carrier	208	23	Bahamas, Netherlands	US\$22M
Automatic guided vehicle	362	85	Netherlands	US\$45M
Reach-stacker	194	2	Panama, Egypt	US\$2.5M
Empty container handler	182	12	Panama, Thailand, Egypt	US\$2.2M
Internal tractor	1,330	115	United Kingdom, Mexico, Oman, Netherlands, Egypt	US\$58M



Electric vehicle charging station, **3** Austria



Infrastructure

ADOPTING GREENER TRANSPORTATION

Aligning with the government's ambition to achieve carbon neutrality by 2050, Alliance Construction Materials has been driving the implementation of green logistics in Hong Kong. In February 2023, Alliance Construction Materials introduced the first electric concrete mixer truck in Hong Kong. The company kicked off a one-year trial of using a new energy mixer truck for concrete delivery to evaluate its performance, adaptation and challenges in the local construction industry, providing insightful information on the transition of new energy transportation in the future.

UK Rails continues to explore opportunities to future-proof its existing assets with low-carbon technologies, from hybridising diesel trains to reducing their emissions, to extending the ability of electric trains to operate outside of the electric network range for shorter distances by adding batteries. In 2023, the company conducted a series of investigations exploring emissions reduction opportunities on diesel-electric trains, including engine efficiency modifications, new lithium-ion batteries, the replacement of existing cabin HVAC dual fuels and alternative fuels. UK Rails is also continuing the exploration of a hydrogen-powered, zero-emission passenger

fleet, as well as developing the approval plan to support its future safety operation case. In the coming year, the company is targeting a first-in-class trial on a model C222 electric truck with an intelligent engine start-stop system and completing its investigation on opportunities for enhanced HVAC on eco mode.



Electric concrete mixer truck, Alliance Construction Materials

Energy Efficiency

As energy demand and expenses continue to rise, the Group continues to seek innovative options to enhance its overall energy efficiency. Specifically, the Group's Infrastructure division supports local communities served by its electricity distribution businesses to benefit from better access to affordable energy and enhance home energy efficiency through education campaigns and installing smart meters. Both Northern Gas Networks and HK Electric have launched community-based programmes to support and motivate youths and the general public to effectively

manage their gas and electric expenditure, foster awareness in energy efficiency and renewable energy and embrace green practices. In addition, HK Electric has been deploying smart meters for customers since 2020, with the initiative set to continue until 2025. Customers with smart meters installed can access the "Account-On-Line" Service via the HK Electric App, allowing user to conveniently monitor electricity consumption data at different intervals such as half-hourly, daily and monthly and better manage their consumption.



Infrastructure

ENERGY EFFICIENCY INSTALLATION AT BROOKLYN DEPOT

In 2023, Victoria Power Networks completed the large-scale 1.25MW solar panel system installation at its depot in Brooklyn to significantly reduce electricity consumption and GHG emissions. The depot is fitted with energy-efficient

fixtures, including LED lighting, battery storage connecting to solar installations and preparation works on electric vehicle charging facilities for anticipated growth in electric vehicle fleet requirements.



Ports



Retail

EXPLORING ENERGY SYSTEM UPGRADES

The Ports division has continued to review its decarbonisation strategy to improve overall energy performance and upgrades through its cross-functional working groups. Examples of such strategy include constantly reviewing and re-scheduling according to energy profile, exploring alternative fuels and renewable energy utilisation, modernising heating stations and expanding transformer stations.

With 16,491 stores worldwide, in-store consumption of electricity accounts for 89% of the Retail division's scope 2 carbon footprint. In order to promote the efficient use of electricity, smart meters are installed in UK stores so that energy usage could be regularly monitored and possible areas for consumption savings could be identified. PARKnSHOP partners with a third party to conduct an energy audit project on selected stores and to identify energy efficiency opportunities in refrigeration equipment. AS Watson will further leverage the successful experience of the project and increase the number of energy audits in 2024 by covering retail stores, distribution centres, head offices and other relevant locations, with the aim of identifying additional energy efficiency opportunities within the division. Details will be disclosed in the subsequent Sustainability Report.



Telecommunications

NEW RULES FOR ENERGY-EFFICIENT PURCHASES

In 2022, Wind Tre refined the sourcing phase to procure energy-efficient and sustainable purchases, which is in line with the decarbonisation plan and in compliance with the requirements of ISO 50001 certification. During 2023, these tendering rules were implemented in a tender for the purchase of microwave network equipment and evaluated the energy consumption of each product over time. The result contributed towards the final evaluation and assignment of the tender. Based on the result, a document has been written that formalises the rules, which can also be applied to similar or modified tenders.

All business units of the Telecommunications division have invested significantly in upgrading to more efficient mobile network equipment, virtualising the core network and network services. The testing and implementation of equipment features is also conducted to support optimisation of network performance. Wind Tre uses statistical Radio Access Network monitoring with smart sleeping functionality to reduce energy consumption, while 3 Denmark and 3 Sweden are decommissioning 3G capacities.

The Telecommunications division also virtualises applications and consolidates data centres to reduce data consumption. 3 UK has implemented "Ekkosense", an AI-driven data centre cooling optimisation software across four legacy data centre sites, delivering 12.5% cooling energy reduction in just ten weeks. 3 Austria has also implemented power monitoring software, renewed all cooling equipment for its main locations, replaced oil equipment, saving around 728,000kWh per year of electrical power and 10,000m³ of water per year.

BIODIVERSITY PROTECTION

Air, land, water and natural habitats are all valuable assets included within the bracket of biodiversity and should be protected and enjoyed by all. Being a responsible global citizen, protecting nature and respecting all lives on earth whilst operating responsibly is at the core of the Group's operation strategy. It is important to minimise the environmental impact while conducting the various types of business across the Group.

The Group has long been working with different stakeholders, to ensure that impact and concerns on biodiversity-related issues resulting from operations can be well managed. To further demonstrate the principle and direction adopted, the Group adopted its first standalone Biodiversity Policy in 2023, outlining the Group's strategy on the topic, which will also be applicable to all business units across the Group.

- [Biodiversity Policy](#) 

THE GROUP'S BIODIVERSITY POLICY

Protecting biodiversity is an essential part of a sustainable operation. The Group recognises the importance of the topic and to ensure the vision can be shared and conducted across the Group, the first standalone Biodiversity Policy was developed in 2023. The objective of the policy is to cover all business divisions and provide a framework of operation in considering biodiversity preservation and avoiding environmental disturbance. The policy includes the following principles:

1. Protect Natural Resources
 - Support anti-deforestation, biodiversity protection, conservation and restoration, and relevant and appropriate biodiversity conservation and environmental protection programmes and initiatives.
 - Prevent pollution to land, water and air, and undertake biodiversity assessments where relevant.
2. Minimise Impact of Business Activities
 - Operate responsibly and promote sustainable use of natural resources.
 - Actively develop, incorporate and implement environmentally sustainable products and processes with potential commercial applications where possible.
3. Enhance Awareness and Engagement
 - Enhance internal biodiversity protection awareness, while partnering with external stakeholders in promoting the topic.

For details, please refer to the [Biodiversity Policy](#) .



Environmental Net Gain

In accordance with the [Environmental Policy](#) and [Biodiversity Policy](#), all business divisions should complete biodiversity assessments to ensure that they protect, conserve and restore local biodiversity, wherever relevant to their operations.

Over 2023, the Group has been advocating the environmental net gain approach that leaves ecosystem services in a measurably better state across all divisions. Positive results are achieved across the Group, as biodiversity conservation and environmental protection programmes are successfully implemented. For example, the Ports division conducts regular monitoring isolation control for shorebird nesting areas in Hutchison Ports Sydney in Australia to minimise adverse impact on its habitat. It has also participates in a community ecological restoration project at the Sir Joseph Bank Park, aiming to remove invasive species to support the growth of native plants, restore habitats and improve biodiversity within the area.

The Telecommunications division is also working diligently to minimise its ecological impact. While complying with the Wildlife and Countryside Act, local planning, ecological or site provider requirements, special deployment arrangements are also attended

to annually in considering the disturbance caused to protected species (i.e. nesting birds) from surveying activities and how this could be avoided.

Across the Infrastructure division, business units such as SA Power Networks conduct regular inspections on assets at high risk of failure or of causing fires, and patrol the 49,800km network before the bushfire season, minimising the risk and severity of fire events. Trimming trees and branches near powerlines reduces the risk of bushfires, and also helps SA Power Networks to provide a safe and reliable electricity supply for customers and communities. The last three years of La Niña weather conditions have resulted in significant vegetation growth, and their vegetation management programme was required to trim vegetation on 70,911 spans of powerline across South Australia before the commencement of the bushfire danger season. AGIG is also working on risk assessments on vulnerable species and will continue to review its overall environmental footprint in order to craft its biodiversity targets by 2025. To further contribute to this aim, in 2023, AGIG participated in a pilot study with the Commonwealth Department of Climate Change, Energy, the Environment and Water on the adoption of the Taskforce on Nature-Related Finance Disclosure.



Infrastructure

SAFEGUARDING BIODIVERSITY

UK Power Networks has continued its long-standing relationship with nine Wildlife Trusts to develop its Environmental Action Plan commitments associated with biodiversity enhancement, which focuses on safeguarding and improving the environment. UK Power Networks has identified, surveyed and assessed the biodiversity score of 100 substations with the support of wildlife trusts and is targeting to improve biodiversity scores by up to 30% for the initial 100 sites with biodiversity improvement work.

Furthermore, UK Power Networks has also declared its commitment to identify and assess an additional 100 sites for biodiversity enhancement in its 2023–2028 business plan. So far, around 70 potential sites have been highlighted, and 25 of them have been visited by an ecologist. From the visit, the baseline biodiversity score is determined based on biodiversity metrics from the Department for Environment, Food & Rural Affairs (DEFRA), relevant biodiversity improvement initiatives are recommended and the potential

biodiversity scores for each site are projected once the recommendations have been implemented.



Invasive laurel clearance, UK Power Networks

Sustainable Sourcing and Anti-deforestation

A wide range of products is needed to sustain business across the Group, and the procurement process involves sourcing from its long list of suppliers. The Group has in place relevant policies, guiding all business units to procure and operate sustainably, while engaging with credible and responsible suppliers. Supplier pre-assessment procedures are in place from the Retail division,

ensuring that procured products are manufactured according to sustainable production standards such as the Roundtable on Sustainable Palm Oil (RSPO), Forest Stewardship Council (FSC), Programme for the Endorsement of Forest Certification (PEFC), etc., in an attempt to minimise the Group's impact on deforestation and achieve protection for the environment.



RESPONSIBLE SOURCING

The Retail division has committed to providing and promoting a sustainable choice of products to customers with options such as a better selection of ingredients and packaging materials from sustainable sources. As part of efforts to protect the forest, the following commitments were made:

- **Wood-pulp:** All Exclusive Brand paper products and packaging to be made exclusively from sustainable materials (FSC, PEFC or recycled) by 2030
- **Palm oil:** All Exclusive Brand products to include RSPO-certified palm oil by 2030
- **Beef & Soy:** Committed to sourcing deforestation-free meat and soy-based Exclusive Brand products by 2030

TAKING STEPS TOWARDS FUTURE-PROOF PALM OIL

As a member of the Roundtable on RSPO since 2016, the Retail division has been operating according to the RSPO initiative and strives to achieve incorporating 100% RSPO standards palm oil by 2030. An annual RSPO scorecard has also been issued, where AS Watson has achieved a score of 6.9 out of 10, above the retail sector average score of 4.4. In 2023, 80.7% of the division's total palm oil and derivatives volume are RSPO-certified sustainable palm oil.

Kruidvat has participated in the "FAIR Company-Community Partnership" model since 2020. This initiative, led by Dutch non-governmental organisation (NGO) Oxfam Novib, offers a re-design of development models in palm oil production and trade with the objective of fostering economic opportunities while reducing adverse impact on local communities. It is intended to demonstrate proof-of-concept, showcasing a viable and sustainable alternative business model with the potential to achieve economies of scale in the palm oil sector and beyond.

By participating in this programme, Kruidvat aims to enhance its insight into and influence over all linkages in the palm oil supply chain. Each FAIR partnership project is enacted locally, with participants working together to generate positive impact for smallholders and other community stakeholders. Kruidvat participates specifically in a multi-stakeholder partnership project in Southeast Sulawesi, Indonesia.



The FAIR partnership is built on four key principles, as encapsulated by its acronym:

- F Freedom of choice
- A Accountability
- I Improvement of benefits
- R Respect for rights



WATER MANAGEMENT

As extreme weather events such as drought and flooding continue to increase in frequency and magnitude, climate change is expected to increase the challenges associated with sustainable water management. In response to water risks impacting its business and stakeholders, the Group strives to use water more efficiently and to help strengthen the resilience of the ecosystems in which it operates. To mitigate the impact of pollution affecting the quality of local water sources, the Group ensures that its water discharges are safe by meeting or exceeding local regulatory requirements.

Water Data

Figure 13 Group water withdrawal ('000 m³) 2021-2023

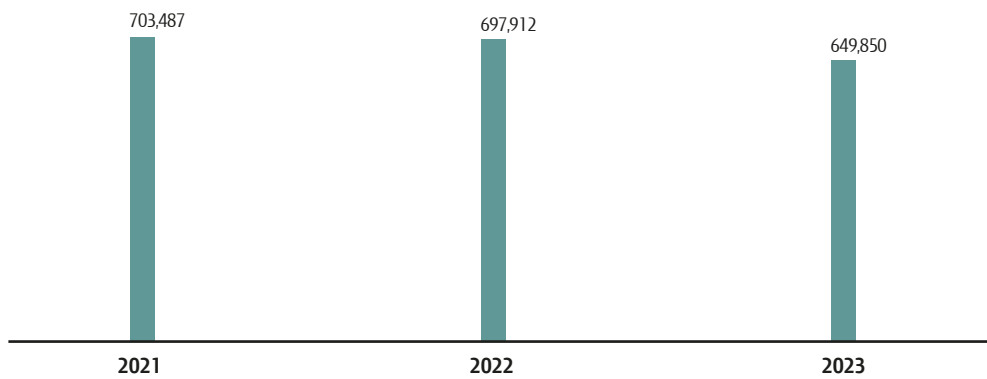
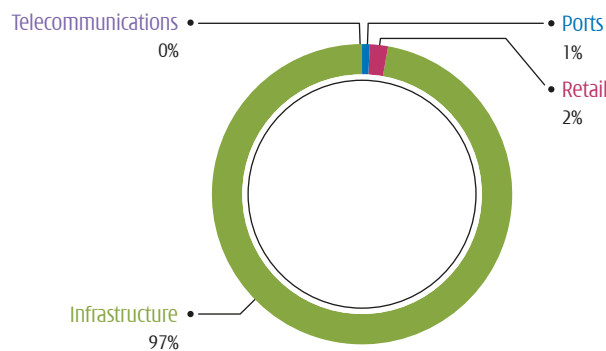


Figure 14 Group breakdown of water consumption in 2023



The Group's core businesses cautiously manage the use of water and the majority of water consumption is for cleaning and cooling assets and facilities and for providing services and products to customers. Over 97% of the Group's water consumption occurs in the Infrastructure division, mostly water used by its only water company, Northumbrian Water. As a water and wastewater operator, it takes water from the environment and treats it to the highest standards for consumers' use.



Infrastructure

COMMITTING TO WATER BODY PROTECTION

The care and respect of Northumbrian Water for the natural environment goes beyond the applicable regulatory requirements, working constantly to protect and enhance coasts, rivers and watercourses in all areas of operations.

Northumbrian Water sets out a "Vision for our Coast and Rivers", which outlines nine ambitious pledges committed to, and are currently on track to be delivered. These are the following:

1. We will work with the Environment Agency, Natural England, The Rivers Trust and Catchment Partnerships to identify, and have plans in place to eliminate, all impediments to our rivers achieving good ecological status caused by our operations.
2. We will invest in monitoring to provide 100% near real-time data on storm overflows by 2023.
3. We will introduce final effluent, in-river upstream and downstream monitoring to get a greater understanding of environmental impact of treated water by 2030.
4. We will implement Water Quality monitoring at the highest priority Storm Overflow locations by 2025.
5. We will reduce spills from storm overflows to an average of 20 per year by 2025.
6. We will work closely with the Rivers Trust through our strategic partnership and North East Catchments Hub to focus on river needs for investment through catchment and nature-based solutions, and to identify at least two inland bathing water sites where applications for designation can be made at the earliest opportunity. We are proud that already 95% of the North East population lives within an hour's drive from a beach with Good or Excellent bathing waters.
7. We will work with partners to achieve 100% of coastal bathing waters at Good or Excellent by 2030.
8. We will work in partnership to improve 500km of bluespaces (such as river banks and accessible water environments) for the public to enjoy in our regions by 2030.
9. We will double the number of our Water Rangers - our citizen scientist volunteers who are trained to help us monitor environmental conditions around rivers and take action to address wider river issues such as littering, fly-tipping or signs of pollution.

Details of the pledges can be found at the following link, [A Vision For Our Coasts and Rivers - An Update for 2023](#).



NORTHUMBRIAN
WATER *living water*

ESSEX & SUFFOLK
WATER *living water*

Water Risk

As documented in the [CKHH TCFD Report](#), the Group is strengthening its mitigation and adaption responses to climate change and associated water risks as part of its Enterprise Risk Management framework, and examples can be found across business divisions.

To evaluate water risk in a more systemic manner, AS Watson Industries has developed a water risk assessment framework with reference to the TCFD and the "Aqueduct" tool from the

World Resource Institute, involving assessments of risk likelihood and impact from physical risks, regulatory risks and reputational risks. The assessment process is further strengthened through WWF's Water Risk Filter self-assessed risk rating exercise, as risks are also determined through structural discussions between the sustainability team, the key affected departments and senior management within the division. Annual reviews will be conducted to ensure the assessment results are up to date, as well as to increase resilience for potential water risks.



Infrastructure

ACHIEVING HIGH STANDARDS IN RIVER AND COASTAL WATER QUALITY

At times of heavy rainfall, all water companies (including Northumbrian Water) use storm overflows as relief valves within the sewerage system, helping protect the homes of customers and the environment from sewer flooding. During and after heavy rainfall, storm overflows discharge what is mostly rainwater, mixed with some of the contents of the sewerage system, from the area affected. Water companies receive permits from the Environment Agency, the environmental regulator in England, to allow this to occur. Operating in the North East of England, Northumbrian Water has some of the lowest levels of pollution and some of the cleanest rivers and beaches in the country. In the last Bathing Water classifications released by DEFRA in December 2023, 32 of the North East's 34 designated bathing waters achieved ratings of either "Excellent" or "Good" - the highest possible classification. This represents a leading position nationally.



Protecting water body and achieving high quality, Northumbrian Water

Water Use

As part of the Group's efforts in consuming one of the most precious global resources, business units are collecting, recycling and reusing wastewater and rainwater, as well as installing low-flow appliances to enhance its overall water consumption efficiency.

Northumbrian Water strives to achieve the lowest level of water leakage amongst all service providers in the UK. They are aiming to meet national targets to reduce leakage by 50% by 2050. This

means reducing leakage in the North East of the UK by 55% and in Essex and Suffolk, by 40%. Being the leading advocate of the UK Water's Worth Saving campaign, Northumbrian Water is running several programmes to engage and educate the public. Other business divisions are also undergoing various initiatives, looking to minimise water consumption during operation.



Ports



Retail



Infrastructure



Telecommunications

MAKING THE MOST OF A PRECIOUS RESOURCE

The Group makes collective efforts to conserve and recycle water.

Hutchison Ports TIMSA in Mexico has installed a closed-cycle system to reuse water to wash the port equipment and service the bathrooms to reduce the consumption of potable water. In addition, both Hutchison Ports Brisbane and Hutchison Ports Sydney in Australia are reviewing the application of a rainwater harvesting system to reduce the usage of purchased water.

AS Watson Industries has long been committed to the “Enterprises Cherish Water Campaign” organised by the Hong Kong Water Supplies Department and co-organised by the Green Council. The commitment includes adopting measures such as “participate in water efficiency benchmarking” and “promote and adopt efficient water-consuming devices”.

AS Watson Industries has also set a target to achieve a water efficiency ratio of 0.42 by 2025, and 0.44 by 2030. While it seeks continuous improvement on water efficiency

and other discharge management measures, the water risk management strategy and progress are reviewed each year.

Enviro NZ has installed mounted tanks at many waste collection and processing facilities to collect and reuse rainwater for site activities, such as truck wheel washes, road cleaning and dust control. Similarly, Alliance Construction Materials reduces freshwater consumption for plant and truck cleaning by installing wastewater recycling systems in all production sites. HK Electric also collects and reuses more than 100,000m³ of wastewater and rainwater at Lamma Power Station in 2023. A Brine Recovery Reverse Osmosis system to facilitate wastewater recovery at the site had also been installed and the equipment is being commissioned.

Wind Tre performs monthly monitoring of water waste through an external supplier. With the improvement in the efficiency of the office toilets and the recovery of the excess water from the evaporative towers used for air conditioning, which is reused for irrigation, water consumption in offices has decreased by about 33%, from 26,208m³ in 2021 to 17,598m³ in 2023.

Beyond mitigating the direct impact of its own operations, the Group also recognises the importance of positively influencing the behaviour of its suppliers, customers and other water users on water management in local communities. Northumbrian Water is the leading advocate of the UK's Water's Worth Saving campaign, running several programmes to engage and educate the public. For example, the Water Rangers community initiative was launched,

aiming to mobilise community volunteers to monitor 56 public access routes across the North East of England. Water Rangers are provided with training and tools to enable the patrol over 74km of waterways every week or fortnight, with the Rangers reporting findings on potential pollution which can be resolved in a timely manner.



Infrastructure

UPCYCLING WASTEWATER

In March 2023, Northumbrian Water launched a trial using a groundbreaking piece of equipment to help capture ammonia from wastewater, turning it into green fuel for vehicles at North Tyneside Sewage Treatment Works. This is the first time in the world that a water company has ever recovered ammonia from wastewater. The stripped ammonia can be utilised to generate fertiliser products, pharmaceuticals and green fuels that may be used in the emerging hydrogen economy in the future.



Ammonia capture from wastewater, Northumbrian Water



Abberton Causeway, Essex, Northumbrian Water

AIR QUALITY

The Group is committed to reducing emissions of local air pollutants such as nitrogen oxide (NO), nitrogen dioxide (NO₂), sulphur dioxide (SO₂) and volatile organic compounds (VOCs). Its management approach to improving air quality is linked with [Decarbonisation](#), particularly electrification and switching to greener energy sources.

Air Emissions

Figure 15 Group air emissions (tonnes) 2021-2023

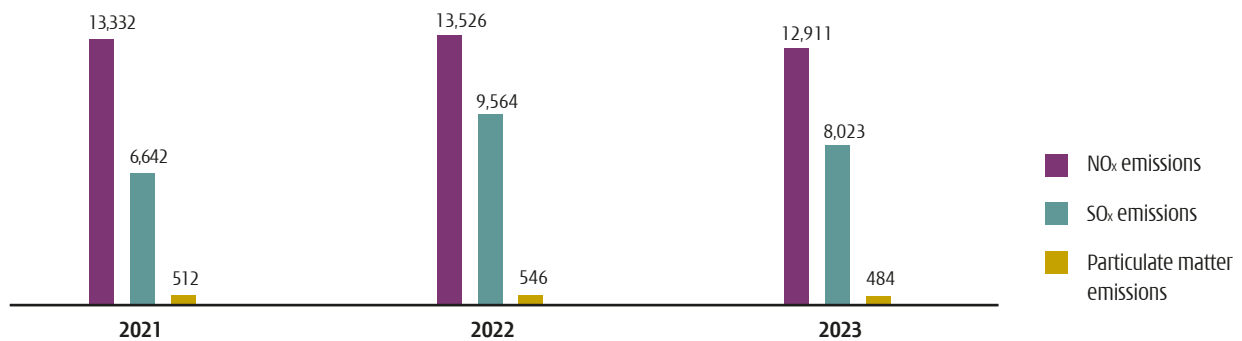
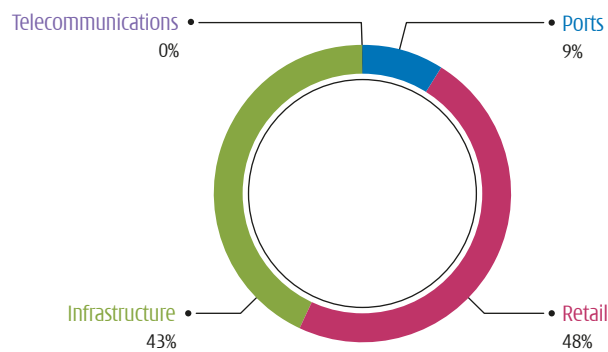


Figure 16 Group breakdown of air emissions



The Group recognises that air emissions are generated throughout its operations, and has therefore included air quality as one of the material topics under the Group Sustainability Framework, underpinning the effort in managing, monitoring and reporting on this topic. Well-established guidelines are in place to ensure effective and continuous air quality monitoring. Where material, divisions will invest in clean technologies to further reduce impact on air quality. The Group's extensive programme of transitioning high-carbon assets and rolling out clean transportation is also helping to reduce emissions of local air pollutants.



Ports

PROTECTING AIR QUALITY DURING OPERATIONS

Air pollutants such as NO_x , SO_x and particulate matter are among the identified side-products generated from the Group's operations. The Ports division has set directives to replace diesel-powered equipment with electrically powered ones such as electric terminal trucks, electric vehicles, electric rubber-tyred gantry cranes and mobile equipment to minimise air emissions.

Hutchison Ports UK has conducted their first 12-months of electronic continuous operation in the Hutchison Ports Port of Felixstowe for monitoring air quality and commissioned an expert consultant to update their air quality inventories. As a result, it has recorded a 93% reduction of SO_2 since 2009 and a 43% reduction of NO_2 since 2007. The Air Quality Strategy Report, which is produced on a three-yearly cycle, also showed an improvement in results.

Hutchison Ports Busan in Korea have installed a diesel particulate filter and selective catalytic reduction in the engines of the standard equipment to convert pollutants to harmless substances, which could achieve up to 81% particulate matter and 85% NO_x emission reduction.



Air quality monitoring unit, Hutchison Ports UK



Infrastructure

CLEANER AIR FOR HONG KONG

The three new gas-fired generating units at Lamma Power Station under HK Electric's 2019-2023 Development Plan, with the last one to be fully commissioned in early 2024, feature advanced emission control technology known as selective catalytic reduction that reduces emissions of nitrogen oxides by around 90%. In support of the Government's Clean Air Plan, HK Electric is switching to cleaner fuels and implementing advanced emission control systems, such as flue gas desulphurisation plants and low-nitrogen-oxide burner systems, in its remaining coal-fired plants.



CIRCULAR ECONOMY

“Promote a Circular Economy” is identified as one of the eight goals in the Group Sustainability Framework. The Group aims to enhance its waste mitigation, and seeks to redesign its products, systems and services to deploy resources in ways that are more durable, reusable, repairable and recyclable.

The Group is committed to reducing waste to a minimum, replacing higher impact materials with lower impact alternatives, reusing wherever possible, and recycling its waste when all other options have been exhausted. Its management approach to the circular economy is closely linked with other material topics and content in this report, including:

- [Supply Chain Responsibility](#)
- [Sustainable Product Choices](#)
- [Decarbonisation](#)

Waste Data

Figure 17 Group waste produced (tonnes) 2021-2023

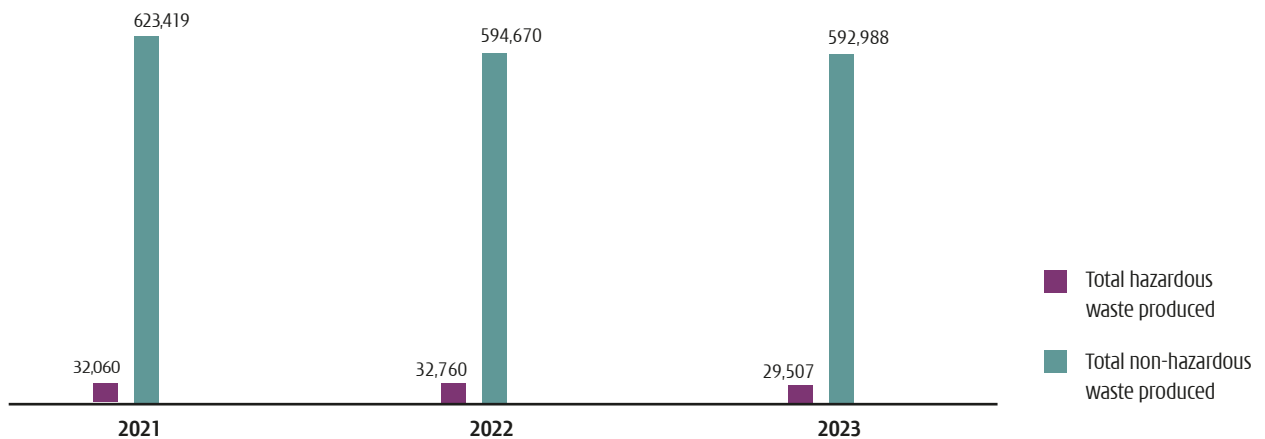
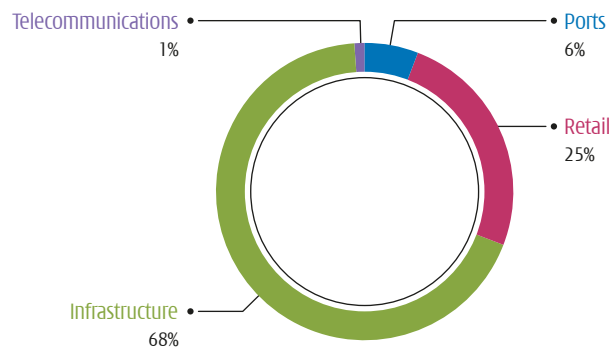


Figure 18 Group breakdown of waste in 2023



Waste Management Services

The Group is consistently identifying sustainable investment opportunities and exploring ways of transitioning the business to be climate resilient. Resource recovery and waste minimisation is an established and growing business area for the Infrastructure division and notably for its two waste management services providers, Enviro NZ and AVR.

Enviro NZ regularly seeks out opportunities to partner with local businesses and companies to support local circular economy efforts. Focusing on four streams of diversion infrastructure, which include organic waste, mixed recycling, concrete waste and timber waste, Enviro NZ's resource recovery facilities are capable of diverting over 150,000 tonnes of waste from landfill every year. These activities are also key to reducing greenhouse gas emissions. For example, the diversion of over 50,000 tonnes of organic waste (food waste, green waste and timber) in 2023 has resulted in the

avoidance of over 10,000 tonnes of CO₂e. Enviro NZ is expanding the number of resource recovery facilities in New Zealand to make low-carbon circular solutions more accessible.

Specialising in processing residual waste streams such as paper pulp residue, waste wood, household and commercial waste, and hazardous waste to achieve maximum recovery of energy and materials, AVR is an important contributor towards Dutch and European goals on climate and energy by supplying sustainable process steam, district heating and electricity. The utilised smart incineration technology is capable of transforming over 2.1 million tonnes of unrecyclable waste into 7.8GJ of energy per year. The process is further certificated with the ISO 50001 standard in energy management. Large-scale carbon capture and storage is the next step in AVR's journey, which will act as a crucial part of its net-zero transition plan.



Waste recycling facility, Enviro NZ

Diverting Waste from Landfill

Cutting the amount of waste sent to landfill is a key priority for many local authorities, which are imposing regulations and financial penalties to decelerate landfills reaching its capacity and constructing new ones. In the Infrastructure division, several business units are supportive of the movement and have ambitious targets to divert waste from landfill.

Business Units	Details of target	Progress
Alliance Construction Materials	<ul style="list-style-type: none"> Reduce solid waste extracted from plant yard washout to 0.02T/m³ of concrete produced 	Achieved
HK Electric	<ul style="list-style-type: none"> Reduce production of ash and gypsum at Lamma Power Station by 37% in 2024 as compared to 2019 Reduce waste generation of its key office premises by 10% in 2025 as compared to 2020 	In progress
Northern Gas Networks	<ul style="list-style-type: none"> Send less than 0.1% of total waste by mass to landfill annually by 2026 Reduce amount of office and depot waste created by 20% between 2018 and 2026 Use no more than 2.5% virgin aggregate annually by 2026 	In progress
Northumbrian Water	<ul style="list-style-type: none"> Achieve zero avoidable waste by 2025 	In progress
Reliance Home Comfort	<ul style="list-style-type: none"> Recycle 70% of residential and commercial waste 	In progress
SA Power Networks	<ul style="list-style-type: none"> Increase the total percentage of waste diverted from landfill to 80% compared with its baseline of 7.8% in 2011 	On track
UK Power Networks	<ul style="list-style-type: none"> Recycle 80% of office and depot and network waste by 2028 Recycle 99.5% of street works waste by 2028 	<ul style="list-style-type: none"> In progress, achieved 71.65% in 2022/2023 In progress, achieved 99.86% in 2022/2023
Wales & West Utilities	<ul style="list-style-type: none"> Send less than 20% excavated spoil materials to landfill by 2026 as compared to 2019 	In progress



Divert waste to recycling facility, Enviro NZ



Re-treaded tyres installed at the terminal trailer, Hutchison Ports MITT

To ensure terminal waste is being stored, transferred and disposed of responsibly in accordance with relevant legislation, the Ports division has established consistent approach across all ports and terminal operations worldwide through a Waste Management Standard. Monthly waste data is also submitted via the Environmental Information System for consolidated revision with periodic audits on relevant documentation and waste storage facilities at selected locations. In addition, periodic waste profile revision, reduction measures and programmes are regularly implemented within terminals, including recovering usable materials and delivering reusable consumables to local recyclers for upcycling treatment. Hutchison Ports MITT in Myanmar and Hutchison Ports YANTIAN in Mainland China have made use of the re-treading process to reuse worn tractors and empty handlers rubber tyres. Hutchison Ports TIMSA in Mexico have also collaborated with maintenance suppliers to install filters with longer service life and migrate from using mineral oil to synthetic oil in equipment to extend oil replacement intervals.

In the Telecommunications division, 3 Ireland have partnered with a facility management provider that has a zero waste-to-landfill policy, to deliver the generated waste as fuel to the heat recovery facility rather than directly to landfill. 3 Sweden, on the other hand, have continued with the “& Repeat” initiative, a solution which encourages employee engagement on circularity and helps to increase the recycling rate of takeaway packaging. As an incentive, employees can receive Repeat Credits which can be used in participating restaurants.

The Retail division is also committed to minimising its generated waste by working towards a “zero waste to landfill” operation direction by 2030. To achieve this, all operational waste from warehouses, stores and offices must either be recycled, reused or converted into energy, if technically feasible.

Responsible and Circular Devices and Accessories

The Telecommunications division generates waste from network equipment and mobile devices. A decommissioning project is therefore in place to recover and reuse old network equipment through third-party vendors. On mobile products and services, Wind Tre offers a wide range of Device Post Sales Services to customers, which include warranty and out of warranty repairs, fixed device substitution and device protection solutions, with the objective to improve customer satisfaction and extend the device lifecycle by providing options to reuse and repair products. Malfunction devices and equipment are recycled, and the raw materials are recovered by specialised companies for reuse purposes. In the UK, 3 UK works with partners to reuse and recycle the network and IT equipment located in the legacy data centres, and 3 Ireland also works with its partners to implement recycle or resell programmes on all of its decommissioned network equipment.

Focus on E-Waste

The Group is particularly focused on the responsible treatment of substances with intrinsic hazardous properties, such as e-waste. This rapidly growing waste stream presents a significant problem because it contributes to toxic substances accumulating in the soil, air, water and living organisms.

Hutchison Ports PPC in Panama participates in local battery recycling programmes and makes use of the spare parts from the broken equipment before final disposal.

In the Retail division, as a strategic partner of the "Laptop Transformation Programme", FORTRESS has partnered with a local NGO and collected over 793 used laptops and accessories from its customers and employees, for repair and donation to low-income families as of the end of 2023.



In 2023, CKHGT actively participated in GSMA committees and working groups, playing a role in industry dialogue on key issues for the sector.

CKHGT also took part in the GSMA's Circular Economy for Devices working group, which published the "Strategy Paper for Circular Economy: Mobile Devices". The paper discussed how the sector can evolve towards more circular business models based on two overarching principles of "maximised longevity" and "zero waste."

Reducing e-waste is also a focus for the Telecommunications division, which is replacing standard credit card-sized SIM holders with a new half-sized format in some markets and promoting more sustainable accessories and packaging. Following Wind Tre, 3 Denmark and 3 Sweden, in 2023, 3 Hong Kong, 3 Ireland and Vietnamobile also introduced a SIM card which is made of 100% post-consumer recycled plastic.

3 Ireland launched a referral "Trade-In" solution, a circular product take-back and recovery service whereby customers can return their old devices and help to reduce the end-of-life environmental impact of their handsets. This solution incorporates enhanced offers whereby a guaranteed monetary value on top of the trade-in value will be provided to incentivise participation. 3 Hong Kong has actively engaged in the Green Friends initiative for recycling waste lead-acid batteries, and it successfully recycled damaged or aged lead-acid batteries amounting to 62 tonnes in 2023.




Focus on Plastics

There is an increasing focus globally on the role of circular solutions to address the growing global plastics pollution crisis. As a signatory to the New Plastics Economy Global Commitment of the Ellen MacArthur Foundation, AS Watson discloses its performance on an annual basis, against several targets such as:



100% of plastic packaging to be reusable, recyclable or compostable by 2025 (including Exclusive Brand product packaging, eCommerce parcels and in-store carrier bags)


2023 status

 **55.4%** achieved
(51.5% in 2022)



20% recycled plastic content in Exclusive Brand packaging by 2025

2023 status

 **11.4%** achieved
(7.4% in 2022)

The Retail division overall is also making tangible progress against broader objectives to eliminate problematic or unnecessary plastic packaging, switching to alternative materials, and banning polyvinyl chloride. It is also offering in-store refill options for customers of its Exclusive Brand Natural by Watsons personal care range in Malaysia and Hong Kong.

In 2023, 3 Hong Kong introduced new initiatives to foster resource recycling and reduction. The staff canteen introduced biodegradable and recyclable lunchboxes to replace plastic lunchboxes, and ceased the provision of disposable tableware, thereby supporting reduction efforts and enhancing employee awareness of sustainable practices.

