ENVIRONMENT

Flooding, drought, heatwaves, and violent storms are among the increasingly frequent and devastating effects of climate change that necessitate urgent action on decarbonisation. In our complex and interrelated world, climate risks 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.

The Group is committed to protecting biodiversity, conserving water, and preventing pollution to land, water, and air. Its core businesses are taking meaningful steps to mitigate direct environmental impacts from their operations as well as those of their customers, suppliers, and the communities they serve. Moving forward, the Group will continue to adopt circular approaches to production and consumption, creating more with less by reducing waste at source and transforming by-products into resources for the future.

GROUP GOALS

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

CONTENT IN THIS SECTION

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 Celsius—preferably below 1.5 degrees. 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 2 10 net-zero transition opportunities

Transition opportunity	Strategies
Renewable and other clean energy	• Invest in and grow the Group's renewable energy portfolio. • Transition gas networks to hydrogen. • 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.
Transitioning high-carbon assets	• Phase out coal-fired power generation globally by 2035.
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.
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.
Circular economy & design	• Reduce, reuse and recycle all forms of waste. • Design products and systems with circular economy principles in mind.
Climate adaptation	• Protect the Group's people 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.
Finance and investment	• Continue to align capital expenditure towards a net-zero pathway.
Supply chain engagement	• Further develop supplier engagement policies. • Develop scope 3 emissions reductions targets.
Collaboration, partnerships & advocacy	• Partner with peers, customers, government and other relevant organisations to accelerate the transition.
Carbon offsets	• Reducing the Group's direct carbon footprint is the first priority. Carbon offsets can help to 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 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 Science Based Targets initiative (SBTi)[1]; assess the pathway to net-zero; and calculate scope 3 emissions.

During 2022, the Group's core businesses continued to make substantive progress on their respective action plans as detailed next.

Ports

Following an in-depth analysis of its net-zero transition pathway in 2022, Hutchison Ports has formally committed to setting near-term and net-zero targets that will be validated by the SBTi.

In doing so, Hutchison Ports is significantly increasing the level of ambition of its previous scope 1 and 2 emissions targets, to now targeting reducing emissions by 46.2% by 2032, versus a 2021 baseline.

As part of its detailed decarbonisation strategy, Hutchison Ports has mandated that all new investments in mobile and stationary machinery will be fully electric and/or supplemented with other forms of clean energy, such as green hydrogen. Procuring renewable electricity via Power Purchase Agreements (PPAs) and Energy Attribute Certificates (EACs) will also be widely adopted over time.

Retail

In 2022, the SBTi validated the Retail division's near-term reduction targets 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% 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

A.S. Watson's Greener Stores Global Framework, launched in April 2022, strives for high levels of sustainability integration in the way its business units design, construct, operate and maintain their stores.

Note:

1 The Science Based Targets initiative (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 84% 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:

Business	Commitments
AGIG	10% renewable gas by volume in distribution networks by 2030; full renewable gas conversion for distribution networks no later than 2050
Dutch Enviro Energy Holdings B.V. (owns AVR-Afvalverwerking B.V. (AVR))	Net-zero in operations by 2050
HK Electric	Net-zero before 2050
ista	Net-zero in scopes 1, 2 and selected scope 3 categories by 2030
Northumbrian Water	Net-zero in operations by 2027
Northern Gas Networks	Net-zero in operations by 2031, excluding gas shrinkage Net-zero across the value chain by 2050
SA Power Networks	Net-zero in operations by 2035
UK Power Networks	Net-zero for directly controlled operational emissions by 2028, excluding network losses
Wales & West Utilities	Net-zero ready gas network targeting areas most likely to convert to hydrogen by 2035

Telecommunications

In 2022, the SBTi validated near-term reduction targets from CK Hutchison Group Telecom (CKHGT) covering 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.

Hutchison Ports quay crane

Group Carbon Footprint

In 2022, the Group's total scope 1 and 2 emissions declined by 7% versus 2021, and 9% versus 2020. These savings were achieved predominantly through decreased coal-fired power generation as part of the Group's overall aim to phase out all coal-fired power generation globally by 2035 and reduced gas leakage through gas pipeline replacement programmes. Other important programmes include switching to renewable and other clean energy sources, electrification of mobile and stationary equipment, and energy efficiency measures across the Group.

Figure 11 Group scope 1 and 2 GHG emissions (tCO_2e) 2020-2022

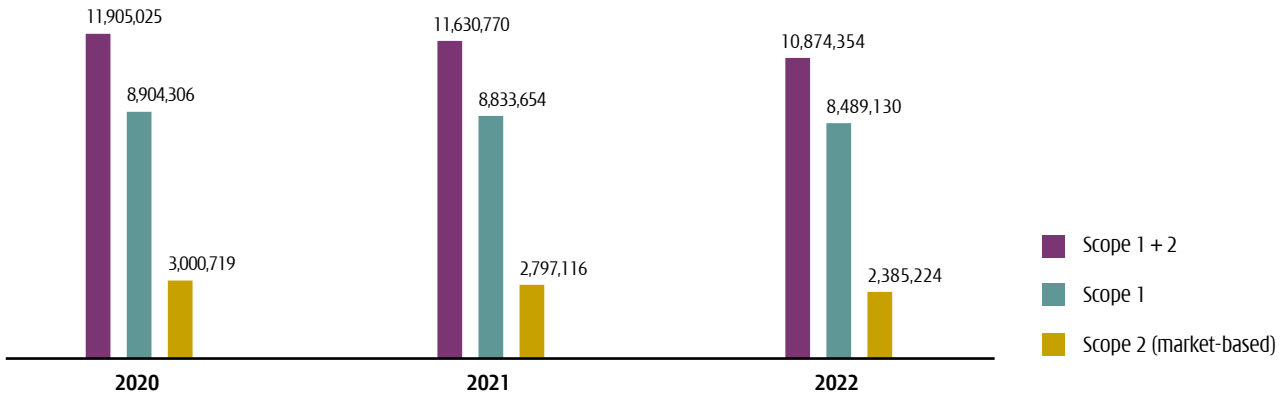
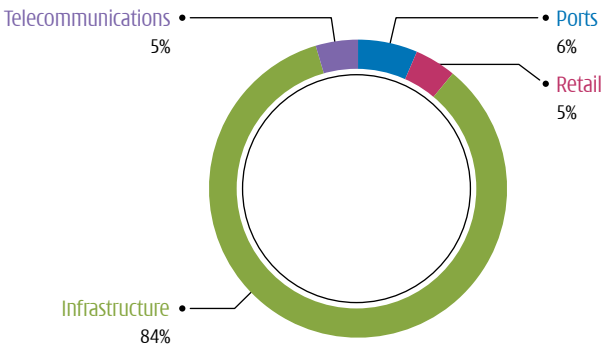


Figure 12 Group Breakdown of scope 1 and 2 GHG emissions



Scope 3 inventory

Scope 3 emissions are now reported by each of the Group's core businesses and presented in Appendix 1. Purchased goods and services remains 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.

The Group is also working to implement different forms of supplier engagement and education initiatives, leveraging partnerships and technology. In the Infrastructure division, for example, Wales & West Utilities' membership of the Sustainability Supply Chain School extends free learning opportunities for its supply chain partners. In the Retail division, A.S. Watson has introduced a major supplier engagement programme to improve data collection from its top suppliers covering 80% of scope 3 emissions in line with its newly established scope 3 emissions targets. The project will provide suppliers with training and tools to collect and report more accurate data through a dedicated scope 3 emissions platform.

Learn more about the Group's approach to Supply Chain Responsibility.

Renewable and Other Clean Energy

As a major generator, distributor, and consumer of energy, switching to renewable and other clean energy sources represents the most significant net-zero transition opportunity for the Group over the long-term. The Group also plays a significant role in facilitating distribution of clean energy to its customers and communities by connecting alternative energy sources to the grid and transitioning its gas networks to embrace the hydrogen economy.

In 2022, the Group generated 6,871GWh of renewable and other clean energy, thereby avoiding more than 4.6 million tonnes of CO_2e emissions by displacing energy from more carbon-intensive emissions sources.

Table 3 Clean energy generated by the Group's businesses

Source	Installed capacity (MW)	Generation (MWh)	Emissions avoided (tCo_2e p.a.)
Biogas*	454	2,728,405	2,514,957
Solar	22	29,303	7,092
Wind	192	471,834	283,775
Hydropower	7	28,000	5,945
Green hydrogen	1	4,014	4
Energy from waste	464	1,945,000	1,442,050
Renewable heat and industrial waste heat	-	1,664,000	376,000
Total renewable and clean energy	**1,140**	**6,870,556**	**4,629,823**

Note:

* Biogas produces electricity and renewable natural gas. This data includes renewable natural gas converted from MMBtus.

Infrastructure

GENERATING ELECTRICITY FROM WASTE GAS

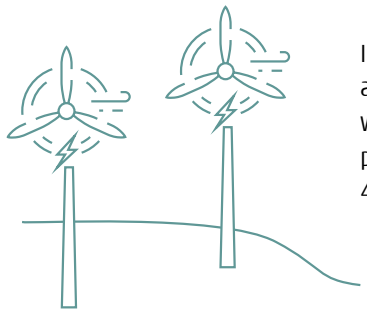
EDL is a leading global producer of sustainable distributed energy and the Group's largest producer of biogas. EDL helps its customers to abate approximately 3.8 million tonnes of GHG emissions per year globally by capturing and converting methane into electricity and renewable natural gas (RNG) across its large portfolio of landfill gas and waste coal mine gas sites.

EDL's Wood Road RNG Facility in Michigan, USA, completed in April 2022, will convert approximately 19 kilotons of methane per year from Granger's Wood Street Landfill into 870,000 MMBtu of pipeline-quality RNG at maximum design capacity.

EDL's Wood Road RNG Facility in Michigan

Infrastructure

DEVELOPING RENEWABLE ENERGY SOURCES



In support of the Hong Kong Government's goal to achieve net-zero electricity generation and carbon neutrality before 2050, HK Electric has announced plans to develop an offshore wind farm southwest of Lamma Island. Subject to the Government's approval, the proposed project will have an installed capacity of approximately 150MW, with potential to produce up to 400GWh of clean electricity per year.

Enabling the hydrogen transition

Hydrogen is set to play a significant role in enabling the global transition towards a net-zero energy system as outlined by the International Energy Agency (IEA) in its Net-Zero Emissions 2050 Roadmap. In June 2022, CK Infrastructure joined the Hydrogen Council, a global CEO-led initiative bringing together leading companies with a shared vision to accelerate global hydrogen adoption by promoting collaboration between governments, industry, and investors to achieve this goal.

In recent years, important progress has been made by the Group to translate untested concepts into real world solutions. Several of the Group's business units are at the forefront of reducing barriers to large-scale and widespread hydrogen adoption by demonstrating the technical and commercial feasibility as well as allaying safety concerns. In particular, 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

PIONEERING GREEN HYDROGEN IN AUSTRALIA

In 2021, AGIG implemented the first project in Australia to produce, blend, and supply green hydrogen at volumes of up to 5% via an existing natural gas network. AGIG is now working to launch its second site, Hydrogen Park Gladstone, blending up to 10% renewable gas as well as produce green hydrogen in future years from treated wastewater and renewable electricity at a third site in Hydrogen Park Murray Valley.

AGIG Hydrogen Park South Australia

Ports Infrastructure

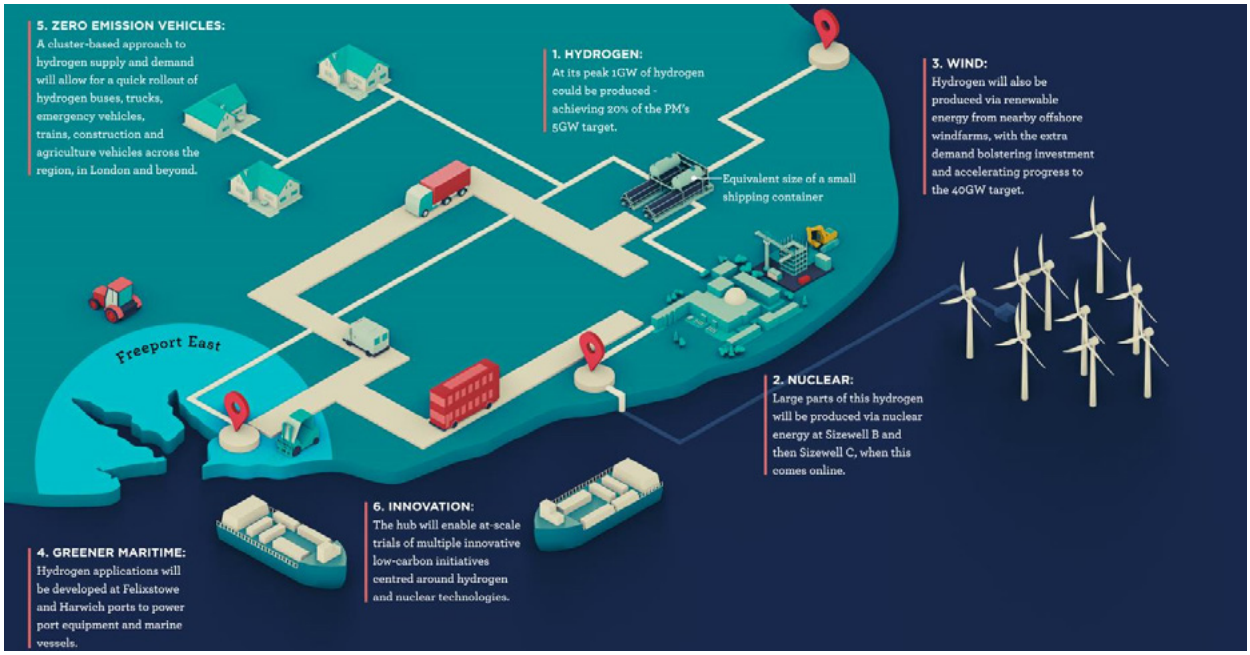
LEADING THE HYDROGEN TRANSITION IN THE UK

In October 2022, Northern Gas Networks achieved a world-first when it completed a seven-month trial of supplying 100% hydrogen through existing natural gas infrastructure. The trial took place at a unique site in Middlesbrough where 70 homes were demolished decades ago but the underground utilities remain intact. During the year, Northern Gas Networks was also engaged by the UK Government to undertake front-end engineering design and stakeholder engagement for the UK's first 100% hydrogen village. This trial project intends to demonstrate the potential for widespread hydrogen adoption by supplying up to 2,000 homes and businesses in North Yorkshire with 100% hydrogen.

In November 2022, Wales & West Utilities announced plans for a major hydrogen pipeline in South Wales to help accelerate decarbonisation in this region. Pending successful completion of a feasibility assessment in collaboration with eight key partners, the pipeline will pave the way to connect commercial scale hydrogen production in Pembrokeshire, Port Talbot, and the Celtic Sea with major industrial demands in South Wales. It would provide infrastructure for energy intensive industrial customers to begin fuel-switching towards hydrogen within the short-to-medium term, and open up the potential for hydrogen blending and conversion of the wider gas distribution network in the area.

The UK Government's Hydrogen Strategy envisages hydrogen to be in use across a range of transport modes, including rail. In late 2021, UK Rails partnered with Alstom, Britain's leading train manufacturer and maintenance provider, where the companies are continuing to explore the technical and commercial feasibility to design and support development of hydrogen-powered rolling stock units. UK Rails also has a partnership with H2 Green, a hydrogen network operator, to determine the production and refuelling infrastructure required to support wide-scale deployment of hydrogen-powered rolling stock fleets.

In 2022, Hutchison Ports Port of Felixstowe completed a government funded feasibility study in a consortium with Cranfield University, EDF Energy and NNB Generation Co., exploring the potential for the port to become a low carbon hydrogen hub to decarbonise activities of the port and local area. To progress the findings of this feasibility study, the port is now supporting a further project led by Scottish Power to investigate the development of a 100MW green hydrogen production plant at the port. The project will assess the technical requirements and suitability of the site in addition to identifying opportunities to decarbonise port operations using hydrogen fuelled equipment and to produce decarbonised shipping fuels for supplying vessels at the Felixstowe and Harwich ports.



The Freeport East Hydrogen Hub is one of the UK's most exciting and innovative decarbonisation schemes with potential to produce 1GW of green hydrogen from wind and nuclear energy. This represents 20% of the 5GW target in the UK's Ten Point Plan for Green Industrial Revolution.

Modernising and digitalising electricity networks

Connecting distributed energy sources, such as rooftop solar photovoltaic units, to the grid is an important driver of the energy transition in the power sector. The Group's electricity distribution businesses are actively supporting connections for distributed renewable energy sources through appropriate mechanisms, such as Feed-in-Tariff schemes and EACs.

As of 2022, UK Power Networks, SA Power Networks, Victoria Power Networks, and Hong Kong Electric have collectively connected over 14.5GW of distributed renewable energy sources in their respective jurisdictions.

Collectively connected over 14.5GW of distributed renewable energy sources

Infrastructure

BREAKING RECORDS FOR ROOFTOP SOLAR POWER

An important milestone for solar power was reached in South Australia on Sunday, 16 October 2022 when net exports of electricity exceeded daytime demand for more than 5.5 hours—a new record for the state.

Net exports are achieved when distribution-connected generation exceeds electricity demand. In 2022, SA Power Networks experienced net exports on more than 10 occasions. Over the next 5-10 years, it anticipates that South Australia's daytime energy needs will be supplied 100% from distributed rooftop solar on an increasingly regular basis.

SA Power Networks already has the highest penetration rate for distributed solar of any gigawatt-scale energy system in the world and there are further plans in place to double this capacity by 2026. It is working closely with regulators and technology partners to develop the world's largest Virtual Power Plant—a cloud-based system that aggregates the capacities of heterogeneous distributed energy resources for the purposes of enhancing power generation and accelerating the net-zero transition.

Procuring renewable electricity

In 2022, 25% of the Group's onsite and purchased electricity came from renewable sources, representing an increase of 5% compared with 2020.

25 %

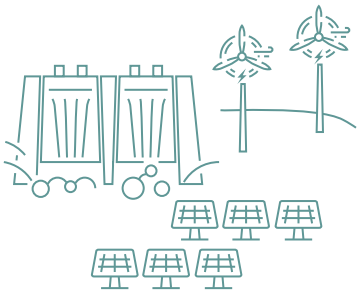
of onsite and purchased electricity came from renewable sources

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 2022, 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.

Oftentimes, 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.

Ports Retail Infrastructure Telecommunications

RENEWABLE ELECTRICITY HIGHLIGHTS ACROSS CORE BUSINESSES



- In 2022, Hutchison Ports BEST commissioned 1MW of new solar power on-site installed capacity. Together with Hutchison Ports UK, it also procured 100% renewable electricity from third-party suppliers.
- Renewable electricity constitutes 87% of total electricity consumption across the Retail division's UK and European portfolio, including for: Superdrug, Savers, The Perfume Shop, Kruidvat, Trekpleister, and ICI PARIS XL.
- One third of Northumbrian Water's power is supplied from Race Bank Wind Farm off the coast of Norfolk under a 10-year PPA. This source of renewable energy supplements the business unit's own onsite power generation capacity, including 10MW of wastewater-to-energy from advanced anaerobic digestion and its ambitious solar activity with 4MW commissioned and a further 6MW due by Q2 2023.
- **3** Ireland, **3** UK, **3** Denmark, **3** Sweden and **3** Austria purchase between 50-100% renewable electricity. **3** Austria, WINDTRE and **3** Ireland further produce renewable energy through their own solar photovoltaic systems.

Transitioning high carbon assets

Switching from coal to natural gas is a reliable way for power generation businesses to reduce carbon emissions cost-effectively in the near term. Gas-fired power is a cleaner alternative to traditional fuels and its flexibility to start and stop as needed complements ongoing investment in renewable energy sources, such as solar and wind.

The Infrastructure division's investment in coal-fired power generation has reduced from 53% of installed capacity in 2016 to 30% in 2022. 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 and to fully phasing out all coal-fired generation by 2035.

Infrastructure

COAL TO GAS CONVERSION AT HK ELECTRIC

L11, the second of three new 380MW gas-fired combined-cycle generating units under HK Electric's 2019-2023 Development Plan, was put into commercial operation in May 2022. The remaining coal-fired units still in service in Hong Kong will be gradually phased out by 2035.

Clean Transportation

Transport currently has the highest reliance on fossil fuels of any sector. The Group is enabling widespread adoption of electric vehicles and supporting a modal shift from road to rail 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.

Ports

ELECTRIFICATION OF MOBILE AND STATIONARY EQUIPMENT

Switching from fuel combustion to electric power represents significant opportunities for decarbonisation across the Group and most particularly in the Ports division where container handling equipment and terminal vehicles currently contribute, on average, over 80% of port energy consumption.

Hutchison Ports has committed to capital expenditure exceeding US$370 million in 2022 and 2023 to convert mobile and stationary equipment from diesel to electric and hybrid alternatives. This process involves time, planning and investment to identify, trial and roll out innovative technologies, much of which has not been previously utilised on a commercial basis.

Mobile and stationary equipment in operation globally in 2022			Electrification programme 2022 - 2023	
Type	Total # units	of which electric or hybrid	Locations	CAPEX
Rubber-tyred gantry crane	899	575	Pakistan, Egypt, Mexico, Thailand, United Kingdom	US$132M
Straddle carrier	235	23	Bahamas, Spain, Stockholm, Netherlands	US$36M
Automatic guided vehicle	362	85	Netherlands	US$134M
Reach-stacker	209	0	Mexico	US$0.8M
Empty container handler	194	0	Mexico, Panama, Thailand	US$9M
Internal tractor	1,670	26	United Kingdom, Egypt, Mexico, Korea	US$66M

Autonomous electric trucks at Hutchison Ports Thailand

Infrastructure

ENABLING EV TRANSFORMATION

UK Power Networks forecasts that there could be upwards of 5 million plug-in hybrid electric and battery electric vehicles on the road within its service areas by 2030. To meet this rapid increase in demand, it has devised a comprehensive Electric Vehicle Strategy, of which the next iteration will be published in 2023. It is collaborating with partners to develop, test, and deliver technical and commercial solutions that will facilitate the rapid uptake of EVs through a whole-systems approach.

EV charger installation by UK Power Networks

BOOSTING MODAL SHIFT AND RAIL CONNECTIVITY

Supporting the transport industry in facilitating a modal shift to a decarbonised rail network is central to UK Rails' sustainability approach. With around 80% of its rolling stock already electric or bi-mode, UK Rails is well-positioned to be a partner of choice in the UK transport industry's journey to net zero. UK Rails also continues to explore innovations for its assets such as hydrogen and battery technologies to support the UK's decarbonisation agenda.

In addition, UK Rails continues to develop, alongside Transport Design International, the Revolution Very Light Rail (RVLR) vehicle. RVLR has been designed to provide a modern, attractive, and cost-effective vehicle solution where installing and operating traditional heavy rail solutions is uneconomic. The solution can facilitate reopening of branch lines and rail network extensions for rural communities.

UK Rails' Revolution Very Light Rail vehicle at Ironbridge Demonstration site

Ports

CREATING MULTI-MODAL FEEDER HUBS

A key aspect of Hutchison Ports BEST's business strategy in taking over the terminal at Barcelona has been to transform it into a major gateway for the European market by developing supporting infrastructure to leverage existing train lines. Rail traffic at this terminal has increased significantly in recent years, rising from 3% of import and export container traffic in 2012 to 20% in 2022.

Hutchison Ports ECT has also invested significantly in supporting a modal shift to rail for freight transport by becoming an established starting point and terminus for rail transport in Europe.

Energy Efficiency

Investing in energy efficiency is a cornerstone of the energy transition. The Group's Infrastructure division supports local communities served by its electricity distribution businesses to avail of smart city solutions by rolling out smart meters, providing incentives for customers to invest in energy saving, and helping to educate the public.

Energy savings are being achieved within the Group's operations by improving energy management systems, retrofitting facilities, upgrading light fixtures, and procuring equipment with certified energy efficiency ratings.

Infrastructure

REDUCING LEAKAGE FROM ENERGY DISTRIBUTION

One of the greatest decarbonisation challenges faced by the Group's electricity and gas distribution networks is to minimise technical losses that are an unavoidable consequence of energy distribution, commonly referred to as "leakage" or "fugitive emissions."

The Group's gas networks are replacing legacy pipe materials to combat leakage and prepare for the future of hydrogen. Northern Gas Networks, for example, is implementing a 30-year programme to replace over 10,000 kilometres of metallic pipes with plastic. It reduces leakage by carefully managing gas pressure and adding a chemical called monoethylene glycol to saturate and swell metallic joints. These efforts should help reduce gas leakage by 24% between 2021 and 2026.

Retail Infrastructure

UPGRADING TO GREENER STORES

With over 16,000 stores worldwide, in-store consumption of electricity accounts for 88% of the Retail division's scope 2 carbon footprint. To standardise best practices for energy efficiency, A.S. Watson has launched its Greener Stores Global Framework. In addition to addressing procurement of renewable energy and more sustainable materials, fittings and fixtures for store design, construction, retrofitting, and maintenance, this framework also outlines Group-level objectives and standards for diverting waste from landfill and offering customers an expanding selection of greener products.

A.S. Watson UK has also partnered with ista - the Group's energy efficiency solutions provider in the Infrastructure division - to identify energy efficiency improvements and implement behavioural change in its stores, distribution centres, and offices. It is utilising ista's MinuteView platform to forensically examine and enhance its energy management systems.

Telecommunications

AI-ENABLED OPTIMISATION

During the year, **3** UK continued to realise the energy savings from its investment in Ekkosense, a data centre AI-enabled optimisation software that optimises cooling capacity in real-time. A winner of the Data Centre World Awards 2023 for its Special Contribution to Improving Energy Efficiency, EkkoSense's submission for the award detailed how it has worked with **3** UK to secure a 200kW cooling energy saving across four sites, leading to a 10-15% cooling energy saving in just ten weeks.

BIODIVERSITY PROTECTION

Healthy ecosystems provide essential services for sustaining life on our planet, including treating and dissipating waste, and maintaining soil, water, and air quality. The Group recognises that its businesses activities both contribute to, and are impacted by, biodiversity loss.

Environmental Net Gain

In accordance with the Group Environmental Policy, all business units should complete biodiversity assessments to ensure that they protect, conserve, and restore local biodiversity, wherever relevant to their operations.

The Infrastructure division advocates an environmental net gain approach that leaves ecosystem services in a measurably better state as recorded by a range of indicators, including biodiversity. It avoids operational activities with direct impacts on World Heritage and IUCN Category I-IV protected sites, and adopts the mitigation hierarchy of "avoid, minimise, restore and offset" for operations with potential impacts on critical biodiversity. The division also sets aside sufficient funds for responsible site closures and rehabilitation work.

Across the Infrastructure division, several businesses are leading the way on accounting for natural capital. For example, in 2021 Northern Gas Networks measured and reported on the natural capital value of 32 of its largest infrastructure sites, with a combined area of 40 hectares. Using a bespoke tool, it identified that its infrastructure sites deliver multiple ecosystem service benefits valued at an average of £1500 per hectare per year, including the sequestration of 1.6 tonnes of carbon and 30 kilogrammes of air pollutants per hectare per year.

Meanwhile, Northumbrian Water is developing an in-house tool to evaluate the biodiversity value of sites larger than 0.2 hectares. In 2022, Northumbrian Water completed its first natural capital accounting exercise to establish a baseline from which it can measure change and inform future decision making. Through this work it has gained a thorough understanding of the value of the natural capital assets it owns, and how the management of those assets provides value to its customers and wider society such as through improved air quality, carbon sequestration and the welfare benefits of visiting site of natural beauty.

Infrastructure

TAKING ACTION TO PROTECT WILDLIFE

SA Power Networks is developing a Biodiversity Action Plan aligned with guidance from the Task Force on Nature-related Financial Disclosures (TNFD). It engages specialist ecologists to help develop management plans for projects in sensitive sites and works closely with local NGOs and government authorities to promote wildlife protection. Some examples of relevant initiatives include installing nest rings to encourage birds not to roost on power poles and critter guards to prevent animals from climbing onto power lines.

In 2022, SA Power Networks launched a programme to mitigate impacts of exposed electrical infrastructure on native fauna and enhanced its approach to reducing the risk of bushfire by managing vegetation near its power lines.

Wales & West Utilities has a long-term ambition to achieve biodiversity net gain throughout its network by 2039. It has set aside half a hectare for biodiversity enhancements at its newly opened depot in Bristol, in the hope of attracting and sustaining a variety of fauna such as bats, newts, and other reptiles, as well as protected birds. The new site has been specially designed to incorporate a pond area and to preserve a pre-existing badger run.

EDL strives to understand and adapt traditional practices of Aboriginal and Torres Strait Islander people for preserving the natural environment of Australia. On the recent Jabiru project, EDL has engaged a group of local Aboriginal rangers to provide professional land management services and conduct fauna checks adjacent to the World Heritage-listed Kakadu region in the Northern Territory.

SA Power Networks installing critter guards to protect wildlife

Ports

PARTNERING WITH LOCAL EXPERTS TO PRESERVE NATIVE SPECIES

Hutchison Ports UK engages the services of an ornithology expert to monitor and manage nesting populations of peregrine falcons in proximity to its terminal.

Hutchison Ports LCT in Mexico has an ongoing partnership with a local NGO to help conserve endangered species of turtle that come to nest on Michoacán's beaches.

Anti-deforestation

Oil palm development impacts global biodiversity adversely by driving destruction of species-rich habitats in tropical forests of Asia and Central and South America. A simple shift from palm oil to other oil crops is not a sustainable solution however as it may lead to further biodiversity loss.

As a member of the Roundtable on Sustainable Palm Oil (RSPO) since 2016, the Retail division supports effective policies and programmes to stop the clearing of native tropical forests. The Retail division has a target to achieve 100% of Own Brand products incorporating or containing RSPO palm oil by 2030. In 2022, it started to use the RSPO Trademark in Own Brand products in the Netherlands and the UK.

Certification from the Forest Stewardship Council (FSC) or Programme for the Endorsement of Forest Certification (PEFC) offers consumers choice to select products that have been sourced in an environmentally preferable, socially responsible, and economically viable way. The Retail division has set a target to achieve 100% Own Brand paper products and paper packaging from responsible sources (i.e., FSC, PEFC, or recycled) by 2030. Watsons Health & Beauty Retail has already reached this goal for paper products, and PARKnSHOP, Superdrug, and Kruidvat are on track to achieve it by 2025. PARKnSHOP is also committed to sourcing exclusively deforestation-free meat—meaning that no forest areas were cleared or converted to raise livestock for meat production.

Retail

TAKING STEPS TOWARDS FUTURE-PROOF PALM OIL

Kruidvat has participated in the FAIR Company-Community Partnership model since 2020. This initiative, led by Dutch 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 impacts on local communities. It is intended to demonstrate proof-of-concept, showcasing a viable and sustainable alternative business model with 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 impacts for smallholders and other community stakeholders. Kruidvat participates specifically in a multi-stakeholder partnership project in Southeast Sulawesi, Indonesia. The implementation phase of this project was unfortunately delayed due to the COVID-19 pandemic, so its first results are expected in 2023.

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 ecosystems in which it operates. To mitigate the impacts 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 2020-2022

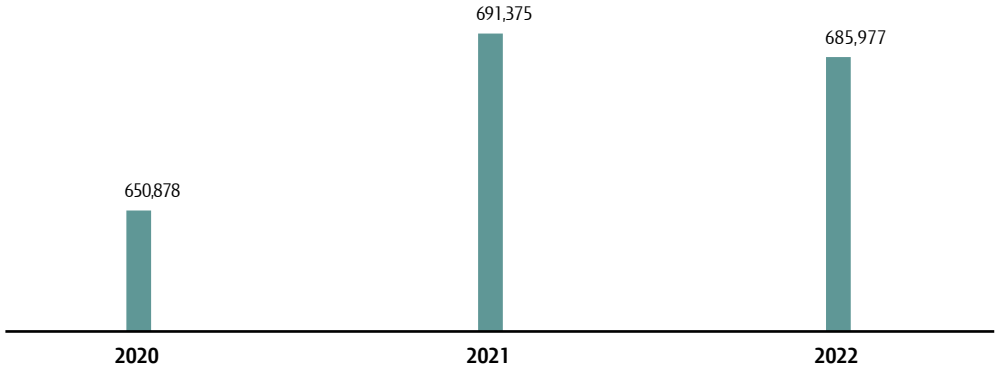
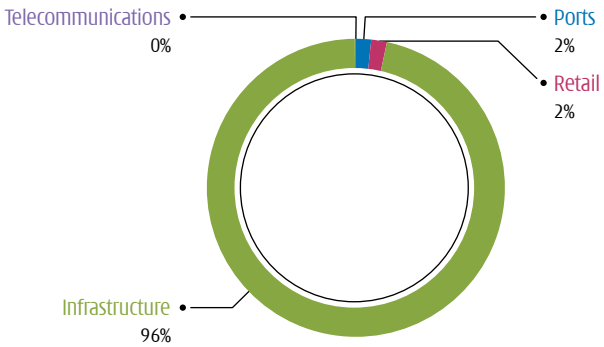


Figure 14 Group breakdown of water consumption



The Group's core businesses consume water for cleaning and cooling their assets and facilities and to provide services and products to customers. Over 90% of the Group's water consumption occurs in the Infrastructure division, mostly water use by its only water company (Northumbrian Water) and seawater for cooling its power plants.

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. The Retail division has recently developed a water risk assessment framework for Watsons Water. It will conduct annual reviews to continuously enhance resilience towards potential water risks for its operations.

Infrastructure

LOOKING AHEAD TO MITIGATE WATER RISKS

In December 2022, Northumbrian Water released its draft Water Resources Management Plan 2025-2030, looking ahead to mitigate supply risks for surface and underground water sources over the next 60 years. Supported by Kielder Reservoir in Northumberland, it is committed to securing water supply to meet forecasted demand, even in the event of severe drought. The plan also lays out strategies to improve water efficiency by reducing leakage and introducing smart meters. The final report is expected for publication in mid-2023.

Kielder Reservoir in Northumberland

Water Use

The Group's core businesses are reducing water consumption by collecting, recycling, and reusing wastewater and rainwater, as well as installing low flow appliances.

The largest consumer of water in the Group, Northumbrian Water, strives to achieve the lowest level of water leakage among all service providers in the UK. It has targets to reduce leakage by 15% between 2020 and 2025, and then by a further 10% over each subsequent five-year period through to 2045. It also has an ambitious goal to achieve zero water pollution from its assets and operations by 2025.

Northumbrian Water achieved a Four Star performance, the highest possible, in the UK Environment Agency's latest Environmental Performance Assessment for the second year running. It has invested heavily in upgrades to its wastewater network in the last two decades and it will continue to do so. More than £80 million of investment is targeted towards improvements related to storm overflows in its current 2020-25 operating period. A further summary of the pledges that it has made to protect its water resources can also be found here.

Ports Retail Infrastructure

MAKING THE MOST OF A PRECIOUS RESOURCE

The Group makes efforts to conserve and recycle water. Examples from the core businesses include:

- Watsons Water, a manufacturer of pure distilled water, reclaims non-potable water from its distilled water production line to water greenery and flush toilets. There is also a water saving system for the beverage line. Recycled water is reused for cooling beverage products and refilling its cooling tower.
- EnviroNZ, a resource recovery services provider in the Infrastructure division, reduces water consumption by collecting and storing stormwater at several sites, including ChemWaste Auckland and Christchurch, Hampton Downs Landfill, EnviroFill North, and EnviroFill South.
- Hutchison Ports YANTIAN harvests rainwater for washing and watering plants within the port area.

Hutchison Ports YANTIAN rainwater harvesting programme

Beyond mitigating direct impacts of its own operations, the Group also recognises the importance of positively influencing the behaviour of its suppliers, customers, and other water users to effect positive change for water management in local communities. Northumbrian Water is a leading advocate of the UK's Water's Worth Saving campaign, running several programmes to engage and educate the public. For example, Northumbrian Water created the Water Rangers community initiative which mobilises a system of community volunteers that are helping 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 74 kilometres of waterways every week or fortnight, reporting their findings so that any potential pollution can be dealt with quickly and effectively.

The Derwent Reservoir, a pumped storage reservoir for Northumbria Water

AIR QUALITY

The Group's is committed to reducing emissions of local air pollutants such as Nitrogen Oxide (NO), Nitrogen Dioxide (NO_2), Sulphur Dioxide (SO_2) 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 2020-2022

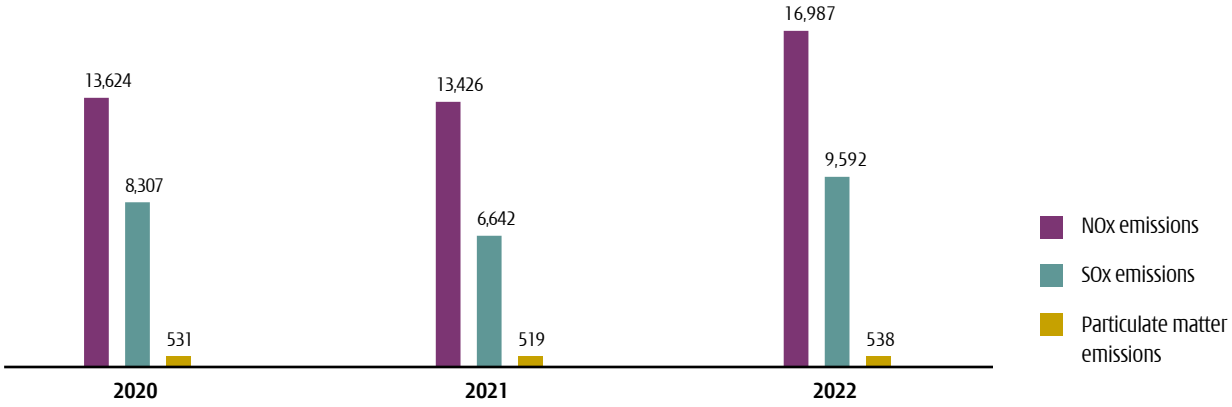
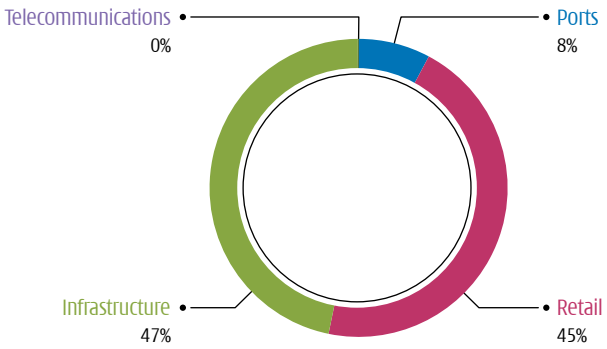


Figure 16 Group breakdown of air emissions



Generating electricity from fossil fuels is a major source of local air pollution, particularly for coal-fired power although natural gas, oil, and biomass power plants also emit air pollutants. The Group has well established practices in place for continuous air quality monitoring and investment in clean technologies at material operations. Its extensive programme of transitioning high-carbon assets and rolling out clean transportation is also helping to reduce emissions of local air pollutants.

Infrastructure

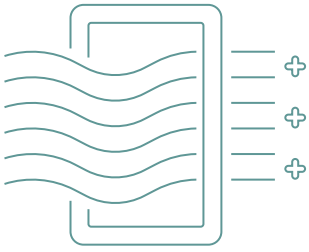
CLEANER AIR FOR HONG KONG

New gas-fired generating units at Lamma Power Station feature advanced emissions control technology known as Selective Catalytic Reduction that reduces emissions of nitrogen oxides down to nearly zero. In support of the Government's Clean Air Plan, HK Electric is switching to cleaner fuels and implementing advanced emissions control systems, such as flue gas desulphurisation plants and low-nitrogen-oxide burner systems, in its remaining coal-fired plants.

HK Electric's gas-fired units at Lamma Power Station

Ports

PROTECTING LOCAL PORT AIR QUALITY



Hutchison Ports Port of Felixstowe has recorded a 90% reduction of SO_2 since 2009 and a 30% reduction of NO_2 since 2007. It produces an Air Quality Strategy Report on a three-yearly cycle, with the next update expected in 2023.

CIRCULAR ECONOMY

Reducing the Group's reliance on extracting, consuming, and discarding natural resources makes good business sense. The Group seeks to redesign its products, systems, and services to deploy resources in ways that are more durable, reusable, repairable, and recyclable. What this means in practice varies across the Group, but all core businesses are embracing the challenge of circularity, focused on transforming their waste streams of today into productive inputs for tomorrow.

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 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 2020-2022

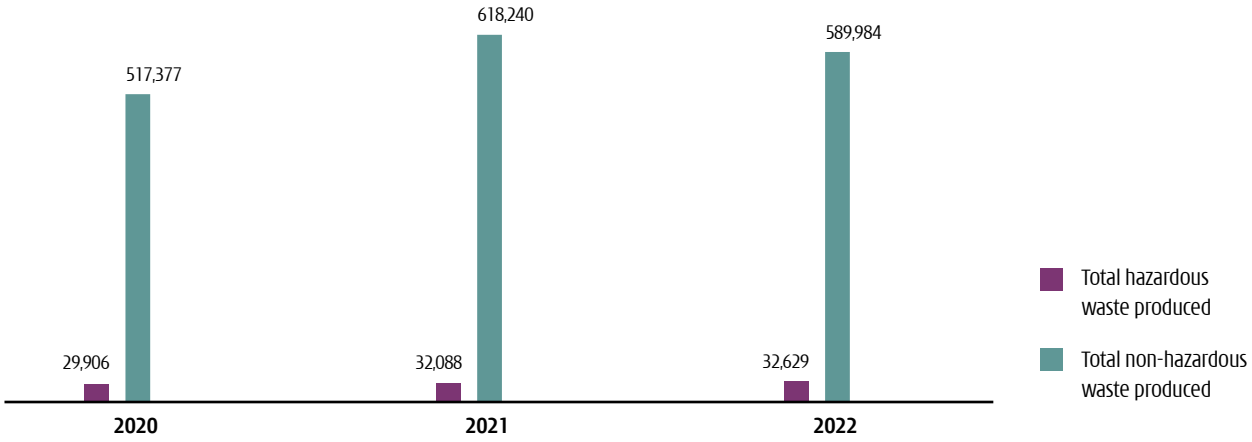
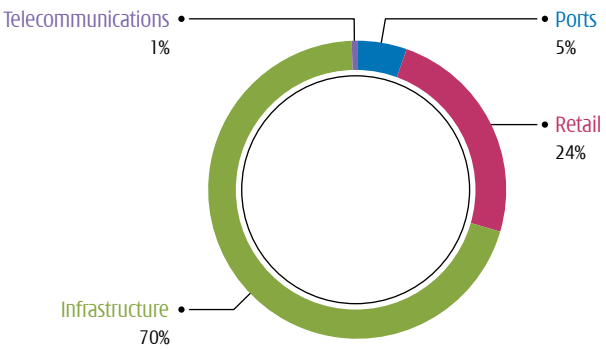


Figure 18 Group breakdown of waste



Waste Management Services

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: EnviroNZ and AVR.

In partnership with Hamilton City Council in New Zealand, EnviroNZ is delivering new rubbish and recycling services that have nearly doubled the volume of waste diverted from landfill in the city from 27% to 50%. It operates a national network of specialist facilities to deliver a comprehensive range of waste management solutions for its customers. It is scaling up to play an even bigger role in combating organic waste. EnviroNZ's Hampton Power and Resource Recovery Centre in North Waikato transforms up to 27,000 tonnes of organic waste per year into nutrient-rich compost for residential and commercial use.

AVR specialises 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. It is making an important contribution to Dutch and European goals on climate and energy by supplying sustainable process steam, district heating and electricity. It uses smart incineration technology to transform over 2.1 million tonnes of unrecyclable waste into 7.8GJ of energy per year. Its further certification to the ISO 50001 standard in energy management ensures that AVR is maximising energy efficiencies through its processes.

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.

>2.1
million tonnes

AVR uses smart incineration technology to transform over 2.1 million tonnes of unrecyclable waste into 7.8GJ of energy per year.

AVR's CO_2 capture plant in Duiven

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 reduce the rate at which landfills reach capacity and new ones are constructed.

In the Infrastructure division, several business units have ambitious targets to divert waste from landfill, such as SA Power Networks, which is on track to increase the total percentage of waste diverted from landfill by 80% compared with its baseline of 7.8% in 2011. SA Power Networks has maintained and improved the material source separation system it put in place in 2012 to maximise the amount of materials being recycled, recovered, and re-used. Northumbrian Water is committed to zero avoidable waste by 2025, which means eliminating, reusing, or recycling 90% of waste from its operations.

The Group's gas distribution networks are focused on reducing and reusing construction waste from installing and maintaining pipes, commonly known as "spoil". Northern Gas Networks, for example, has reduced its use of virgin aggregate by over 70% with innovations such as no-dig technology, and has achieved an impressive rate of less than 0.12% of spoil sent to landfill. This business unit is also leading other utilities companies and suppliers to implement alternatives for single use plastic packaging.

The Ports division's Waste Management Standard establishes a consistent approach across all ports and terminal operations worldwide, ensuring that terminal waste is being stored, transferred, and disposed of responsibly in accordance with relevant legislation. Business units submit waste data monthly for review and conduct periodic audits on relevant documentation and waste storage facilities at selected locations.

In 2022, concerted effort to raise awareness about waste management at Hutchison Ports Sydney increased the collection and recycling rate for solid waste up to 62%. Over 40% of total waste generated at the port is liquid waste, mostly contaminated liquid collected in the port's stormwater treatment pits. All liquid waste is collected by an approved contractor and taken off site for further treatment in line with local regulations.

During the year, waste cable drums have been virtually eliminated from the waste stream at Hutchison Ports Port of Felixstowe through collaboration between the port's procurement team, waste management contractor and suppliers.

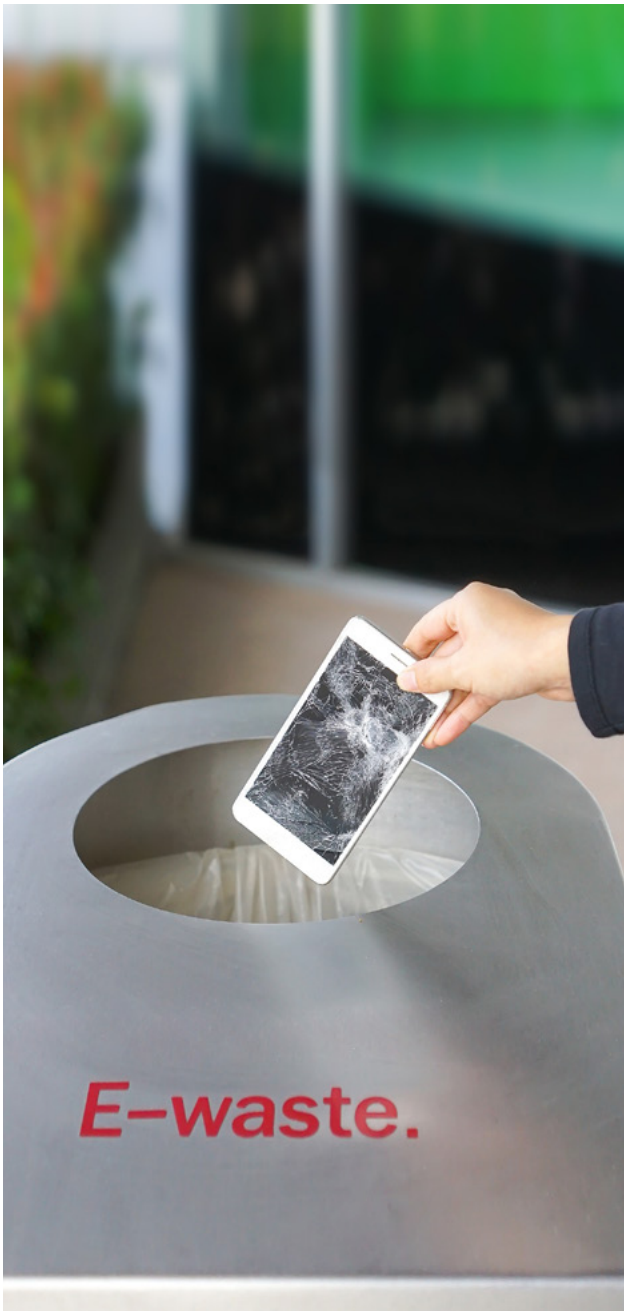
The Telecommunications division has arrangements in place for responsible disposal of network equipment. **3** UK, for example, partners with a major waste recovery specialist to manage waste from its legacy data centres. All decommissioned equipment is assessed to determine the most appropriate waste management method, including onward sale to other businesses through a dedicated online portal or recycling.

Take-back programmes in the Retail and Telecommunications divisions are also helping customers to divert packaging and e-waste from landfill. Read more here.

EnviroNZ's resources recovery service

Focus on E-Waste

The Group is particularly focused on 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.



In 2022, through its membership of the GSM Association's Circular Economy for Devices Working Group, the Telecommunications division has participated in the development of a Strategy Paper on the Circular Economy looking at how the sector can evolve towards more circular business models based on two overarching principles of "maximised longevity" and "zero waste."

To maximise sustainability, mobile devices should ideally be designed to be in service for as long as possible, made with recyclable and recycled content, and manufactured using renewable energy. Manufacturers and retailers should also engage with consumers and other business partners to ensure that no device ends up as waste.

In the Infrastructure division, ista adopts a full lifecycle approach to its electricity meters and heat cost allocators by integrating circularity into every aspect of design, product take-back and recycling. Its leasing model ensures these devices are maintained for their maximum lifecycle and ultimately recycled through specialist, certified service providers.

In the Retail division, FORTRESS has partnered with a local NGO in Hong Kong to collect used laptops and accessories from its customers and employees, for repair and donation to low-income families. Over 300 items were donated in 2022.

Focus on Plastics

There is increased focus globally on the role of circular solutions to address the growing global plastics pollution crisis. As a signatory to the Ellen MacArthur Foundation's New Plastics Economy Global Commitment, A.S. Watson will disclose its performance against the following targets on an annual basis:

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

2022 status

51.5%
achieved

- 20% recycled plastic content in Own Brand packaging by 2025

2022 status

7.4%
achieved

The Retail division is also making tangible progress against broader objectives to eliminate problematic or unnecessary plastic packaging, switching to alternative materials, and banning polyvinyl chloride (PVC). It is also offering in-store refill options for customers of its Own Brand Natural by Watsons personal care range in Malaysia and Hong Kong. Watsons Water is installing smart water refill stations at schools and public spaces in Hong Kong. As a complementary measure, A.S. Watson has introduced refillable aluminium bottled water in containers made from 70% recycled and 100% recyclable content.

Watsons Water smart water refill stations in schools in Hong Kong

Reducing plastic 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. WINDTRE, **3** Denmark, and **3** Sweden have introduced Thales' Eco-SIM —the world's first SIM card made of 100% post-consumer recycled plastic. **3** UK and **3** Denmark have launched 100% plant-based and compostable phone cases. **3** Hong Kong transports SIM cards for postpaid services to its stores in batches to cut down on packaging and has also reduced the amount of packaging material for its SoSIM prepaid cards.


#SUSTAINABLE CHOICES
Naturals by watsons
舊瓶注新體驗站 REFILL STATION
請聯繫店內職員協助 ASK OUR FRIENDLY STAFF FOR HELP
1 FILL 注滿空瓶
2 LABEL 貼上標籤
3 PAY 付款
為舊瓶注滿生命 減少塑膠 打造綠色地球 SWITCH TO REFILLS TODAY, LESS PLASTIC, BETTER WORLD
CERTIFIED ORGANIC INGREDIENTS
SUSTAINABLE
DERMATOLOGICALLY TESTED
Olive
Argan
Aloe Vera