

# TOWARDS A SUSTAINABLE, INCLUSIVE AND THRIVING DIGITAL ECONOMY

CK HUTCHISON GROUP TELECOM HOLDINGS SUSTAINABILITY REPORT 2022

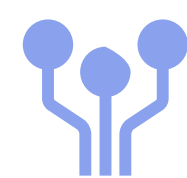


## INTRODUCTION

4 ABOUT THIS REPORT

6 ABOUT CKHGT

8 CKHGT'S APPROACH TO SUSTAINABILITY



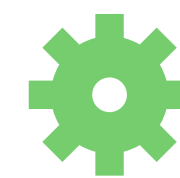
### CREATING A THRIVING DIGITAL ECONOMY

- 14 BUILDING NEXT GENERATION NETWORKS
- 14 ENABLING SUSTAINABILITY THROUGH PRIVATE NETWORKS
- 15 ENABLING POSITIVE IMPACT THROUGH IOT CONNECTIVITY
- 16 SMART TECHNOLOGIES FOR SUSTAINABLE CITIES
- 17 CREATING SUSTAINABLE OUTCOMES THROUGH DATA ANALYTICS
- 18 POSITIVE IMPACT PRODUCTS
- 19 DIGITAL SAFETY AND WELLBEING
- 20 DIGITAL INCLUSION



### TAKING ACTION ON CLIMATE CHANGE

- 24 CLIMATE GOVERNANCE AND REPORTING
- 25 SCIENCE-BASED EMISSIONS REDUCTION TARGETS
- 26 CKHGT GHG FOOTPRINT AND EMISSIONS PERFORMANCE
- 29 GHG REDUCTION STRATEGY



### PROMOTING A CIRCULAR ECONOMY

- 37 END-OF-LIFE PRODUCT MANAGEMENT
- 38 REFURBISHED DEVICES
- 38 ECO-DESIGN
- 38 SUSTAINABLE SIMS
- 39 CIRCULAR NETWORKS
- 39 SUSTAINABLE LOGISTICS



### CREATING GREAT PLACES TO WORK

- 41 CKHGT EMPLOYMENT PROFILE
- 41 EMPLOYEE ENGAGEMENT AND FEEDBACK
- 42 ATTRACTING DIVERSE TALENT
- 45 INCLUSION AND DIVERSITY
- 47 EMPLOYEE LEARNING AND DEVELOPMENT



### OPERATING RESPONSIBLY AND WITH INTEGRITY

- 49 DATA PRIVACY
- 52 CYBERSECURITY
- 55 ENVIRONMENTAL POLICY AND MANAGEMENT
- 56 SUSTAINABLE PROCUREMENT AND SOCIAL SUPPLIER STANDARDS
- 57 HEALTH AND SAFETY
- 57 ELECTROMAGNETIC RADIATION
- 58 PRODUCT QUALITY AND SAFETY
- 58 BUSINESS CONTINUITY PLANNING

### 59 APPENDICES

# INTRODUCTION

## SECTIONS

ABOUT THIS REPORT

ABOUT CKHGT

CKHGT'S APPROACH TO SUSTAINABILITY

## ABOUT THIS REPORT

This report is the first standalone report in the CK Hutchison Group Telecom Holdings Limited's (CKHGT, or the Group) sustainability disclosure journey, building on three prior years of disclosure as part of the sustainability report of its parent company, CK Hutchison Holdings Limited (CKHH). Through these reports, it aims to continuously refine and improve its approach and address the sustainability concerns of its stakeholders.

### REPORTING PERIOD

This Sustainability Report covers the period 1 January 2022 to 31 December 2022 (the reporting period), with the inclusion of a number of developments since the reporting period, where these are considered significant.

### REPORTING SCOPE

This report covers the activities of business units within CKHGT over which the Group has operational control. The information in this report relates to CKHGT unless otherwise indicated.

## REPORTING FRAMEWORKS

### HKEX ESG GUIDE

As a wholly owned subsidiary of CKHH, CKHGT collects data guided by the framework of the Hong Kong Stock Exchange Environmental, Social and Governance Reporting Guide.

### TCFD

CKHGT supports the Task Force on Climate-related Financial Disclosures (TCFD) recommendations. Its latest standalone TCFD report is available on the corporate website and relevant information is also contained in this report.

### GRI

This report references selected standards from the Global Reporting Initiative (GRI).

### ADDITIONAL INFORMATION

The content of this report is supplemented by additional information in the sustainability sections of the corporate websites of CKHGT and its parent company, CKHH.



# MESSAGE FROM THE CHAIRPERSON

I am pleased to provide the first standalone sustainability report for CKHGT, building on progress reports included within the CKHH Sustainability Report in prior years.

This year the business units operated in the context of evolving challenges - from ongoing pandemic recovery, to monetary, fiscal and once in a generation geopolitical uncertainties. Nonetheless, 2022 saw significant and positive progress in the Group's approach to action on climate change. After two years of effort to set science-based targets and develop net-zero transition plans, CKHGT obtained approval from the Science Based Targets initiative (SBTi) for its near-term targets: reducing scope 1 and 2 greenhouse gas (GHG) emissions by 50% by 2030 and reducing scope 3 GHG emissions by 42% by 2030, each versus a 2020 baseline. It has also formally committed to setting a long-term net-zero target to be validated by the SBTi.

CKHGT recognises its fundamental role in helping to create a thriving digital economy across its operating markets. To this end,

throughout the year, its business units have invested significantly in developing and deploying high performance and energy efficient next generation network infrastructure. They have also continued to actively develop products and services that create positive and sustainable outcomes for customers. For example, **3** Austria launched an IoT LoRaWAN network enabling IoT deployment across many sustainable applications such as smart electricity and smart water management, and CKHGT's private mobile network at Hutchison Ports Stockholm entered service, allowing autonomous port vehicles to move and stack containers at the port, increasing safety and energy efficiency.

In a world of economic turmoil and uncertainty, our employees, customers and communities face many challenges. CKHGT recognises the importance of digital inclusion for individuals and businesses, particularly in difficult circumstances, and the role that digital technologies play in reducing vulnerability. During the year, our businesses therefore sought to redirect time and resources to providing support through these difficult times, leveraging their particular business strengths. For example, through the Ukraine crisis, business units have taken steps to keep people connected with free calls and

texts, and donated devices and SIMs. **3** UK also donated 1 million GB of data to the National Databank with the aim of enabling 40,000 digitally excluded individuals to get connected via the Good Things Foundation.

As we navigate our businesses through the challenges of today and tomorrow, serving the best interests of society and the environment must always be at the heart of our efforts. We know that this is not only the right thing to do, but also that our stakeholders are expecting more of the companies they work for, buy products and services from and invest in.

Finally, I would like to say thank you to all our team members across CKHGT for the hard work and dedication they have laid out to our customers and each other over the past year. Their tremendous efforts have, above everything else, made us what we are today.

Canning Fok

Group Co-Managing Director and Executive Director of CK Hutchison Holdings; Managing Director of CK Hutchison Group Telecom Holdings

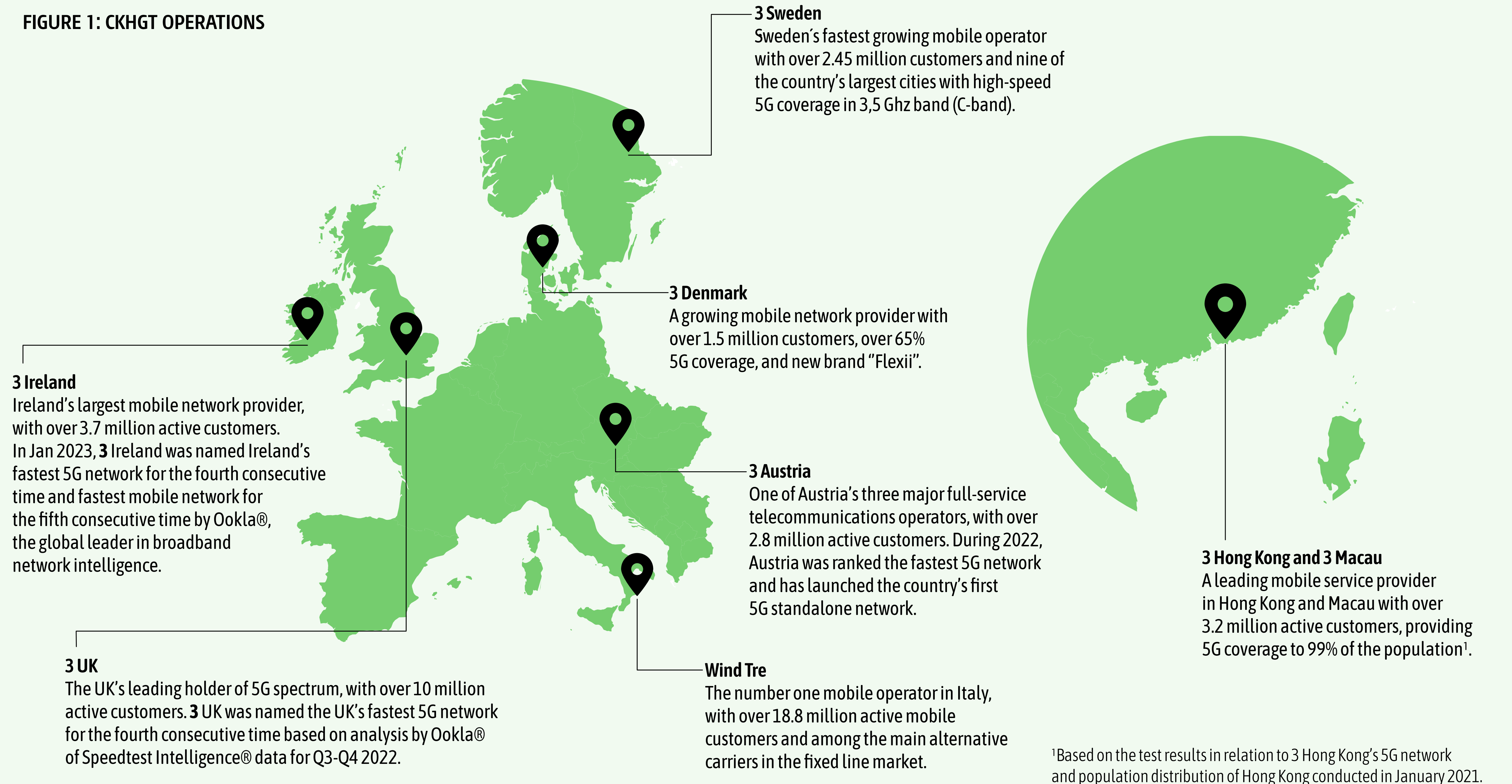
30th June 2023

# ABOUT CKHGT

A pioneer in mobile data communication technologies, CKHGT is a leading global operator and innovator of converged telecommunication and digital, implementing innovative technologies in international interconnectivity. It forms part of CKHH - a multinational conglomerate committed to development, innovation and technology in four core businesses: ports and related services, retail, infrastructure, and telecommunications.

CKHGT has a strong commitment to the highest standards of corporate governance, transparency and accountability. We take environmental and social sustainability responsibilities seriously with programmes and innovations across our businesses to address related challenges.

FIGURE 1: CKHGT OPERATIONS



## OUR PURPOSE

CKHGT plays an essential role in society, connecting over 43 million people across its operating markets, enabling people to work, to learn, to do their banking and shopping, and to connect with their friends and families. It also forms an integral part of the operations and services of businesses and governments. In doing so, it acts as a driver of economic growth and improved living standards.

CKHGT aims to be environmentally responsible in the way it manages its businesses and networks, and is focused on growing the opportunities for positive social and environmental impact through its products and services, including enabling emissions reductions in society, thereby supporting the transition to a low-carbon economy.

CKHGT's role in serving society is clear — **To build sustainable, inclusive and digitally-enabled societies.**

### CKHGT AT A GLANCE

OVER **43 MILLION** ACTIVE CUSTOMERS<sup>2</sup>



HK\$**83,289 MILLION** (€10,084 MILLION) REVENUE



OVER **9,000** PETABYTES DATA TRAFFIC



INVESTING IN DEPLOYMENT OF **5G** COVERAGE ACROSS ITS BUSINESS UNITS



OVER **17,000** EMPLOYEES<sup>2</sup>



**7** OPERATING MARKETS<sup>2</sup>



OVER **62,000** MOBILE SITES<sup>2</sup>



<sup>2</sup>AS AT 31 DECEMBER 2022



“  
**CKHGT PLAYS AN ESSENTIAL ROLE IN SOCIETY, CONNECTING OVER 43 MILLION PEOPLE ACROSS ITS OPERATING MARKETS**”

# CKHGT'S APPROACH TO SUSTAINABILITY

## SUSTAINABILITY GOVERNANCE

Reporting to the Board of CKHGT, the Policy Board is the highest-level executive decision-making body. Its membership includes CEOs of the CKHGT business units, and Mr Frank Sixt (CKHH Group Finance Director and Deputy Managing Director, CKHGT Group Finance Director). It is chaired by the CEO of CKHIOD (CKHGT's dedicated innovation and collaboration business). The CKHGT Policy Board is responsible for approving the CKHGT Sustainability Strategy and key strategic projects or public reports.

In 2022, a Sustainability Forum was established, with senior management representation from each CKHGT business unit, to oversee direction and endorse key strategies and reports prior to approval by the Policy Board. The Sustainability Network and Climate Action Working Group remained active, meeting monthly to drive forward sustainability and climate change progress. At the end of 2022, CKHGT held its first in-person sustainability conference – a two-day event bringing together sustainability representatives from business units to share best practice and discuss priorities.

The CKHGT Sustainability Strategy aligns with the CKHH Sustainability Framework. Individual business units also have, or are developing local level sustainability strategies, and are working towards integrating these into their performance incentives.

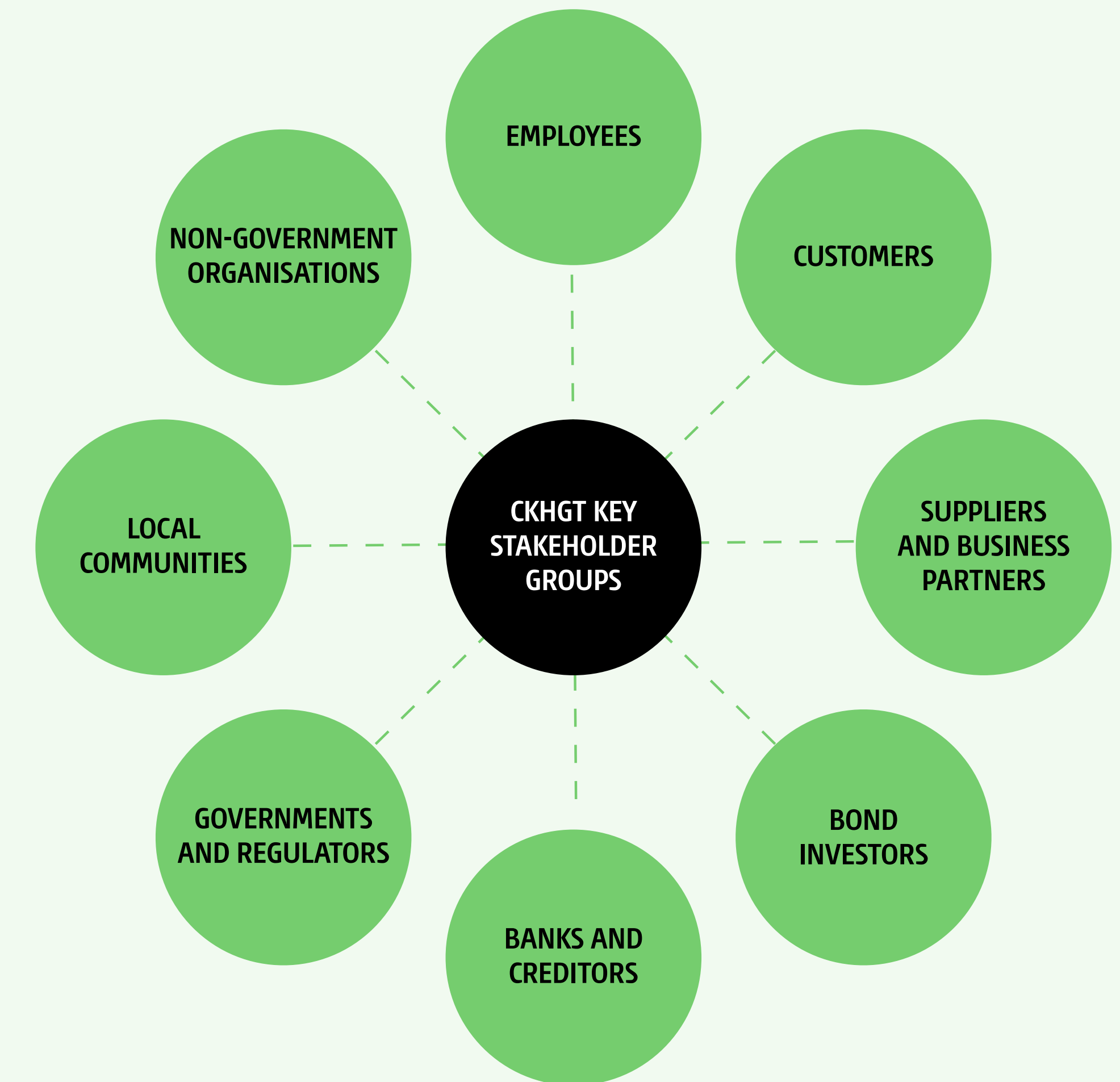
## STAKEHOLDER ENGAGEMENT AND MATERIALITY

CKHGT's material issues are identified in an iterative process that is updated with new information and emerging trends. CKHGT applies the concept of 'double materiality', prioritising issues through stakeholder perspectives on impacts to environment and society, and impacts to the organisation.

Key stakeholders include:

- Employees;
- Customers;
- Suppliers and business partners;
- Bond investors;
- Banks and creditors;
- Governments and regulators;
- Local communities; and
- Non-government organisations.

FIGURE 2: KEY STAKEHOLDERS





“”

# CKHGT ACTIVELY PARTICIPATES IN GSMA COMMITTEES... PLAYING A CENTRAL ROLE IN INDUSTRY DIALOGUE ON KEY ISSUES FOR THE SECTOR

At a Group level, CKHGT actively participates in GSMA<sup>3</sup> committees and working groups, playing a central role in industry dialogue on key issues for the sector. For example, the Deputy Chairman of Hutchison Whampoa Europe Limited served on the GSMA Board during the reporting year. CKHGT also has senior representation on the GSMA's Technology Group, Strategy Group and Policy Group. The Head of Sustainability for CKHGT participates in the GSMA's Climate Action Working Group and Sustainability Network, as well as working groups on 'Scope 3 Methodology' and 'Circular Devices'.

Ongoing engagement with Governments and regulators is led by senior corporate affairs officers, and sustainability investor outreach is led by the CKHH Investor Relations and Sustainability departments. During 2022, the Group had one-to-one discussions with a number of its investors to solicit feedback as an important input to ongoing sustainability strategy development and disclosure.

<sup>3</sup>The GSMA is a global organisation unifying the mobile ecosystem to discover, develop and deliver innovation that helps business and society thrive. [www.gsma.com](http://www.gsma.com)

Investor feedback consistently emphasised the importance of a continued focus on the climate action strategy. This sustainability report includes a detailed chapter on this topic, which can be read in conjunction with the complementary CKHGT TCFD Report 2022.

Each business unit faces its own set of sustainability challenges and opportunities specific to its market. They maintain a close dialogue with local stakeholders, to inform their sustainability focus and approach. This is done both in dedicated materiality exercises and ongoing engagement, for example, through customer and employee focus groups and surveys, and meetings with Government stakeholders, investors, and local NGOs where appropriate.

In line with the broader CKHH approach to materiality, a three-step approach is followed, with material issues identified, prioritised and validated by CKHGT senior management.

## WIND TRE STAKEHOLDER ENGAGEMENT, MATERIALITY ASSESSMENT AND INCENTIVES-LINKED 2030 ESG PLAN

Wind Tre maintains ongoing relationships and dialogue with its stakeholders, both as part of the normal course of business and at times specifically for the purpose of materiality analysis. The most recent comprehensive materiality update commenced at the end of 2021, with the identification of over 250 topics relevant for Wind Tre and its peers nationally and internationally. From this long list, 15 topics were prioritised and discussed in workshops – one with 18 external stakeholders representing the various stakeholder categories for the company, another with 28 managers from across Wind Tre, and later with a group of 'under 30' employees. At the end of the process, seven key themes were identified, and formed the basis of the long-term goals defined as Wind Tre's '2030 ESG Plan'. Wind Tre has also developed an ESG composite index, with a 15% weighting on the short-term incentives of all managers, thereby incentivising a collaborative approach to the achievement of targets.

## MATERIALITY ASSESSMENT IN 3 UK AND 3 IRELAND

In 2022, 3 Ireland and 3 UK carried out a comprehensive materiality assessment. Internal and external stakeholders were invited to participate, including staff, personal and business customers, public bodies, NGOs and industry representatives. Participants completed an online survey to rate and rank a list of environmental, operational, and societal topics according to how important they felt it was that these business units prioritised them. This assessment was used to develop the recently launched 3 UK and 3 Ireland Sustainability Strategies.

**IDENTIFICATION AND PRIORITISATION:**

This includes material issues identified through:

- Business unit materiality assessments;
- Sector specific frameworks as the Sustainable Accounting Standards Board (“SASB”) Telecommunications Standard;
- GSMA’s [Material Sustainability Issues for the Mobile Sector](#) and [ESG Metrics for Mobile](#);
- UN Sustainable Development Goal (SDG) resources;
- ESG rating agency reports; and
- Research on emerging issues and global socioeconomic trends.

**VALIDATION:**

Prioritised issues are developed into a draft sustainability strategy, which is reviewed and approved by the CKHGT Policy Board.

The following table highlights the material topics identified for CKHGT, and the related UN SDGs.

**CLIMATE CHANGE**



This issue relates to operational GHG reductions, transition planning towards net-zero, business climate risk and opportunities, and helping to enable GHG reductions for customers through our products and services.

**CIRCULAR ECONOMY**



This issue relates to circular devices, involving greater use of recycled and recyclable content in products and packaging, as well as end-of-life product management and mechanisms that enable devices to have a longer life in use.

**DIGITAL INCLUSION**



This has a differing focus across CKHGT’s business units, which includes building digital capability for excluded or limited users of digital technologies, extending access to rural areas, and providing affordable access in times in crisis.

**DIGITAL SAFETY**



This relates both to providing products and services that help customers stay safer online, and to broader digital safety education and communication initiatives.

**LEARNING AND DEVELOPMENT**



This relates to the opportunities the business units provide to support the ongoing development of their workforce in the context of a fast-changing technological environment and competitive market for talent.

**DIVERSITY AND INCLUSION**



This relates to creating more diverse and inclusive workplaces, considering aspects such as recruitment, employee development and pay equity, as well as addressing broader issues associated with diversity in the talent pipeline. There is differing focus across CKHGT’s business units depending on local circumstances.

**CYBERSECURITY**



This relates to the management arrangements for cybersecurity risks, including governance, risk assessment, controls, monitoring and incident response as well as the broader context of technological developments and innovation.

**DATA PRIVACY**



This relates to the arrangements in place across the Group and its business units for maintaining the privacy of customers’ personal information in compliance with legislation and best practice.

**RESPONSIBLE SUPPLY CHAIN**



This relates to environmental, social and governance risks in the supply chain and how the business units assess and manage these risks through sustainable procurement practices.

**UN GLOBAL COMPACT**

CKHGT recognises the important framework of the UN Global Compact in providing fundamental sustainable operating principles in the areas of human rights, labour, environment and anti-corruption. The parent of CKHGT, CKHH, is a member of the UN Global Compact, and a number of CKHGT business units (for example Wind Tre, 3 Denmark and 3 Sweden) have taken up direct membership as subsidiaries.

**CAMBRIDGE INSTITUTE FOR SUSTAINABILITY LEADERSHIP TRAINING**






A wide range of team members from different functions across all business units are involved in communicating and implementing the Group’s sustainability objectives. During 2022, to support these colleagues in gaining a broad-based understanding of global sustainability trends, CKHGT provided employee access to an online short course from the Cambridge Institute of Sustainability Leadership entitled “Sustainability Essentials for Business”.

**SUSTAINABILITY STRATEGY**

The CKHGT Sustainability Strategy was approved by the CKHGT Policy Board in March 2022. It aligns with the overarching Group Sustainability Framework of CKHH and addresses material topics for CKHGT, setting out key focus areas and specific actions being undertaken within individual operating companies and as a collective group, to deliver on these outcomes.

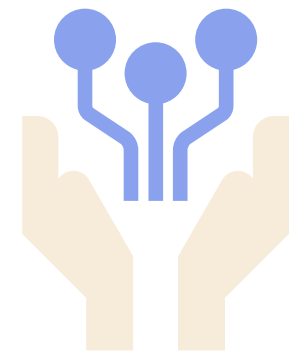
**CKHGT SUSTAINABILITY STRATEGY**

**BUILDING SUSTAINABLE, INCLUSIVE AND DIGITALLY-ENABLED SOCIETIES**

<p><b>CREATE A THRIVING DIGITAL ECONOMY</b></p>	<p>HELP TO CREATE A THRIVING DIGITAL ECONOMY WHICH BENEFITS EVERYONE</p>	
<p><b>TAKE ACTION ON CLIMATE CHANGE</b></p>	<p>UNDERSTAND AND MANAGE OUR CLIMATE IMPACTS, RISKS AND OPPORTUNITIES</p>	
<p><b>PROMOTE A CIRCULAR ECONOMY</b></p>	<p>PROMOTE SUSTAINABLE USE OF RESOURCES ACROSS OUR PRODUCTS AND NETWORKS</p>	
<p><b>CREATE GREAT PLACES TO WORK</b></p>	<p>CREATE WORKPLACES WHICH ATTRACT AND RETAIN DIVERSE TALENT</p>	
<p><b>OPERATE RESPONSIBLY AND WITH INTEGRITY</b></p>	<p>IMPLEMENT EFFECTIVE SUSTAINABILITY GOVERNANCE, MANAGEMENT ARRANGEMENTS AND DISCLOSURES</p>	

## CKHGT SUSTAINABILITY HIGHLIGHTS FOR 2022

### CREATING A THRIVING DIGITAL ECONOMY



- **3** Austria launched the IoT LoRaWAN network enabling IoT deployment across many sustainable applications such as smart electricity and smart water management.
- CKHGT's private mobile network at Hutchison Ports Stockholm entered service, allowing autonomous port vehicles to move and stack containers at the port, increasing safety and energy efficiency.
- **3** Ireland continued its multi-year project with Ireland's leading energy utility, supporting the roll-out of 10,500 smart meters per week.
- CKHGT continued to scale its data analytics and insights offerings to address sustainability issues and transformation.
- In response to the Ukraine crisis, business units rallied to keep people connected with free calls and texts, and donated devices and SIMs.
- Wind Tre reached 800,000 families involved with its digital safety educational program NeoConnessi.
- **3** UK donated 1 million GB of data to the National Databank in partnership with Good Things Foundation, enabling connectivity for 40,000 digitally excluded individuals.

### CREATING A GREAT PLACE TO WORK



- Recognition for employer brand and experience across all markets, including 'Employee Experience Champion' in Austria, 'Career Company' in Sweden, and 'Top Employer Italy' for the fifth consecutive year.
- **3** Denmark refreshed its gender balance targets, aiming for at least 40% representation of both genders on the Board of Directors and management by 2025.
- Wind Tre became the first telecommunications company in the world to obtain certification from the EQUAL-SALARY Foundation.
- **3** Ireland reported its gender pay gap for the first time.
- **3** UK and **3** Ireland launched a 'Digital Academy', offering employees the opportunity to develop digital skills through e-learning, mentoring, events and professional qualifications.

### TAKING ACTION ON CLIMATE CHANGE



- Total scope 1 and 2 emissions decreased by 18% against the baseline year of 2020, primarily driven by increased renewable electricity in Wind Tre.
- Total percentage of renewable energy consumption for CKHGT grew from 29% in 2021 to 44% in 2022.
- **3** Denmark entered into a two-year agreement with a solar park, supporting local, green entrepreneurship.
- **3** Ireland implemented a successful 'proof-of concept' for small-scale solar installations on cell sites.

### PROMOTING A CIRCULAR ECONOMY



- **3** UK refreshed its Three Reconnected used phone donation scheme and integrated this with its ongoing Three Recycle scheme.
- **3** Sweden expanded its device take-back programme '3Återvinn' to include routers and extend it to include business customers, achieving a 160% increase in take-back volumes from 2021-2022.
- **3** Sweden launched its successful refurbished device program.
- Wind Tre and **3** Sweden launched the 100% carbon neutral 'Eco-SIM', made from recycled plastic.
- E-Sim penetration scaled by over 200%.
- **3** Austria launched 100% digital and paperless 'e-SIM only' mobile subscription up<sup>3</sup>.

### OPERATING RESPONSIBLY AND WITH INTEGRITY



- Wind Tre launched innovative 'bite-sized' data privacy training in collaboration with experts.
- The Cybersecurity Working Group launched a new programme of benchmarking and monitoring cybersecurity preparedness.
- Wind Tre expanded its Integrated Management System with two new standards related to energy and GHG management – ISO 50001 and ISO 14064.
- **3** UK was awarded a 'Gold Medal' from the Royal Society for the Prevention of Accidents for achieving five gold awards in consecutive years.

# CREATING A THRIVING DIGITAL ECONOMY



## SECTIONS

BUILDING NEXT GENERATION NETWORKS

ENABLING SUSTAINABILITY THROUGH PRIVATE NETWORKS

ENABLING POSITIVE IMPACT THROUGH IOT CONNECTIVITY

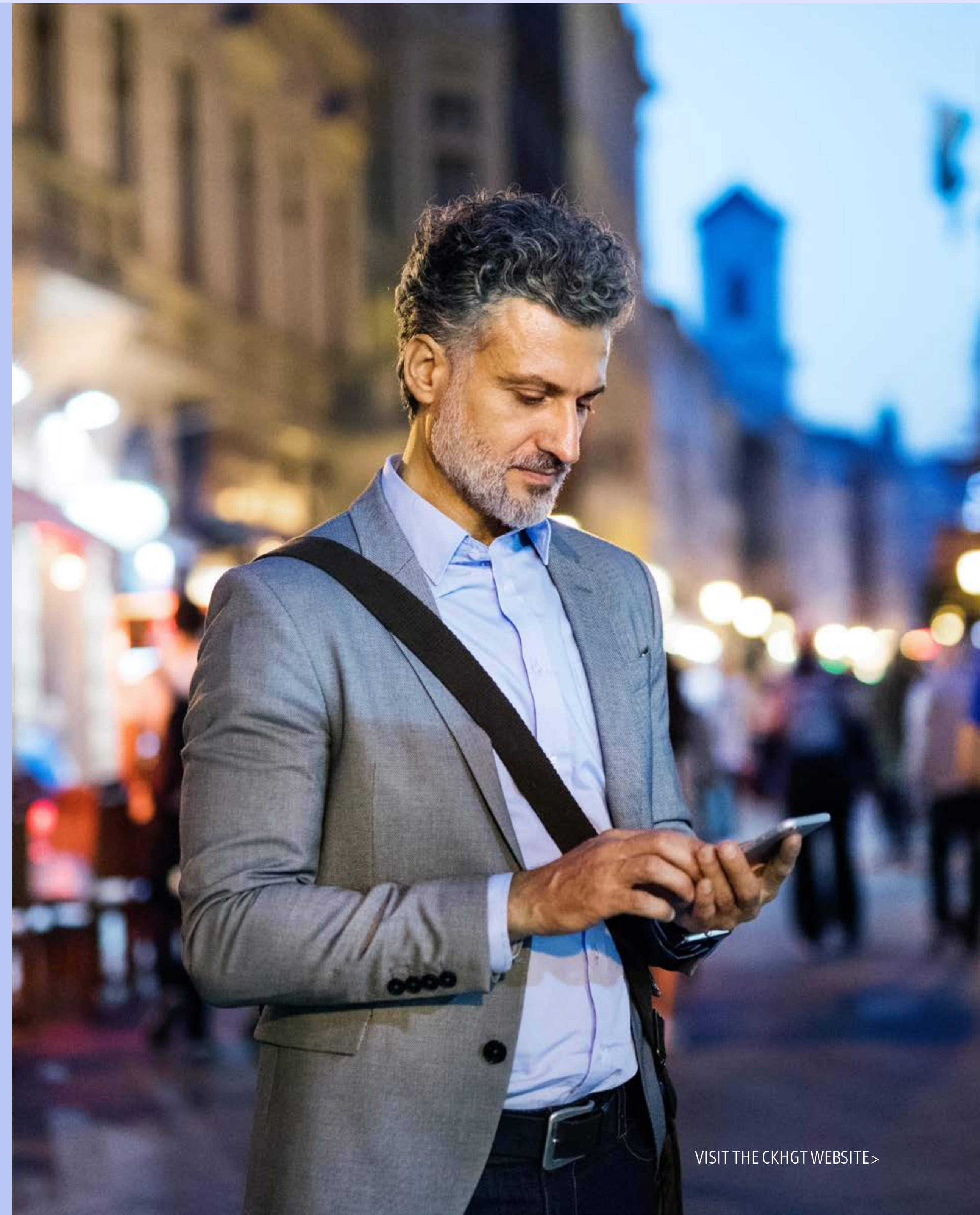
SMART TECHNOLOGIES FOR SUSTAINABLE CITIES

CREATING SUSTAINABLE OUTCOMES THROUGH DATA ANALYTICS

POSITIVE IMPACT PRODUCTS

DIGITAL SAFETY AND WELLBEING

DIGITAL INCLUSION



The digital economy is the economic activity that results from billions of everyday online connections among people, businesses and devices. In facilitating these connections, digital technology is an important driver of economic productivity and quality of life.

CKHGT operating markets often have national or regional digital economy strategies promoting the so-called ‘twin transition’ to a digital and sustainable society, reflecting the interdependence between these two goals.

The role of digital technologies in helping to achieve the UN SDGs was illuminated during the COVID-19 pandemic, when those unable to access or use digital technologies were more vulnerable to economic and social disruption.

All CKHGT business units recognise the important role they have to play in helping to create a productive and inclusive digital economy in which everyone can prosper.

## BUILDING NEXT GENERATION NETWORKS

Critical to a thriving digital economy, are world-class, next generation networks that support fast transfer of large amounts of data with consistency and reliability. 5G - the next generation in mobile technology - brings super-fast data speeds, consistent connections and low latency. It offers enormous potential to make lives safer, smarter and more efficient, supporting innovative uses across sectors such as energy, transport, and manufacturing, amongst others.

CKHGT is investing significantly in 5G radio equipment, 5G distributed core, and backhaul, enabling customers to access the benefits of 5G. At the same time, 4G remains important, utilising core spectrum available for data transmission, and compatible with millions of devices currently in use.

CKHGT is also investing in networks to support the growth of the internet of things (IoT) -



### LAUNCH OF LORAWAN<sup>4</sup> IN AUSTRIA

**In 2022, 3 Austria launched a LoRaWAN network in upper Austria, parts of lower Austria, Vienna and the Burgenland region, and continues to work with its partner on expansion of the network. The LoRaWAN network is suitable for deployment of IoT across a range of sectors and avoids the need for companies and municipalities to set up their own local networks.**

**Customers using the 3 Austria LoRaWAN include: real estate company LaaPlus, which uses LoraWan to support around 180 smart electricity meters, with plans to expand into smart water metering.**

<sup>4</sup>A low-power wide area networking protocol that wirelessly connects devices to the internet.

connecting objects and equipment such as industrial sensors, medical devices and vehicles, offering enormous potential for benefits in safety, productivity, efficiency and environmental sustainability. 4G and 5G connectivity is already enabling the deployment of IoT across a range of applications where low latency is required. In addition, investments in Narrowband-IoT (NB-IoT), (operational in Italy, Austria and Ireland), LTE-M (operational in Ireland), and LoraWan (operational in Austria) are enabling IoT solutions where very small amounts of data needs to be transmitted, and very long battery life, is required.

## ENABLING SUSTAINABILITY THROUGH PRIVATE NETWORKS

CKHGT’s dedicated innovation business - CKHIOD - working with CKHH’s mobile operators, is a leader in the design and

management of private industrial mobile networks, which use 4G, 5G and proprietary technologies. These networks allow industrial customers to run secure and highly reliable applications that support increased worker safety, security and energy efficiency, together with opening up certain jobs to a more diversified and inclusive talent pool.

In 2022 CKHGT’s private mobile network at Hutchison Ports Stockholm entered service, allowing autonomous port vehicles to move and stack containers at the port, increasing safety and energy efficiency. In Austria, working with our partners Rhomberg and Datwyler, we launched Q-tainer, a transportable ruggedised private network product for construction sites, that will support improved worker safety, construction site security and enhanced efficiency and sustainability through path and traffic optimisation. In Ireland, we are working with leading nutrition group Glanbia plc, using 5G to optimise industrial processes, leading to fewer unexpected factory equipment failures and hence more efficient operations. In the UK, we completed a 5G proof of concept with Hutchison Ports Port of Felixstowe, which demonstrated 5G’s ability to support remote control of vehicles and predictive maintenance of quay cranes.

# ENABLING POSITIVE IMPACT THROUGH IOT CONNECTIVITY

Already, there are more connected devices than people in the world, and it is predicted that by 2025, [27 billion devices](#) will be capturing data on how people live, work and move through cities.

A 2018 analysis of more than 640 IoT deployments, showed that [84% of existing IoT deployments](#) have the power to meaningfully advance the SDGs. In conjunction with artificial intelligence and analytics, IoT solutions offer even more powerful tools to make decisions which create better societal outcomes.

IoT connectivity has significant opportunity to support the transition to a lower carbon economy, by ‘enabling’ GHG reductions. A GSMA study estimated the potential for avoided emissions across buildings, transport, manufacturing and energy sectors to be ten times greater than the global carbon footprint of mobile networks themselves.

CKHGT offers an IoT Connectivity Management Platform (CMP) that enables customers to self-

administer their IoT SIM estates. Further, several full IoT solutions have been deployed in the areas of smart buildings, utilities and asset tracking that combine CKHGT’s connectivity with devices, software applications and predictive analytics.

In 2022, CKHGT grew its IoT connections by 18%, with the most significant area of growth being the connection of residential and commercial electricity meters, where the ability to monitor the energy consumption of assets, be they heavy machinery or household devices, enables better forecasting and reduced energy wastage. CKHGT currently has over four million SIM cards in utility meters across Ireland, Austria and Italy, helping customers to actively monitor their consumption of electricity, gas and water.

## GHG SAVINGS THROUGH REMOTE CONNECTIVITY MANAGEMENT

**In 2022, the Group migrated 70% of its IoT connections to a new IoT CMP, offering greater longevity and functionality to customers.**

**The CMP fulfils a range of functions that can potentially lead to reduced greenhouse gas emissions versus traditional sensor management. These include, enabling the quick and more accurate identification and diagnosis of faults, remote resolution of faults in some cases (avoiding the need to deploy engineers in the field), avoiding postage of replacement SIMs when not required for fault resolution, and avoiding spiralling data usage (and associated energy consumption) that can at times be associated with faults. The CMP is also capable of ‘waking’ devices where a data connection has been lost, avoiding the need for it to be in an ‘always on’ state and avoiding the need to deploy an engineer to ‘wake’ the device onsite.**

## SMART ELECTRICITY METERS IN AUSTRIA

**During the year, 3 Austria leveraged its NB-IoT network to provide connectivity for the installation of 15,500 smart meters to the largest electricity, gas and heat supplier in Lower Austria.**

## AUTOMATING METER READINGS WITH ESB NETWORKS IN IRELAND

**Since 2019, 3 Ireland has been working in partnership with Ireland’s leading energy utility, ESB Networks, to support the roll-out of smart electricity meters to every home, farm and business by the end of 2025. ESB Networks uses 3 Ireland SIMs embedded in smart meters that measure the energy consumption of individual customers at half hourly intervals. Connectivity is provided by 3 Ireland’s dedicated purpose-built network which includes 2G and new Low-Powered Wide Area Network (LPWAN) capability. In 2022, 3 Ireland continued to support the installation of 10,500 meters per week.**

**“This is a hugely important project. It will contribute towards Ireland’s sustainability goals with smart meters helping consumers to become more energy efficient. With 1 million smart meters installed so far, it is Ireland’s largest IoT network by some distance”.**  
**(Karl McDermott, 3 Ireland Head of ICT and Three IoT).**



# SMART TECHNOLOGIES FOR SUSTAINABLE CITIES

By 2050, nearly 70% of the world's population will be concentrated within cities, where approximately two thirds of all energy is consumed each year and where over 70% of the world GHG emissions are generated. The digitisation of cities will therefore play a fundamental role in decarbonisation.

CKHGT business units provide a range of solutions that contribute to smarter cities. Wind Tre has a business goal to be the “smart partner of 100 smart cities” delivering Italy’s cities with 5G-connected innovation. Wind Tre works as an advisor for Italian cities to design the digital and green transition by driving energy efficiency and smart mobility, among other solutions, and has developed memorandums of understanding with several municipalities in a commitment to collaboration. Wind Tre also has an agreement with the municipality of

Rome to support the creation of an Open Tech Lab for smart city innovation at the Tiburtina Train Station.

3 Austria leverages its LoRaWAN network to provide connectivity for energy-saving smart water meters and water network digitisation across the City of Wolfsberg.

## ITALGAS USING NB-IOT IN ITALY

Wind Tre has partnered with Italgas, the leading gas distributor in Italy, to support the digitalisation of its entire gas network, leveraging Wind Tre’s NB-IoT capability. The solution combines IoT SIMs with a private Access Point Name allowing for the secure transmission of network data to Italgas data centres, and a Nokia service management platform. This has enabled Italgas to perform real-time monitoring of network operations, alarm management, big data analysis and predictive maintenance. It also enables remote reading of gas consumption thereby avoiding the need for Italgas service personnel to travel around the network, creating operational efficiencies and reducing the use of fuel use for transportation.



# THE DIGITISATION OF CITIES WILL PLAY A FUNDAMENTAL ROLE IN DECARBONISATION

## SMART PROPERTY SOLUTIONS

3 Hong Kong is providing its customers with innovative solutions for digital transformation across a range of applications including smart retail, smart car parks and smart properties. Its smart properties solutions target optimisation of operational efficiency, customer experience and sustainability through a combination of sensors, connectivity management, video analytics, ‘push to talk’ technology and an ESG building management platform. Customers are leveraging these solutions to reduce energy use and GHG emissions, save water, improve indoor air quality and safety.





## CREATING SUSTAINABLE OUTCOMES THROUGH DATA ANALYTICS

CKDelta is the Group's dedicated artificial intelligence business, specialising in the design and development of innovative solutions using diverse and unparalleled data sets from across the Group and other partners. Through its suite of Intelligent Applications, CKDelta is building and licencing solutions to its clients that address a range of challenges, many directly supporting the transition to a more sustainable future. It partners with leading businesses in a range of industries from electric vehicles, utilities, retail, ports and more – deriving actionable insights from data combined with bespoke modelling and analytics to deliver innovative and proven solutions.

One such application of CKDelta insights is in the enablement of the electric vehicle transformation.

### CKDELTA INSIGHTS ENABLING THE ELECTRIC VEHICLE TRANSFORMATION

In 2030, the UK is set to enact a ban on the sale of new petrol, diesel, and hybrid vehicles with 91% of new car sales expected to be electric vehicles. The transformation presents several challenges to those within the energy and mobility sectors, especially around the expected increase in demand for EV charging infrastructure.

CKDelta partnered with ista Energy Solutions to develop Delta Power. Delta Power provides 3 key insights to ista:

- **EV Locations:** Delta Power produces a prioritised list of optimal locations for EV chargers for 'return on investment'.
- **EV Operations:** Delta Power identifies changes in charging behaviour which may indicate a defect that would otherwise go unnoticed.
- **Carbon Savings:** Delta Power provides ista with a visualisation on how many petrol, diesel, and CO<sub>2</sub> litres are saved with the implementation of EV charging at each location.



### DATA INSIGHTS FOR TRANSPORT PLANNING

3 Denmark and 3 Austria are leveraging the combined power of data and connectivity to provide insights in support of more efficient transport network planning.

'Data Insights' is a growing new business area in 3 Denmark, leveraging aggregate and anonymised data on population movement to provide valuable insights and tools supporting optimisation of public transport, electric vehicle infrastructure and energy systems.

During 2022, the DSB (Danish State Railway) continued to access anonymised mobility insights through Data Insights for a better understanding of Danish transport needs and activities. It is envisaged that by optimising train operations so that they are accessible for all people, this can help to reduce car traffic and associated GHG emissions.

Similarly, 3 Austria has delivered comprehensive mobility data to various tourism regions in Austria to better understand tourist travel patterns. The goal is to offer new means of travel to and within regions to reduce the carbon footprint of tourists.

## POSITIVE IMPACT PRODUCTS

In addition to connectivity management and data analytics solutions, CKHGT business units are offering and actively exploring products and services that create better outcomes for people - particularly in relation to health and wellbeing, safety and security, education and digital inclusion.

For example, Wind Tre offers the 'Comarch Wristband' digital guardian that can detect incidents such as falls, and even changes in heart rate, automatically triggering assistance for those that are elderly, dependent or chronically ill. **3** Hong Kong's **3**Education 5G solution portfolio includes robots designed to assist in caregiving for school children with special education needs. **3** Austria continues to scale its e-health services, Doctors Online, in partnership with Generali insurance and Instahelp, which offers online, face-to-face professional mental health support.

Business units are launching and actively exploring 'connected home' technologies, that enable consumers to run their homes more efficiently, and in many cases have the potential to assist more vulnerable people (for example, the elderly and those with disabilities) to live more safely and comfortably in their homes for longer.

CKHGT technologies can also be used by Governments and other public authorities to create positive outcomes at a community level. For example, **3** Denmark has been working with the Danish Ministry of Defence on a national public warning system, in line with requirements under the European Electronic Communications Code, to send out a push SMS both nationally and regionally, warning the public of danger, for example in the case of natural disasters, local fires and gas leaks.

### SMART SAFETY SOLUTIONS FOR SOCIAL HOUSING

**Ei Electronics supplies a large proportion of the UK social housing market with fire and carbon monoxide alarms.**

**3 Ireland started working with Ei Electronics over five years ago providing connectivity from their new gateway product to their IoT platform, enabling remote monitoring of alarm status and condition. This service means that their customers are able to reduce the number of on-site maintenance visits significantly while ensuring that the installed alarms are monitored and in good condition.**



## DIGITAL SAFETY AND WELLBEING

As the digital world has grown, sadly so too has the misuse of the internet. Risks and issues faced by customers include security of personal data and information as they use their devices, potential exposure to offensive or abusive content, the threat of cyber-bullying, as well as the mental health impacts of social media use. CKHGT has a responsibility to play its part in protecting customers using the controls that it has available, as well as to support customers in using the internet as safely as possible.

### PRODUCTS FOR DIGITAL SECURITY

Across CKHGT, the business units are launching products and services for customers to help to protect their online safety and security.

For example, Wind Tre has launched a number of products in line with its 2025 goal to cover 100% of business customers with cybersecurity and data protection offers. This includes Secure Web, a cybersecurity service addressing the particular needs of SMEs, and other active security services offering customers protection from attacks and malicious agents. Wind Tre also offers Wind Tre Family Protect and Security Pro - a suite of apps dedicated to navigating the web safely, protecting the whole family on both fixed line and mobile devices.

In partnership with award-winning cybersecurity company Corrata, 3 Ireland offers a business mobile security solution, 3Mobile Protect, that protects mobile devices from phishing and malware and prevents data loss on company smartphones and tablets. This responds to the increasing number of mobile phishing attacks occurring outside of email, and the importance of raising standards of mobile security - which is often given less attention than laptop computer security by businesses.

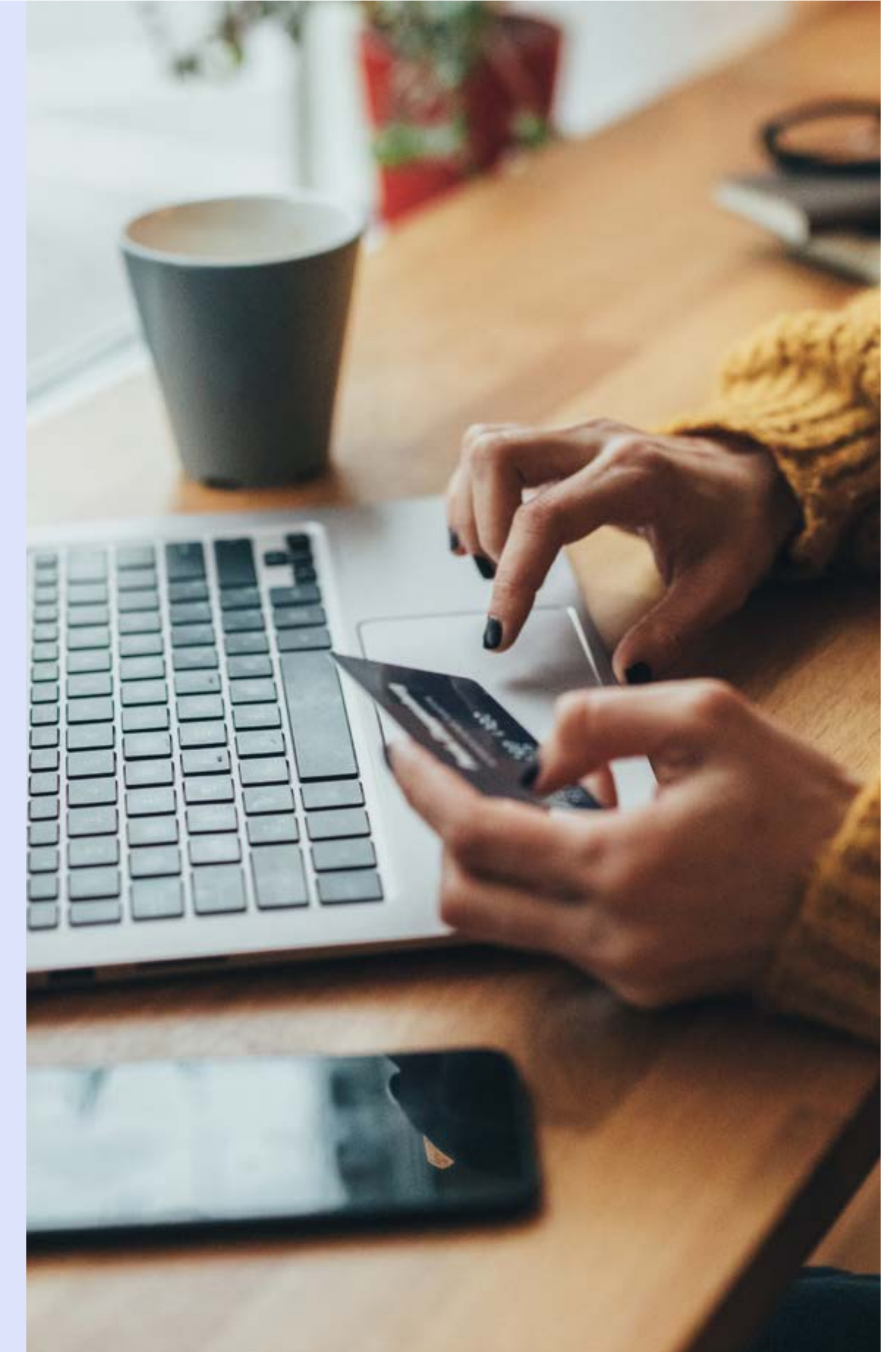
## HELPING BUSINESS TO TACKLE IDENTITY THEFT AND FRAUD

**In 2022, CKHGT continued to scale its innovative Digital Identity solution 'Subscriber Intelligence'.**

**Identity assurance is becoming increasingly important as society becomes ever-more connected. The ability to verify customer identity is vitally important for businesses to address the impact of fraud, and is essential for the financial and socio-economic wellbeing of individuals.**

**Subscriber Intelligence is a B2B2C product suite developed by CKHIOD that leverages CKHH's mobile data assets for anti-fraud purposes. By providing real-time access to mobile operator data, we are empowering businesses across all industry verticals to achieve more effective fraud detection and prevention, business risk management and user identity verification.**

**Subscriber Intelligence comprises multiple 'application programming interface' (API) products providing real-time access to over 50 data attributes. The service is currently live across seven of CKHH's markets including most CKHGT business units, and is offered to market via 12 Channel Partners with over 250 consumer-facing brands served to date. The service continues to be expanded according to industry and market insights based on current and emerging trends (or threats) within the digital economy.**



## DIGITAL SAFETY EDUCATION

A number of business units have developed a range of digital safety resources available to parents, guardians, teachers and children, and have engaged in safety commitments and campaigns with partners, to reinforce messages of safety and respect on the internet, in accordance with the needs of local markets.



### DIGITAL SAFETY EDUCATION FOR CHILDREN AND PARENTS

In 2018, Wind Tre launched the award-winning 'NeoConnessi', an education platform in Italy to help parents and children navigate the online world safely together. The platform provides articles, insights, technical tips, and advice on how to create a healthy tension of control and trust with one's child as they begin their online introduction. Chosen experts and experienced parent bloggers also contribute to ensure content is best suited to the needs of parents.

With its fourth edition, in 2022, the educational programme has reached more than 800,000 children since its inception. Wind Tre also added a new feature, 'Neoconnessi Silver' with a training course, video tutorials, articles and insights dedicated to seniors to strengthen the bond between generations on digital safety and reduce the digital divide.

## DIGITAL INCLUSION

The pandemic has seen digital transformation across society leap forward on average by [7 years](#), with more businesses and Government services integrating digital technologies into their business models and customer service. A [2020 study](#) by McKinsey showed that companies have accelerated the digitalisation of products, services and customer interactions by [20 percentage points](#), exceeding 50% for the first time ever. The pandemic also served to highlight the particular vulnerability of digitally excluded people at times of disruption.

Digital exclusion may occur for multiple reasons including lack of access to telecommunications networks or devices, or lack of digital skills. Research has shown that about [37% of the world's population](#), or 2.9 billion people, are still offline and excluded from the direct benefits of the global digital economy although levels of digital inclusion, and barriers to inclusion, vary widely across operating markets. Groups with higher levels of digital exclusion include older people, people with disabilities, and lower socioeconomic groups.

Across CKHGT, business units are working to address digital inclusion in a range of ways.



**THE PANDEMIC ALSO SERVED TO HIGHLIGHT THE PARTICULAR VULNERABILITY OF DIGITALLY EXCLUDED PEOPLE AT TIMES OF DISRUPTION**

## DIGITAL INCLUSION FOR SENIORS

One area of focus for CKHGT is reducing barriers for senior citizens. In pursuit of its goal to enable digitisation of seniors, Wind Tre, for example, has extended its leading 'NeoConnessi' digital safety and inclusion platform, to include 'NeoConnessi Silver' - dedicated to seniors. Its training course, video tutorials, articles and insights are designed to actively contribute to the digital inclusion of older people by training them on basic digital skills, and to strengthen the bond between generations on digital safety and reduce the digital divide.

Several of our business units offer 'Doro' mobiles - easy-to-use devices that are specifically designed for seniors and other more vulnerable customers.

**3** Hong Kong aims to expand the accessibility of its services for senior citizens through its Lo-Yau-Kee Monthly Service Plans Sponsorship Scheme. It also provides 'Safety Phones' and data service sponsorship for the elderly, which aims to cater for the different needs of senior citizens.



## REMOTE COMMUNITY ACCESS

Helping to close rural-urban connectivity gaps that persist in many CKHGT operating markets is another priority for the Group.

**3** UK has a target to reach 90% geographic coverage of the UK by 2027. It is working with the UK Government and other mobile operators on the Shared Rural Network, which will provide guaranteed coverage for 280,000 additional dwellings and 16,000 additional kilometres of rural roads. In December 2022, **3** UK began construction work on the UK's first joint site, which is expected to transform connectivity for residents and businesses on the Isle of Mull from early 2023.

In January 2023, Wind Tre entered into a joint venture arrangement to roll out network infrastructure in rural areas, that will create synergies and reduce the costs of developing and maintaining the network assets in these regions.

**3** Ireland is partnering with the Arranmore Business Council to overcome barriers for social and economic development on the remote island of Arranmore located five kilometres off the coast of Donegal. Among other initiatives, it has equipped the island's Digital Hub with superfast connectivity and state-of-the-art conferencing facilities to enable remote working.

“**3** UK HAS A TARGET TO REACH 90% GEOGRAPHIC COVERAGE OF THE UK BY 2027

## DIGITAL ACCESS AT TIMES OF DIFFICULTY

CKHGT recognises the important role it plays in helping people to maintain access to digital services in times of difficulty. In 2022, the conflict in Ukraine and the cost-of-living crisis were significant events impacting communities served by the Group. Business units rallied in response to the conflict in Ukraine, doing their part to keep affected people connected by providing free calls and texts to and from Ukraine and donating SIM cards and mobile devices to Ukrainian refugees.

On an ongoing basis, several business units maintain schemes for donation of devices and accessories to support people in need. In 2022, 3 UK redesigned and relaunched its Reconnected programme of giving a second life to its donated devices. After repackaging old phones with unlimited data, texts, and calls for six months, 3 UK works with NGOs to ensure they find their way into the hands of people who are most deserving, such as refugees displaced by the war in Ukraine, job-seekers applying for employment, and students who will benefit from greater access to educational opportunities.

### 3 IRELAND'S SUPPORT MEASURES FOR THE UKRAINIAN CRISIS APPEAL

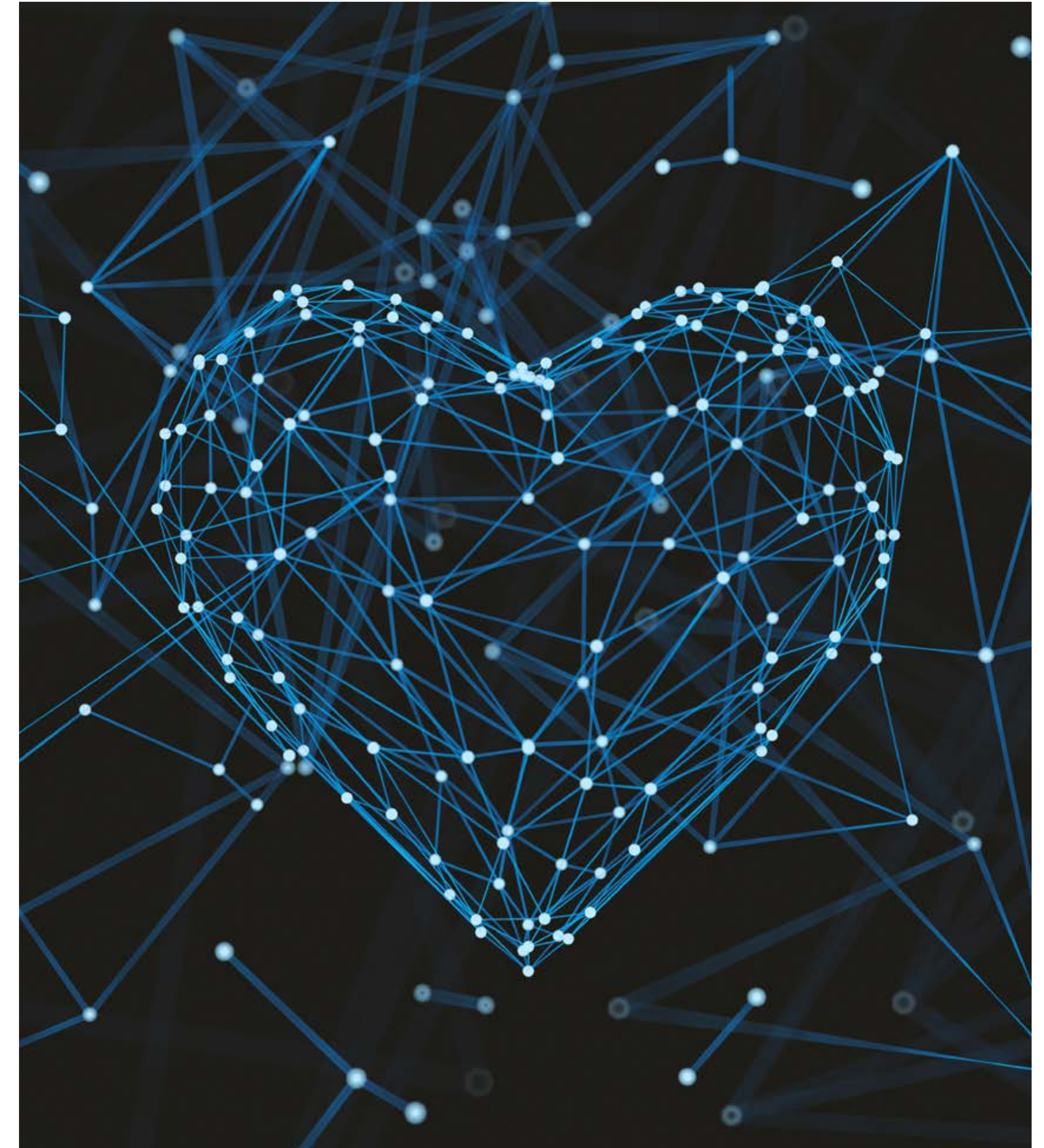
**3 Ireland provided a package of support measures for the Ukrainian crisis appeal including:**

- **Removing roaming charges for customers in Ukraine and reorienting Customer Care employees to assist with an outbound calling campaign to contact people who volunteered to host war refugees.**
- **Supplying mobile services free of charge to the Ukrainian Embassy in Ireland.**
- **Providing 6,000 free SIM cards, with credit and international minutes included, for Ukrainian refugees arriving at Dublin Airport so they could immediately connect with loved ones.**
- **Holding a dedicated "Day for Ukraine", an employee fundraiser with the business matching the amount raised in aid of The Irish Red Cross Ukraine Crisis Appeal.**
- **Donated handsets to Ukrainian students upon starting school in Dublin.**

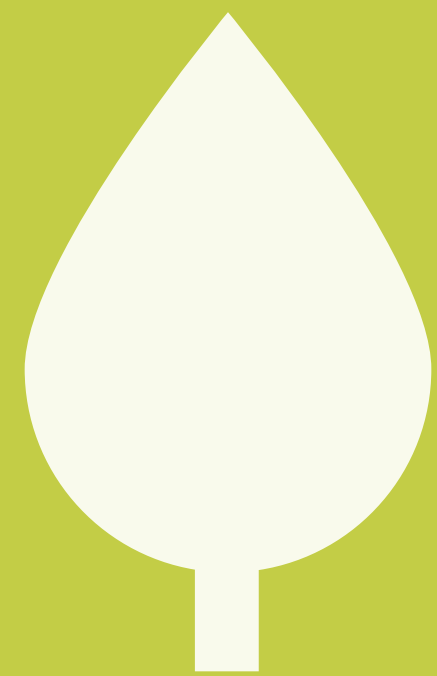
### DIGITAL INCLUSION FOR VULNERABLE CUSTOMERS

**In 2022, 3 UK donated 1 million GB of data to the National Databank, which operates like a 'food bank' providing internet connectivity rather than meals or food items to people in need. The donation will allow 40,000 digitally excluded individuals to get connected via Good Things Foundation's network of community partners throughout to UK.**

**In response to the cost-of-living crisis, 3 UK has also introduced zero-rating for its customers to access seven websites offering financial advice and support, including StepChange, Business Debtline, National Debtline, Citizens Advice, Money Advice Plus, Money and Pensions Service, and Money Helper.**



# TAKING ACTION ON CLIMATE CHANGE



## SECTIONS

CLIMATE GOVERNANCE AND REPORTING

SCIENCE-BASED EMISSIONS REDUCTION TARGETS

CKHGT GHG FOOTPRINT AND EMISSIONS PERFORMANCE

GHG REDUCTION STRATEGY



The information and communications technology sector has a lifecycle carbon footprint equivalent to approximately [1.4% of total global CO<sub>2</sub> emissions](#), and is responsible for around [4%](#) of global electricity consumption. This includes the manufacturing and operation of fixed networks, mobile networks and data centres, as well as the manufacture and use of devices. With the ongoing increase in the number of digitally enabled businesses and consumers, and the rapid rise in use of data, this footprint is set to grow.

Governments around the world, through adoption of the Paris Agreement, have committed to the goal of limiting global warming to no more than 1.5 degrees above pre-industrial levels, in line with climate science. This requires a halving of global GHG emissions by 2030 and reaching net-zero GHG emissions by 2050 at the latest.

In this context, it is imperative that CKHGT implements a GHG reduction strategy, to meet the needs of customers in a sustainable and environmentally responsible way, now and into the future.

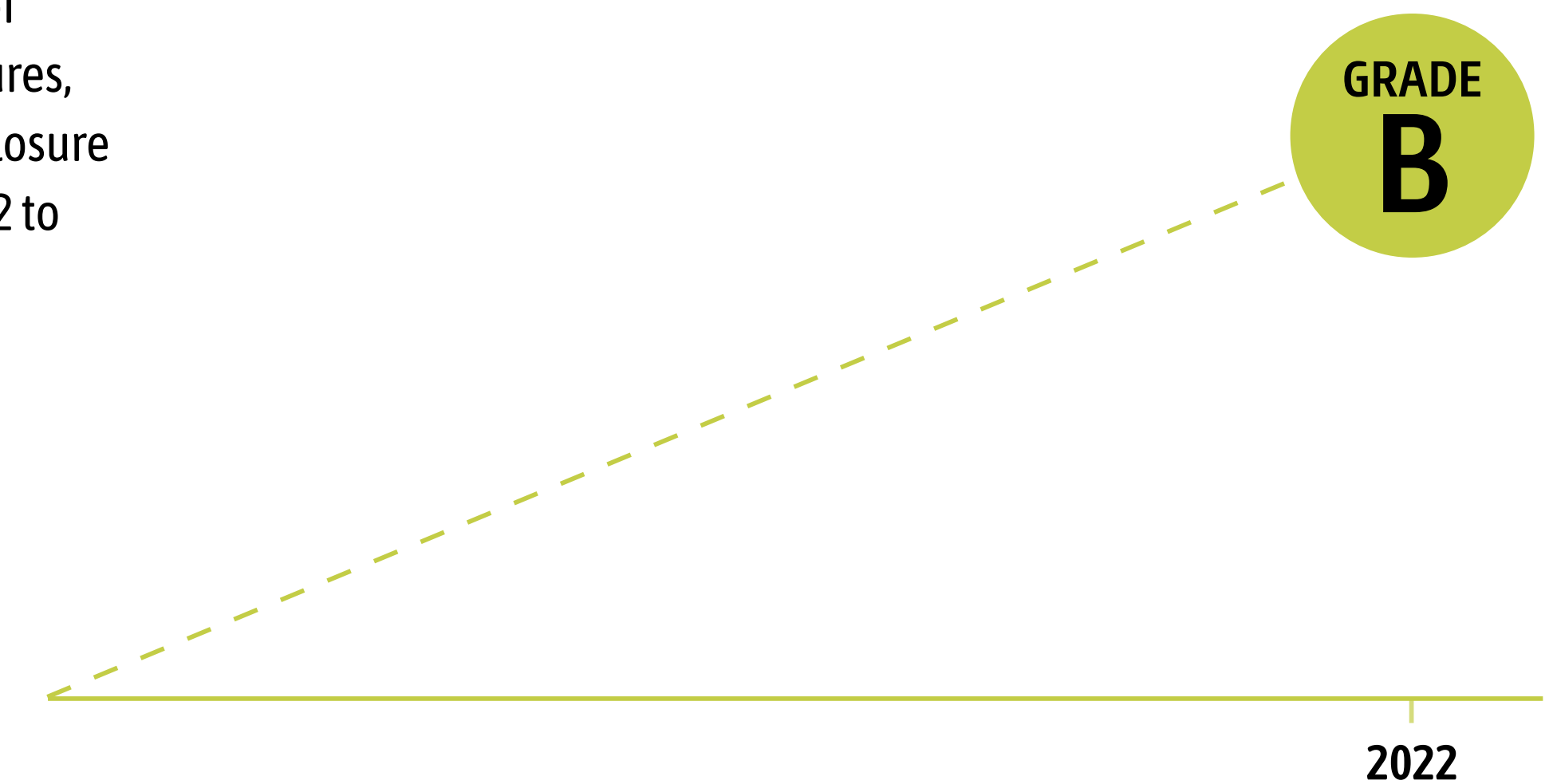


## CLIMATE GOVERNANCE AND REPORTING

Action on climate change is driven through the CKHGT's Climate Action Working Group (CAWG) with representation from each of the business units. This CAWG works together on all aspects of climate strategy including science-based targets, with a focus on energy efficiency, renewable energy, and supply chain emissions measurement and management.

CKHGT also recognises the importance of comprehensive climate-related disclosures, and reports annually to the Carbon Disclosure Project (CDP), increasing its score in 2022 to a grade of B.

“**CKHGT REPORTS ANNUALLY TO THE CARBON DISCLOSURE PROJECT (CDP), INCREASING ITS SCORE IN 2022 TO GRADE B**”





## SCIENCE-BASED EMISSIONS REDUCTION TARGETS

In 2022 CKHGT received approval of its near-term science-based GHG emissions reduction targets from the SBTi. CKHGT is therefore committed to:

- Reduce scope 1 and 2 GHG emissions by 50% by 2030, versus a 2020 baseline; and
- Reduce scope 3 GHG emissions by 42% by 2030, versus a 2020 baseline.

These targets align with the sectoral decarbonisation approach for scope 1 and 2 emissions agreed between the Information and Communication Technologies sector and the SBTi, and are consistent with the level of reduction required to keep global temperature rise to no more than 1.5°C.

Recognising the importance of setting long-term targets, in 2021, CKHGT set a target to reach net-zero in operations (scope 1 and 2)

by 2040. In 2022, CKHGT formally committed to the SBTi to set a net-zero target in line with the Net-Zero Standard.

“““

**CKHGT TARGETS  
ARE CONSISTENT  
WITH THE LEVEL  
OF REDUCTION  
REQUIRED TO  
KEEP GLOBAL  
TEMPERATURE  
RISE TO NO MORE  
THAN 1.5 °C**

**REDUCE SCOPE 1 AND 2 GHG  
EMISSIONS BY 50% BY 2030,  
VERSUS A 2020 BASELINE.**

**REDUCE SCOPE 3 GHG  
EMISSIONS BY 42% BY 2030,  
VERSUS A 2020 BASELINE.**

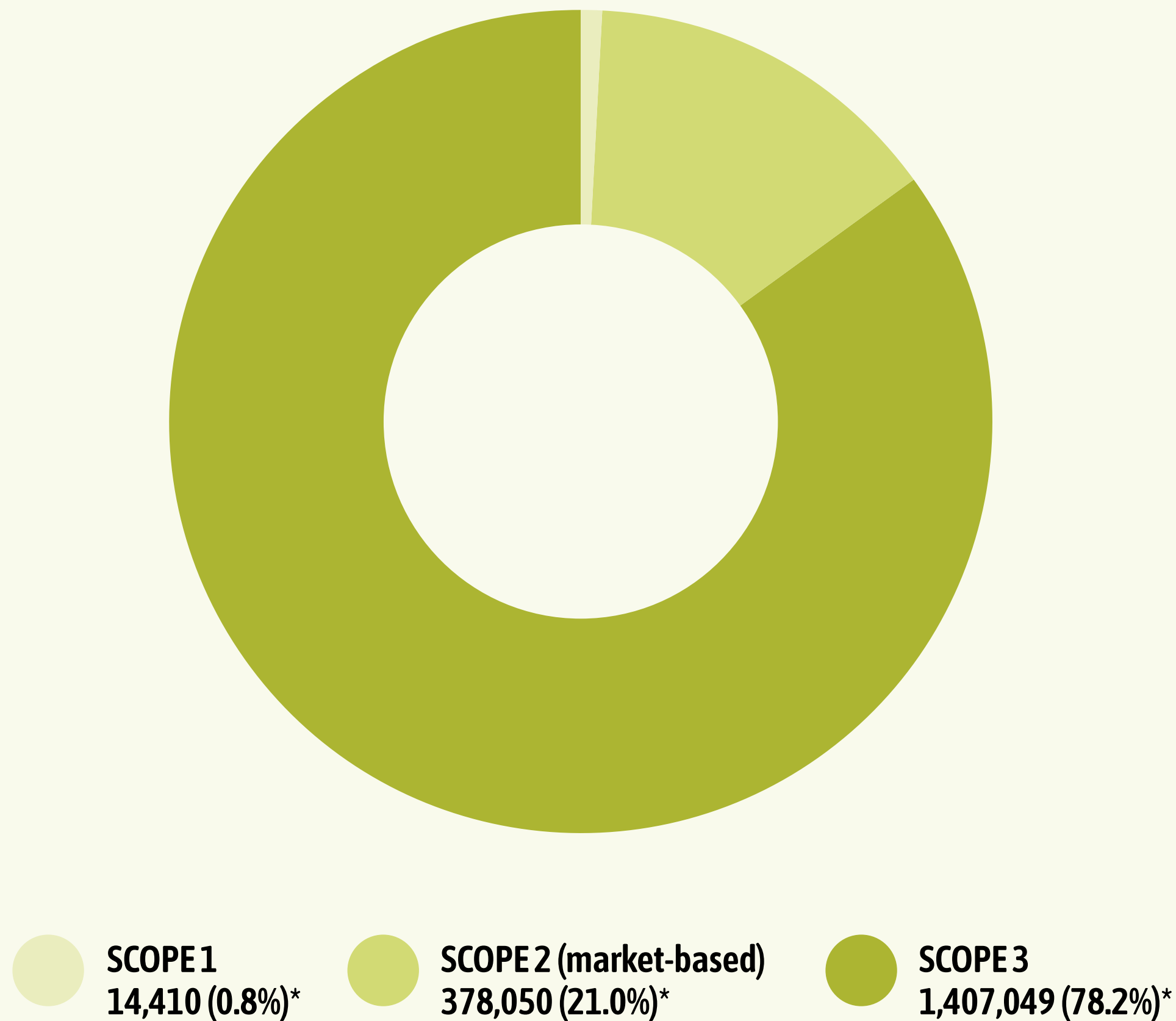
# CKHGT GHG FOOTPRINT AND EMISSIONS PERFORMANCE

## CKHGT 2022 GHG FOOTPRINT

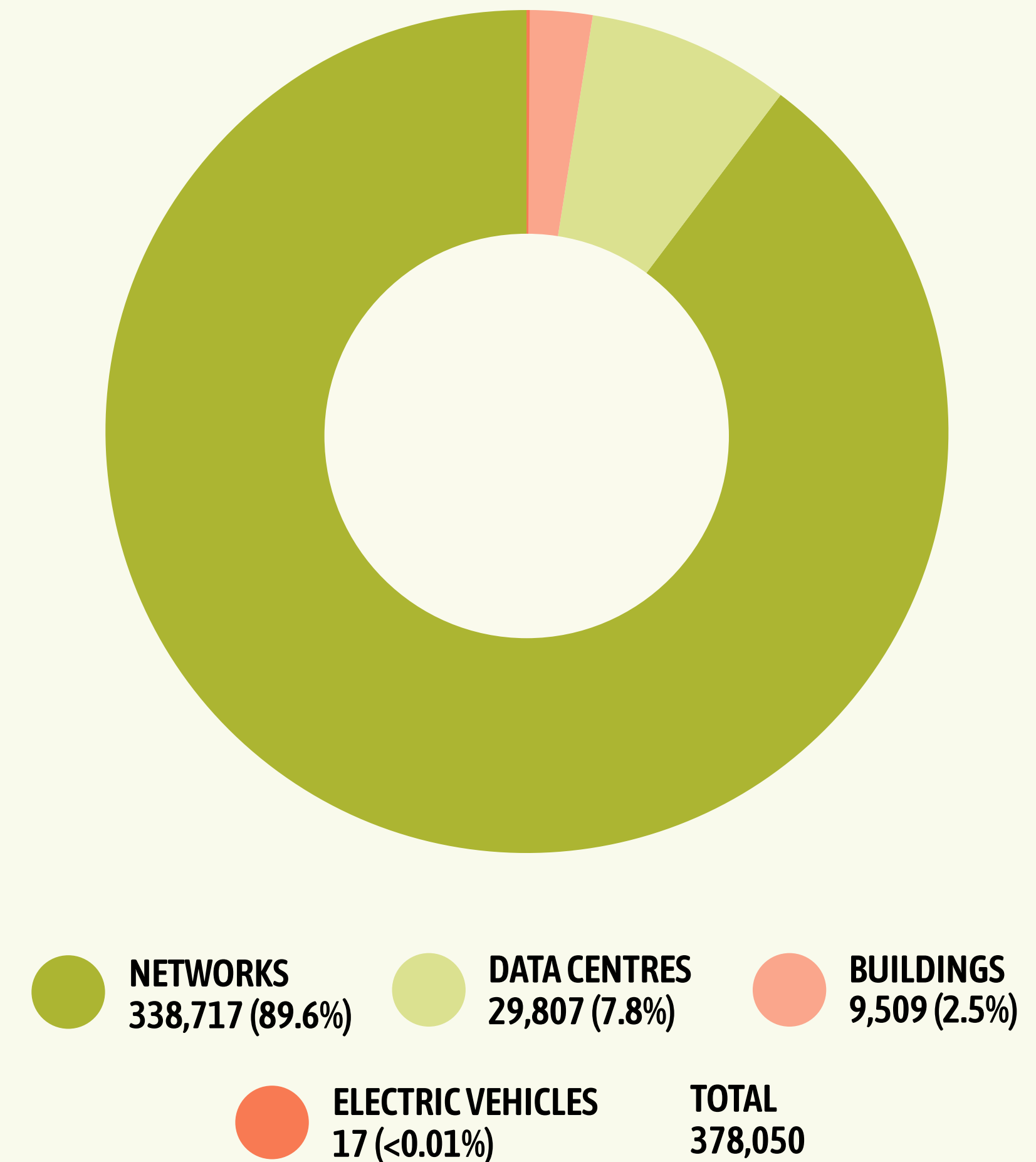
CKHGT's 2022 carbon footprint is shown in figure 3. It has been prepared in accordance with the GHG Protocol. KPMG LLP was engaged to undertake independent limited assurance, reporting to CKHGT, using the assurance standards ISAE (U.K.) 3000 and ISAE3410, for the selected GHG emissions that have been highlighted with an \*. KPMG LLP's full statement is available on page 63 of this report.

Detailed information on the reporting methodology can be found in the CKHGT Reporting Criteria published on the CKHGT website. Indirect emissions, or scope 3 emissions, are responsible for 78.2% of its total value chain GHG emissions. Indirect electricity (scope 2) emissions are responsible for 21.0% (using market-based measurement), of which networks contribute 90% (figure 4) and scope 1 emissions are responsible for only 0.8%, largely related to emissions by its owned and operated fleet, refrigerants leakage and natural gas heating.

**FIGURE 3: CKHGT'S VALUE CHAIN CARBON FOOTPRINT (tCO<sub>2</sub>e)**



**FIGURE 4: CKHGT'S SCOPE 2 CARBON FOOTPRINT (tCO<sub>2</sub>e)**



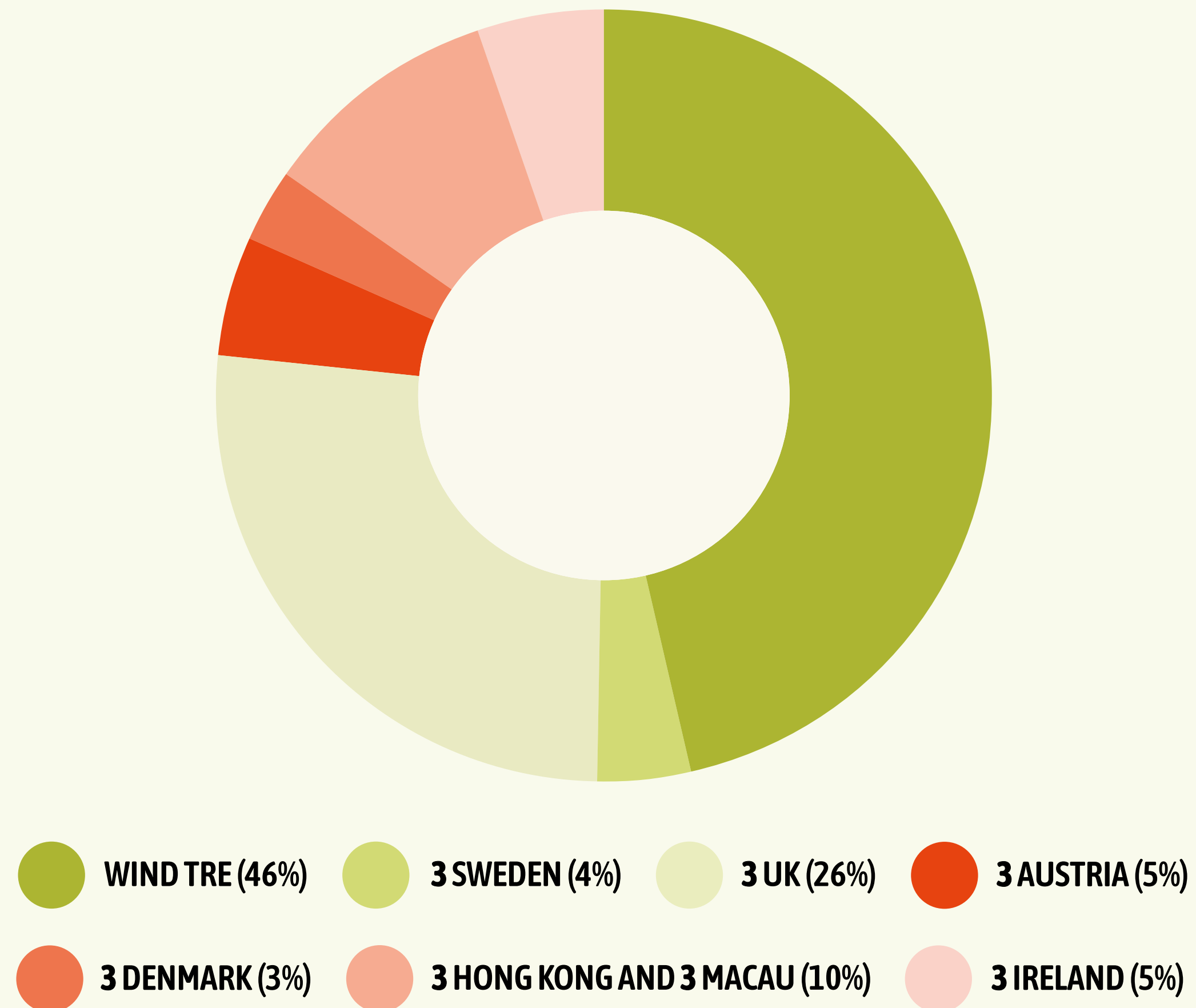
The total scope 1, 2 and 3 footprint is distributed across business units in line with the different sizes of their networks and customer base, with Wind Tre naturally being the largest contributor (46%).

Of the scope 3 carbon footprint, key contributors are purchased goods and services (45%) and capital goods (31%).

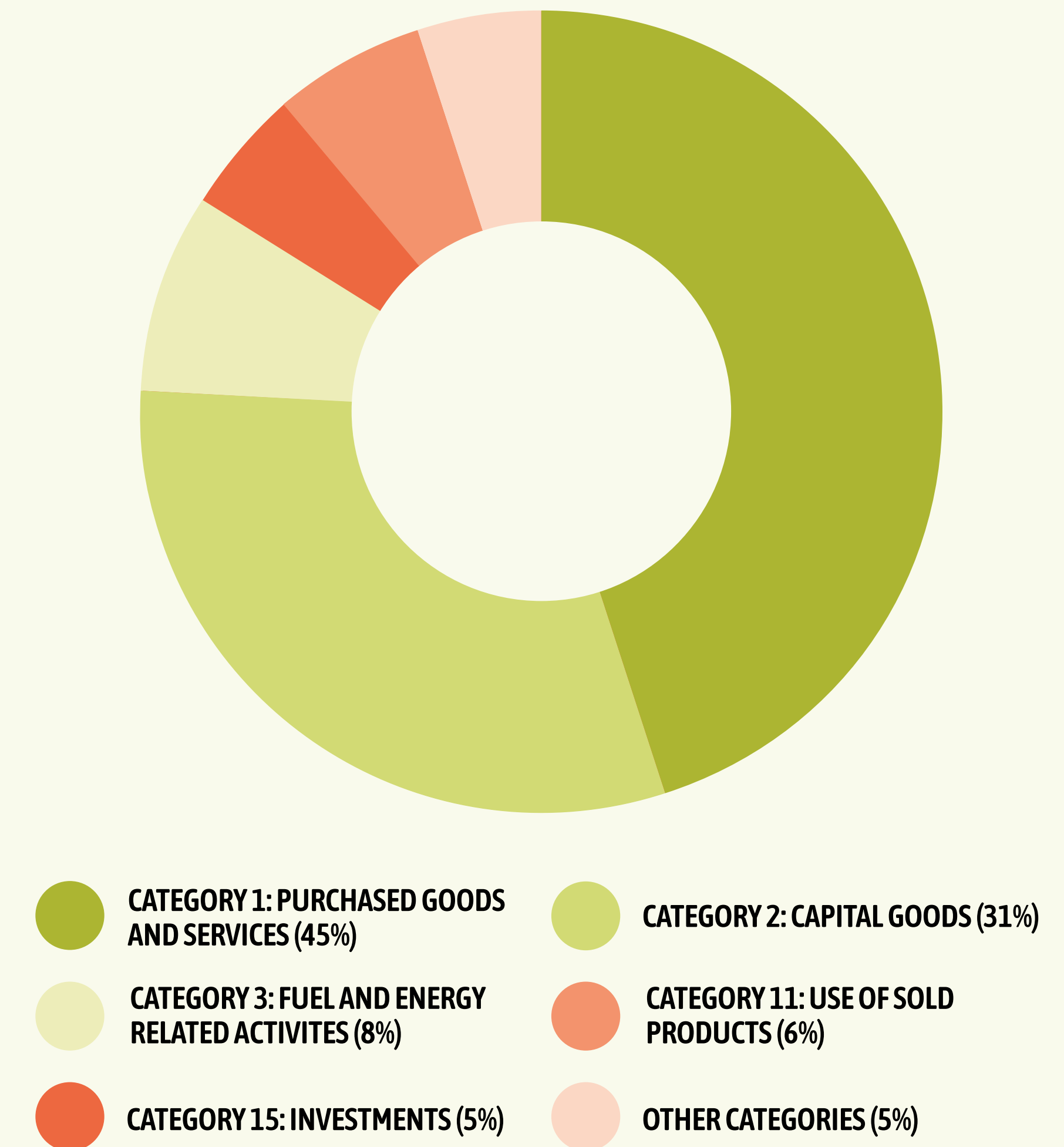
The results of this analysis support our continued focus on the following opportunities:

- Increasing the proportion of renewable electricity supply
- Driving energy efficiency in networks and data centres
- Engaging with supply chain partners to increase access to supplier emissions data and reduce the emissions associated with purchased goods and services and capital goods.

**FIGURE 5: CKHGT'S GHG Footprint (Scopes 1, 2 (market-based) and 3) by Business Unit (tCO<sub>2</sub>e)**



**FIGURE 6: CKHGT'S SCOPE 3 CARBON FOOTPRINT**



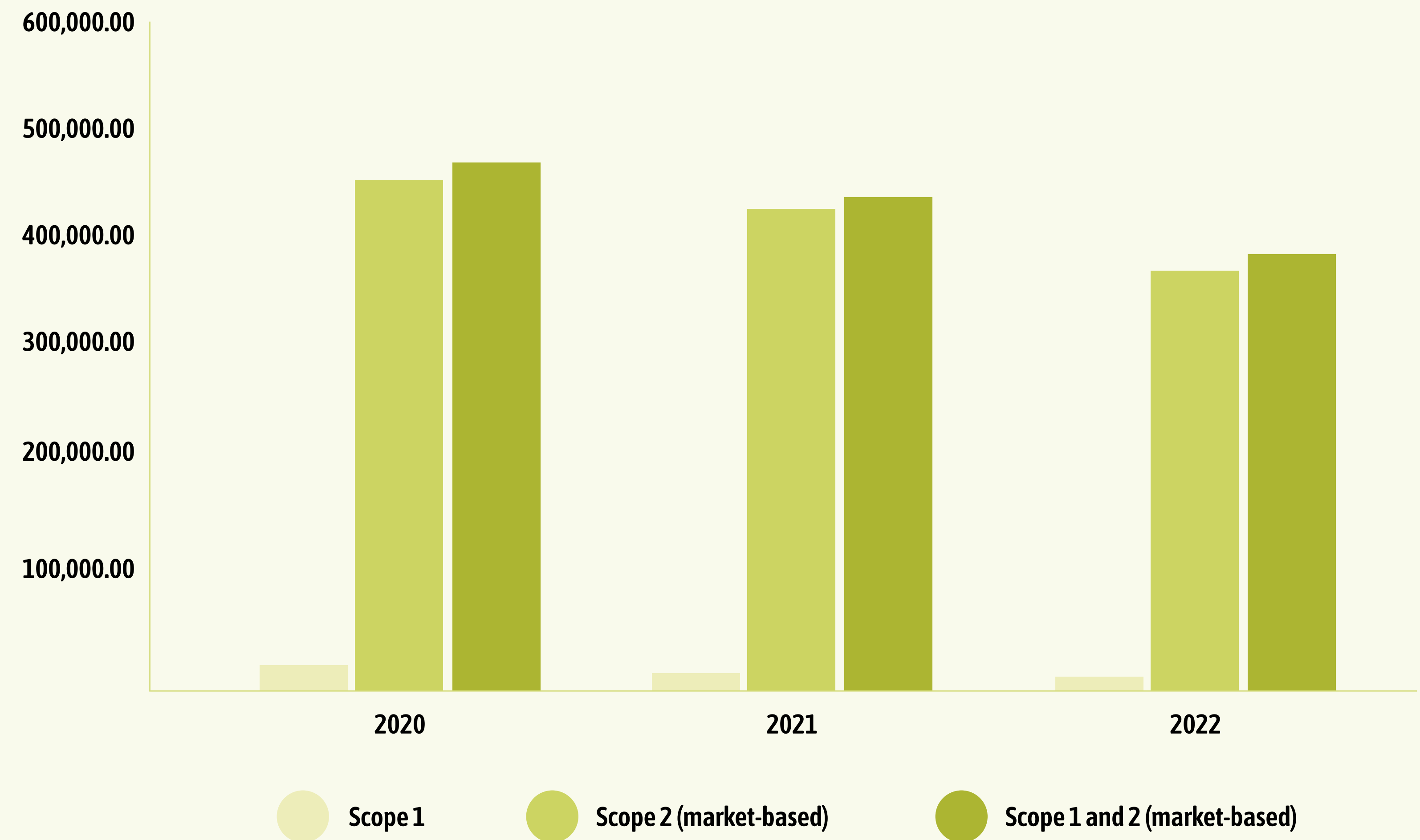
## GHG EMISSIONS PERFORMANCE

Total scope 1 and 2 emissions reduced by 9% in 2022 as compared to 2021, and 18% as compared to the 2020 baseline GHG footprint (figure 7). The main driver of this has been the increased use of renewable energy across the Group, and in particular within Wind Tre. A full discussion of renewable energy procurement trends is provided in the section [‘Increasing use of renewable energy’](#).

Since the majority of the scope 3 emissions footprint is currently measured using ‘environmentally-extended input output’ (EEIO) emissions factors, the resulting emissions data is largely driven by spend. CKHGT has commenced a significant project to transition to greater use of supplier emissions-intensity emissions factors, which in combination with supplier engagement, we expect to demonstrate a reduction in scope 3 emissions into the future towards our 2030 target.

During the reporting year, CKHGT updated its approach to data collection for the following scope 3 categories: purchased goods and services (excluding devices); capital goods; and upstream transportation and distribution (excluding that related to inbound logistics). This update was made to increase data collection efficiency and enhance data quality. Other aspects of reporting methodology remained consistent with prior years, including organisational and operational boundaries, and sources used for emissions factors in these scope 3 categories. These changes were applied retrospectively to emissions data from 2020 onwards for year-on-year consistency. This resulted in a reduction in the scope 3 total for 2020 (baseline year) of 8%.

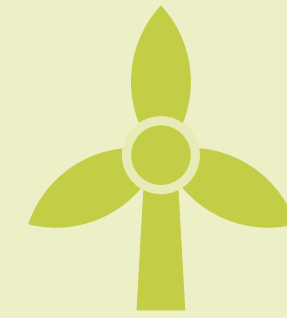
FIGURE 7: SCOPE 1 AND 2 EMISSIONS PERFORMANCE (tCO<sub>2</sub>e)



# GHG REDUCTION STRATEGY

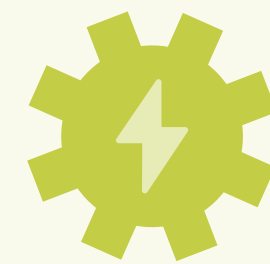
## GHG REDUCTION STRATEGY AT A GLANCE

CKGHT has identified the following ten key GHG reduction opportunities:



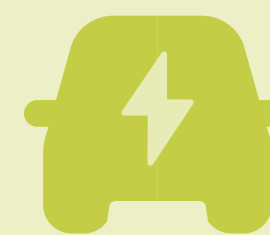
### RENEWABLE ENERGY

1. Purchase of renewable electricity, for example through power purchase agreements
2. Deployment of on-site solar



### NETWORK ENERGY EFFICIENCY

3. Upgrade to more energy efficient radio equipment
4. Implementing smart features for more efficient use of energy according to data traffic
5. Transmission network upgrades including virtualisation of core networks and network services
6. Decommissioning legacy networks and equipment
7. Data centre cooling upgrades
8. AI-driven data centre energy optimisation tools



### ELECTRIC VEHICLES

9. Transitioning company fleets to electric and incentivising employee use of electric



### SUPPLIER ENGAGEMENT

10. Engaging with suppliers to enhance data quality and reduce value chain

## INCREASING USE OF RENEWABLE ENERGY

Renewable energy procurement forms a crucial part of CKHGT's overall transition plan. All business units are either already using a significant proportion of renewable energy or are actively monitoring and assessing opportunities to increase the share of renewable electricity in their energy supply. The availability and cost-effectiveness of renewable energy varies widely across business units based on the renewable energy resources available in-country, the suitability of grid infrastructure for supply of renewable energy to demand centres, and regulatory and market conditions.

In 2022, CKHGT as a whole was supplied with 44% purchased renewable electricity, as compared to 29% in 2021. **3** Ireland and **3** Austria maintained their supply of more than 90% renewable electricity.

Sweden achieved 79% purchased renewable electricity, having procured renewable energy certificates since 2014. Denmark entered into a two-year agreement with a local solar park to cover its full electricity consumption, therefore achieving 100% renewable electricity in 2022 for the first time. Wind Tre purchased energy attribute certificates, covering 30% of its electricity consumption, towards its target of carbon neutrality by 2030. **3** UK unfortunately saw a decrease in its renewable energy coverage due to energy market conditions – an issue that has been addressed for 2023 with over 90% coverage expected in 2023.

During the year, CKHGT also progressed a project to review longer-term renewable energy procurement opportunities through power purchase agreements; particularly in the context of the wider energy market volatility. This opportunity will continue to be actively explored in 2023.

## RENEWABLE ENERGY IN DENMARK

**In the reporting year, 3 Denmark entered into a two-year agreement to procure renewable energy from a local solar park, 'Vandel III', covering the total volume of estimated electricity consumption, including for headquarters, retail stores and network.**

**This agreement is with a small start-up, 'The 0-mission' to support local, green entrepreneurship.**

**The solar park aims to strengthen biodiversity by letting the grass under the panels grow organically and promote a richer habitat for native plants, insects and animals over time.**



Onsite renewable energy is expected to play a limited role in meeting telecommunications electricity demand, due to the large volume of electricity typically required by the network as compared to the generation capacity of a typical small-scale renewable energy plant. Nonetheless, on-site renewable energy forms part of CKHGT's overall approach to sourcing energy from renewable sources, where it is cost-effective and feasible.

During 2022, 576 MWh was self-generated from solar across Italy, Austria and Ireland.

**3** Ireland implemented a successful 'proof-of-concept' for small-scale solar installations on cell sites, installing six 375W solar photovoltaic systems on 'cabins'. **3** Ireland is planning to extend this across more cell sites in 2023 and is also exploring the feasibility of larger solar plants on other facilities.

**3** Austria also continued to consume renewable energy at its 411 kWp solar plant, developed at its headquarters in 2019, and is undertaking a proof-of-concept project on a number of mast sites. Wind Tre continued to self-generate approximately 345 MWh per annum from its 13 solar installations.



## ON-SITE RENEWABLE ENERGY FORMS PART OF CKHGT'S OVERALL APPROACH TO SOURCING ENERGY FROM RENEWABLE SOURCES



ON-SITE SOLAR AT **3** AUSTRIA



ON-SITE SOLAR GENERATION AT **3** IRELAND

## INCREASING ENERGY EFFICIENCY OF THE NETWORK

Recognising the importance of energy efficiency in achieving science-based targets, and of sharing better practice with other mobile operators through the GSMA, the Group this year participated in the second annual 'Energy Efficiency Benchmarking Study' led by GSMA Intelligence. This study found that 87% of the energy of the participating operators is consumed in the radio access network (RAN), with the network core and owned data centres accounting for 12% and other operations responsible for the remaining 1%.

An important driver of electricity consumption in the mobile network, is data traffic. The Ericsson Mobility Report (2022) finds that mobile network traffic has almost doubled in two years and is expected to grow by a factor of nearly four by 2028. Video traffic is forecast to grow from 70% of all data traffic in 2022, to 80% of all data traffic by 2028, including due to the increased uptake of augmented, virtual and mixed reality. A key challenge for the telecommunications sector is therefore

meeting the societal demand for digital and internet technologies, in a way that is sustainable and environmentally responsible.

According to the GSMA Intelligence Energy Efficiency Benchmarking Study, in the markets covered, the average primary energy efficiency ratio in the RAN reached 5.88 GB/kWh in 2021, indicating that operators used on average 0.17 kWh of energy to transfer 1 GB of data across their RAN networks. The energy efficiency of the CKHGT network is 0.12 GB/kWh.



## 5G AND ENERGY EFFICIENCY

5G is the 5th generation mobile network standard. It enables connectivity of machines, objects, and devices, at high speed, with ultra-low latency (minimal delay in sending or receiving the signal), greater reliability, and massive network capacity. The 5G standard is the first generation of mobile technology for which energy efficiency was considered as a design objective. 5G has the potential to be up to five times more efficient than 4G, per gigabyte of data traffic, driven by the following features:

- 1 Given the massive data capacity of 5G, it is most efficient when being used in high-traffic conditions. It is also most energy efficient when deployed in 'standalone' mode – whereby data can be delivered by 5G technology end to end. Where it is deployed in 'non-standalone' mode, 4G is required as an 'anchor', thereby increasing the overall energy required.
- 2 5G is the first fully virtualised network technology – which means that the core network is run as software (in the cloud) instead of on hardware, enabling more efficient use of physical infrastructure.
- 3 There is significant potential to use artificial intelligence for real-time optimisation of the network (expected to reduce power consumption by up to [15%](#) under current systems).
- 4 Along with 5G, there is an [opportunity to deploy more energy-efficient equipment](#), such as a new generation of batteries and more efficient power amplifiers. Further savings can be achieved through implementation of enhanced equipment cooling (e.g. free cooling, which utilises the cooler outside air temperature rather than traditional refrigeration).
- 5 The benefits of 5G are further realised where legacy technologies (e.g. 3G networks) are switched off.



During the reporting year, all business units invested significantly in mobile network upgrades that create energy efficiency.

These included:

- Upgrading traditional active antenna units (AAUs) to ‘multiple input multiple output’ units with significantly increased capacity for data traffic and passive cooling;
- Testing and implementing equipment features to support optimisation of network performance and energy efficiency, including ‘sleep modes’ - where system activity is paused either for a fixed period during expected low-traffic conditions or for a shorter time period in response to low-traffic conditions, thereby reducing power consumption;
- Virtualising the core network and network services whereby software runs on generic, common hardware, enabling the decommissioning of power-consuming hardware that was previously required at each core network node.

Additionally, within individual business units:

- Wind Tre used statistical RAN monitoring to apply additional smart sleeping functionality to reduce energy consumption;
- **3** Denmark and **3** Sweden commenced some decommissioning of 3G capacity.
- **3** UK also commenced deployment of new core transmission network equipment across 19 data centres, requiring approximately 50% less space with approximately four times more capacity.
- **3** Austria commissioned free cooling on networks sites using a range of different technical solutions to test and monitor effectiveness during 2023.

In addition, during the reporting year, **3** Austria was the first telecommunications company in Austria to deploy 5G in standalone mode for 1.3 million households and businesses – an important step towards realising the full energy efficiency benefits of 5G.

## DATA CENTRES AND OTHER PREMISES

Data centres are an integral part of the mobile networks and broader IT support systems. In recent years there has been significant activity to drive cost and energy efficiency in data centres by ‘virtualising’ applications, such that they are able to run on generic hardware. This has enabled the decommissioning and consolidation of data centres and equipment, reducing energy consumption.

Where business units retain data centres, they seek to optimise energy efficiency through upgraded cooling and other innovative power saving solutions.

### AI-DRIVEN DATA CENTRE COOLING OPTIMISATION

During the year, **3** UK realised the energy savings from its investment in ‘Ekkosense’, winning an award for its ‘Special Contribution to Improving Energy Efficiency’ at the Data Centre World Awards 2023.

Ekkosense is a data centre AI-enabled ‘software as a service’ optimisation software that analyses thousands of temperature and cooling points in real-time to enable optimisation of cooling capacity. The software also increases the level of thermal insight available to operations team, helping to uncover areas of thermal risk that were not being picked up by building management systems.

Implementation of the software across **3** UK’s four legacy data centre sites delivered a 12.5% cooling energy reduction in just ten weeks, enabling targeted annual energy savings of around £233,000 with an overall project return on investment of under 12 months.

### DATA CENTRE ENERGY EFFICIENCY IN AUSTRIA

**3** Austria has implemented the power monitoring software ‘StruxureWare DataCenter Expert’ from Schneider Electric to actively monitor and optimise power consumption at three locations. It is also renewing all cooling equipment for its main location, replacing equipment that is now more than twenty years old, with modern, frequency-controlled refrigeration machines and dry coolers – expected to save approximately 728,000 kWh / year of electrical power and 10,000 m<sup>3</sup> of water per year.

Business units also continue to invest in energy efficient upgrades in contact centres and offices. For example, Wind Tre introduced motion sensors for lighting in office premises and installed building automation systems to regulate the use of air conditioning according to the external temperature. **3** Ireland replaced lights in its Limerick contact centre yielding a 16% energy saving for that site.

## REPLACING FLEET WITH ELECTRIC VEHICLES

A number of business units are moving to a lower-carbon vehicle fleet. For example Wind Tre is transitioning its fleet – currently 12% electric or hybrid - and has installed 28 charging points at Rome and Milan headquarters. **3** Sweden increased the proportion of electric vehicles in its fleet during the year and has set a target of 70% electric / hybrid vehicles by 2025. **3** Austria is targeting a fully electric vehicle fleet by the end of 2027 and hosts one of the largest electric vehicle charging parks in the city of Vienna at its headquarters, enabling the simultaneous charging of 50 vehicles.

Employee incentives to encourage more sustainable transport options have been introduced. **3** UK and **3** Ireland offer the ‘cycle to work’ employee benefit scheme, enabling employees to more cost-effectively purchase a new bike for commuting. In the reporting year, **3** Denmark also launched a new company car policy that financially incentivises the choice of an electric vehicle.

A number of business units have focused on lower-carbon logistics solutions. Wind Tre has selected DHL as its logistics partner, valuing its commitment to net-zero by 2050, and benefits from the use of DHL’s Liscate warehouse, supplied by over 90% renewable energy from geothermal and solar PV.

## ENGAGING WITH SUPPLIERS

Purchased goods and services and capital goods are the most significant categories within CKHGT’s scope 3 emissions footprint. As such, the Group is prioritising suppliers according to materiality, and improving data quality – both by greater use of supplier emissions intensity metrics for emissions reporting, and by engaging with device suppliers to extend the use of device life cycle emissions footprints.

CKHGT intends to cooperate with major ESG collaborations for assessing its current scope 3 profile, and further decreasing the associated emissions.

More broadly, business units are enhancing sustainable procurement processes with a focus on GHG emissions data and performance. For example, **3** UK and **3** Ireland are using EcoVadis to review supplier climate policies and performance, and **3** Austria has updated its Supplier Code of Conduct, with enhanced supplier engagement on GHG emission reduction strategies. Wind Tre is updating its 2030 ESG Plan to include a goal related to Sustainable Supply Chain that will support a focus on supply chain emissions reductions.

Scope 3 emissions reduction planning will be significant area of focus for CKHGT in 2023.



# PROMOTING A CIRCULAR ECONOMY



## SECTIONS

END-OF-LIFE PRODUCT MANAGEMENT

REFURBISHED DEVICES

ECO-DESIGN

SUSTAINABLE SIMS

CIRCULAR NETWORKS

SUSTAINABLE LOGISTICS



Mobile phones have become ubiquitous – with estimates suggesting [more than 90% of the global population](#) now owns a mobile phone. The total number of active smartphones and feature phones around the globe is predicted to rise from [7.78 billion in 2022 to 9 billion in 2030](#). A similar trend is seen in the global router market.

Each one of these devices has embodied impacts. For example, [the average smartphone contains more than 50 different materials](#), including plastics, ceramics and metals – all of which have environmental and social impacts, associated with raw material extraction, processing and production.

Climate impacts are significant, particularly associated with the device production stage: [the average use time of a phone is around three years](#), and it is estimated that [extending the lifetime of all phones around the world by one year has the potential to save up to 21.4 million tonnes of CO<sub>2</sub> annually by 2030, equal to taking more than 4.7 million cars off the road](#).

Further, device consumption is a significant contributor to e-waste - the world's fastest growing waste stream - and a considerable

portion is disposed of outside of formal waste management systems. Where specific regional data is available, [official take-back rates of mobile phones rarely exceed 15%](#).

Recognising the importance of this issue, during the year, CKHGT participated in the GSMA's Circular Economy for Devices working group. This working group published a 'Strategy Paper for Circular Economy: Mobile Devices', setting out a vision for 2050 as 'a future where devices have as long a lifetime as possible, where they are made with 100% recyclable and recycled content using 100% renewable energy and where no device ends up as waste'.

CKHGT recognises and supports the GSMA's waste hierarchy and aims to manage end-of-life impacts accordingly – i.e. prioritising opportunities for eco-design and reuse over recycling and recovery. Across CKHGT, business units are identifying opportunities to reduce the use of resources through eco-design, to extend the life of products through end-of-life product management and refurbished product offerings, and responsibly recycle what cannot be reused, thereby reducing overall lifecycle environmental impacts.



## EXTENDING THE LIFETIME OF ALL PHONES AROUND THE WORLD BY ONE YEAR HAS THE POTENTIAL TO SAVE UP TO 21.4 MILLION TONNES OF CO<sub>2</sub> ANNUALLY BY 2030, EQUAL TO TAKING MORE THAN 4.7 MILLION CARS OFF THE ROAD



## END-OF-LIFE PRODUCT MANAGEMENT

Device take-back arrangements are in place across most major markets – in many cases taking devices originally sold by any operator - and are reviewed or refreshed as needed to help ensure that they are optimised.

For example, **3 UK** offers ‘Three Recycle’ whereby customers can trade-in certain phones, tablets and wearables for responsible reuse or recycling at end-of-life. In 2022, **3 UK**’s Reconnected scheme was integrated into the customer trade-in process such that devices less suited to resale can be considered for donation – thereby helping to optimise for circularity and digital inclusion benefits.

Wind Tre provides a comprehensive after-sales service for fixed and mobile devices, offering repairs through its network of over 500 centres throughout the country. For fixed network customers, faulty modems are replaced with refurbished products in more than 60% of cases, and for business customers, faulty mobiles are replaced with refurbished devices in over 70% of cases. In both cases,

the defective products are reconditioned and reused wherever possible. In October 2022, Wind Tre also launched its new ‘Reload exChange’ trade-in service that uses a diagnostic app to determine the trade-in value of any used device.

**3 Sweden** extended its existing device take-back program, ‘3Återvinn’ to include routers, in addition to mobile phones, tablets and smart watches already included. It also introduced the programme to its business customers. Take-back volumes increased by 160% in 2022 as compared to 2021, with 96% sold for reuse and 4% recycled by our specialist circular technology partner, Foxway. **3 Denmark**, also partnering with Foxway for its ‘Byt-til-nyt’ take-back program, extended its program to enable online trade-in of devices, thereby making it easier for customers to return their devices for responsible management.

Businesses are also actively exploring innovative sustainable business models such as ‘device-as-a-service’ – whereby rather than taking ownership of devices, enterprise customers can lease them and return them on contract completion, creating the opportunity for device reuse. This extends the useful lifetime of devices and builds additional sustainability principles into the product lifecycle.

## ONE-STOP TAKE-BACK IN 3 HONG KONG

**3 Hong Kong** offers a ‘one stop’ trade-in programme that includes complimentary in-store transfer of content to a new device, and clearance of contents and settings.

Customers can also help to protect the environment through the Recycling Handsets and Accessories Programme, under which they can dispose of old or unwanted handsets and accessories (such as batteries, chargers, headphones, earpieces, USB cables and stylus pens) in recycling boxes in selected **3Shops**.

Items collected under this programme are passed on to the Computer and Communication Products Recycling Programme run by the government with industry partners and voluntary organisations. Equipment still in working condition is refurbished and donated to people in need, while other parts and useful materials are recycled.

## PHONE CASE RECYCLING IN HONG KONG

Every year, millions of mobile phone cases are produced and sold. Unlike mobile phones, phone cases are generally made from plastic with no resale value. Every year more than one billion mobile phone cases end up in landfill.

During the year, **3 Hong Kong** continued to collaborate with **CASeTiFY** to recycle used phone cases and incentivised customers with a promotional discount. The collected cases were used to make new cases.



## REFURBISHED DEVICES

While demand for new devices remains high, [11% of smartphones sold today across the world are refurbished](#), as consumers become more interested in second-hand products and more sustainable product choices. The refurbished devices market is predicted to be worth [more than \\$140bn by 2030 as compared to \\$49.9bn in 2020](#).

Responding to these market trends, business units are adding refurbished smartphones to their product portfolios.

Wind Tre's sub-brand VERY mobile continued its partnership with Refurbed to offer a range of refurbished phones up to 40% cheaper than new models, with software licence and 12-month warranty. The Wind Tre brand partnered in 2022 with Enjoy, adding refurbished smartphones to its device portfolio.

### CIRCULAR DEVICES IN SWEDEN

**Complementing 3 Sweden's device take-back programme and enabling a fully circular solution, during the year, 3 Sweden extended its partnership with reuse and recycling partner Foxway, launching a highly successful refurbished device program, 3 Sweden offers a number of refurbished device models to its customers in Sweden, meeting the strong demand which exists in this market.**

## ECO-DESIGN

Business units are engaging with device suppliers on sustainability and eco-design of products and packaging of devices and accessories. This includes discussion on issues such as reparability and durability of devices, recyclable and recycled content, material and waste minimisation, and embedded GHG emissions in production.

They are also actively adding sustainable accessories to the product portfolio. **3 UK, 3 Ireland, 3 Denmark and 3 Sweden** have launched a range of sustainable mobile accessories made of full-grain leather or recycled plastic materials, through 100% carbon neutral production. **3 Denmark** has also launched 100% plant-based, and 100% compostable phone cases made by A Good Company. In 2022, **3 UK** launched a compostable case from Tech21. In 2021, **3 Denmark** launched a new accessory brand, Utility Project, and ensured the packaging is plastic-free and certified by the Forest Stewardship Council.

## SUSTAINABLE SIMS

The 'SIM' – or 'subscriber identity module' – is another key opportunity for telecommunications companies to reduce waste and increase circularity. A traditional SIM requires raw materials, production, packaging, shipping and ultimate disposal, with associated environmental and social impacts across the lifecycle. Although only small in size, the volume of SIMs and therefore overall impact is considerable.

In recent years, CKHGT has innovated through its partnerships with SIM suppliers to reduce the size of the surrounding SIM-card, and introduce SIMs made with more sustainable materials and processes. In 2022, Wind Tre and **3 Sweden** launched the 'eco-SIM' in partnership with Thales. The Eco-SIM is made from 100% recycled plastic recovered from used refrigerators, through a carbon neutral production process. For Denmark, the Eco-SIM is now used for 60% of all SIMs issued.

**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.

CKHGT anticipates that the e-SIM presents a sustainable alternative to the physical SIM over the longer term. An e-SIM enables the delivery of a digital profile to a chip on the device, without a physical SIM card, giving more flexibility and choice to customers while reducing plastic, emissions and electronic waste<sup>5</sup>. Throughout 2022, CKHGT focused on deploying e-SIM platforms and scaled e-SIM penetration by over 200% to up to 1.2 million units in collaboration with key device suppliers in Europe. CKHGT aims to achieve 200%+ year-on-year growth in 2023 and beyond.

In 2022, **3 Austria** launched the innovative 'e-SIM only' mobile communications subscription 'up<sup>3</sup>', that offers digital sign-up in just a few minutes via an app from anywhere and without a physical SIM card.

<sup>5</sup>A lifecycle analysis assessment conducted by Fraunhofer IZM and Giesecke+Devrient showed a 46% reduction in emissions for the eSIM in comparison with the SIM card. At: <https://www.gi-de.com/en/group/press/press-releases/independent-study-by-fraunhofer-izm-for-g-d-confirms-esim-as-an-environmentally-friendly-sim-solution>

## CIRCULAR NETWORKS

Like all major mobile operators, CKHGT is making significant investment in upgrades to latest generation networks, data centre technologies and ICT equipment. As older equipment is decommissioned, a considerable amount of waste is created - often containing critical raw materials such as gold and copper - and needs to be responsibly managed through reuse and recycling.

Business units have individual arrangements for maximising circularity and responsible disposal of network equipment, which includes maximising revenue streams from resale or parts of materials. For example, Wind Tre prioritises resale of network equipment through vendor buy-back arrangements, and recycles unsold equipment for recovery of materials such as tin, lead, silver and gold. **3** Austria has an automated process for dismantling and logging equipment parts in a dedicated warehouse management tool,

before reusing parts internally where possible, and otherwise recovering materials through responsible disposal.

**3** UK has a long-term partnership with a specialist provider to responsibly manage decommissioned network equipment. The provider logs equipment within its proprietary asset management tool and triages based on appropriate management method. Where possible, equipment is resold including through the provider's dedicated online marketplace, with other equipment being recycled.

## SUSTAINABLE LOGISTICS

Sustainable logistics is another area of opportunity to reduce material use and wastage, thereby contributing to circularity, and a specific focus of certain business units.

### SUSTAINABLE LOGISTICS IN AUSTRIA

**Austria is committed to operating carbon neutral, digital and plastic-free logistics. The business reuses inbound shipping cardboard boxes for onward distribution to retailers, with excess quantities collected, pressed and resold as recyclable material. It has also removed paper-based documentation for delivery notes, contracts and correspondence; its digital processes save over half a million pages of paper per year due to the elimination of delivery notes alone. Any electronic waste is resold to dealers via a certified disposal company. In 2022, it replaced non-recyclable filling paper (to protect device contents) with a recyclable alternative, expected to avoid an additional four tonnes of non-recyclable waste annually based on 2021 volumes.**



# CREATING GREAT PLACES TO WORK



## SECTIONS

CKHGT EMPLOYMENT PROFILE

EMPLOYEE ENGAGEMENT AND FEEDBACK

ATTRACTING DIVERSE TALENT

INCLUSION AND DIVERSITY

EMPLOYEE LEARNING AND DEVELOPMENT





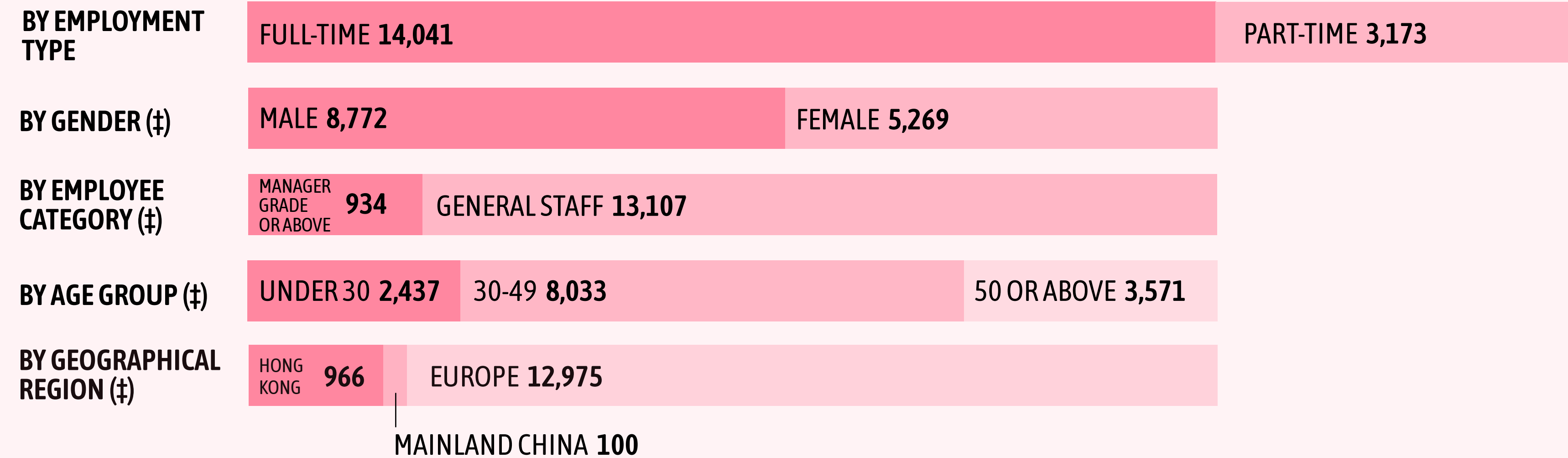
# CKHGT EMPLOYMENT PROFILE

CKHGT aims to create workplaces that attract and retain diverse talent and where all employees are empowered and supported to be their best selves at work. It does so by creating inclusive and diverse workplaces, supporting employees in their wellbeing, creating an open feedback culture, and providing pathways for learning and development to support employee professional growth. Each business unit designs and implements fit-for purpose human resources management approaches aligned with these outcomes and tailored to their respective needs.

**FIGURE 8: NUMBER OF EMPLOYEES**

TOTAL 17,214

(‡) FULL-TIME ONLY



# EMPLOYEE ENGAGEMENT AND FEEDBACK

A fundamental aspect of employee engagement is acting on timely, data-driven insights to inform action plans, which are acted upon and updated as circumstances and performance change.

Reflecting this, all CKHGT European business units conduct confidential and anonymous employee engagement surveys (twice-yearly

at a minimum and for some more frequently) covering topics such as motivation, culture, leadership and personal development. Senior management reviews this feedback to understand strengths and issues highlighted by employees, and to plan improvement action. Managers also discuss findings and potential changes with their teams.

Wind Tre's engagement survey, '#diciamolanostra' (meaning 'let's have our say'), continued to have participation rates greater than 5% over their external benchmark, with an engagement rate of 86% and more than 90% of its people considering Wind Tre to be a good place to work and a company to be proud of.

In different markets these surveys are complemented by additional surveys or other feedback mechanisms. In 2022, 3 Hong Kong conducted a company-wide questionnaire to better understand needs in relation to transportation and catering, and another to prioritise sustainability issues of importance to employees.

Some business units have established dedicated employee groups for discussing employee issues and acting as a sounding board for management. For example, 3 UK and 3 Ireland have each established an Employee Forum - a group of employees elected to represent their department and serve as a

contact point through which employees can share feedback with senior leadership. The Employee Forum meets quarterly with the Chief People Officer and other members of the Executive and Senior Leadership Teams to share employee feedback, monitor progress against action plans, and ensure that the employee voice is considered when making key decisions. Wind Tre runs a programme of Virtual Focus Groups to actively exchange views on a range of topics, this year holding a dedicated Virtual Focus Group session on internal communications and seeking feedback on a preview of the company strategy.

## ATTRACTING DIVERSE TALENT

Each business unit identifies its own skills gaps and labour needs within its local market. CKHGT recognises tight labour market conditions across its markets, particularly in customer service roles, and - being in a technology-based sector - the challenges associated with attracting females to technical roles.

## EMPLOYER BRANDING AND EMPLOYEE VALUE PROPOSITION

Investing in an inclusive and people-centred employer brand is important for the attraction of talent. In 2022, business units continued to invest in their employer brand and experience, including to better reflect the company culture in communications with prospective employees. CKHGT received recognition for employer brand and experience across its markets.



## RECOGNITION FOR EMPLOYER BRAND AND EXPERIENCE

**This year 3 Sweden was proud to win three awards for employer branding and experience:**

- It ranked as one of the 50 best workplaces in Sweden's 'Most Attractive Employers 2022' by leading employer branding specialist, Universum, based on a survey of over 21,500 external respondents, considering culture, career opportunities, remuneration and likelihood of recommendation.
- It was for the ninth year in a row, selected as a great place to work by the external organisation 'Great Place to Work®'.
- It was once again selected as a 'career company' by independent organisation Karriärföretagen, which declared 3 Sweden as a 'role model in employer branding', commending the 'inspiring company culture, many and exciting development and career opportunities' for employees.

Wind Tre was certified Top Employer Italy for the 5th consecutive year, recognised for its excellence in the development and well-being of people. The company was also recognised as Diversity Leader in Europe 2023 by Statista and the Financial Times for its inclusive business practices.

Wind Tre also extended its smart working model - 'Human Working' - for a second year, and undertook a social media campaign, winning an award of 'Best Employer Branding - Winning Play' on LinkedIn. The model was co-created with employees, combining technology, workforce flexibility and a programme of remote wellbeing - aligned with the company purpose of Wind Tre, focused on 'eliminating distance between people'.

3 UK partnering with CBRE won the PFM award in 2022 for Partners in Workplace Redevelopment for the work in Green Park marking a 'Great Place to Work'.

3 Hong Kong and 3 Macau was awarded 13th place in Asia's Best Employer Brand Awards - Asia's Best Employer Brand, Employer Branding Institute.

3 Austria was awarded the 'work and family' certification by the Federal Ministry of Women, recognising it as a 'family-friendly employer'. It was also awarded first place as 'Employee Experience Champion' by LSZ in collaboration with Maximilian Lammer consultancy, recognised for its working environment, culture, and employee digital experience.

## EMPLOYEE BENEFITS

Business units are constantly reviewing their employee value proposition, including benefits, to ensure they remain competitive, and in keeping with changing expectations of prospective employees. For example, **3 UK** and **3 Ireland** developed action plans to enhance employee benefits, responding to employee engagement feedback. CKHGT is proud to offer to its UK and Irish workforce benefits that include: enhanced Paternity Leave; up to ten days Fertility Leave for those experiencing treatment and two days leave for partners; Parental Bereavement Leave (**3 UK**); Surrogacy Leave (**3 Ireland**); and Early Pregnancy Leave (**3 Ireland**) for any employee experiencing pregnancy loss.

**3 Denmark**, **3 Sweden**, **3 Hong Kong** and Wind Tre all also offer parental leave benefits beyond the statutory requirement. For example, Wind Tre offers 4.5 months leave at 100% pay in addition to minimum requirements, as well as dedicated leave for child sickness (up to the age of eight) and for parents putting their children into pre-school for the first time.

## ATTRACTION AND RETENTION OF CUSTOMER SERVICE TALENT

Addressing the specific shortages in customer service talent, business units implemented employee referral schemes and new advertising campaigns, including through social media. **3 Ireland** also introduced greater flexibility in assessment processes and is piloting a working group to review on-boarding feedback and identify further ways to maximise retention of talent.

In **3 Denmark**, the Three Academy provides a compelling offer for all staff, enabling them to undertake short courses with European Credit Transfer and Accumulation System (ECTS) credits – supporting them in their personal growth and career progression while continuing to work at Three. During 2022, **3 Sweden** also started a sales and service excellence programme for sales and customer service employees, delivering business benefits of consistent, high quality customer service, as well as career development and retention of customer service talent within Three.

## ADVANCEMENT OF YOUTH STEM EDUCATION

**In 2022, 3 Hong Kong collaborated with the Ampower Talent Institute and the IT Innovation Lab in Secondary Schools Programme to organise two innovation and technology career experience days, to inspire and foster relations with more young people interested in STEM education.**

**The Ampower Talent Institute is a non-profit NGO that fosters the advancement of education to empower youth to become the best versions of themselves and be able to identify and work towards their career and life goals. Around 50 secondary students visited Hutchison Telecom Tower and Hongkong International Terminals to learn more about the modernisation of technology and the development trend of Hong Kong’s network as well as experience diversified smart solutions in the Group’s solution hub – DIGI3ox. Management trainees shared their experiences and encouraged the students to think about their career in the future.**

## BUILDING A DIVERSE TALENT PIPELINE

Many of CKHGT’s business units have initiatives connected with local schools and universities to raise the profile of careers in STEM subjects. In doing so, business units also raise their profile as diverse and inclusive technology employers and build the longer-term pipeline of STEM talent.

For example, **3 Ireland** and Trinity College Dublin have developed a STEM scholarship partnership which is funding the creation of 25 Scholarships for Women in STEM over five years, starting in 2022. The partnership also seeks to tackle the challenge at a systemic level by funding two posts within the Trinity Access Programme which will be dedicated to improving the accessibility of maths in Ireland’s school system.

Wind Tre collaborates with numerous universities, implementing education and hiring programs focused on female talent. These include the 'Data Girls' project, in partnership with the LUISS Business School, and the 'Technology Operations Growing Camp' in partnership with the Federico II University of Naples and the Sapienza University of Rome, with female students in technology-related fields participating in virtual master classes with an internal faculty of Wind Tre managers and ambassadors.

**3 Ireland** is working with a number of organisations, each focused on employment opportunities for different marginalised groups, in order to diversify its talent pools.

## EMPLOYEE WELLBEING

In the context of the significant, global events in recent years, including COVID-19, the conflict in Ukraine, and the cost-of-living crisis, dedicated strategies and programs to support employee wellbeing are now more important than ever. Further, with a 'war on talent' and changing employee expectations, employee wellbeing has become another element in strategies to attract and retain top talent.

Business units have a range of programmes in place to support their employees mental, physical, and financial wellbeing. These often include access to gym facilities, memberships

and classes, changing facilities, healthy and varied catering options, access to a psychological counselling service, and ongoing enhancements to workspaces enabling more opportunities for social interaction during the course of the working day.

More recently, a number of business units have enhanced these programs with a greater focus on mental health. For example, 3 Ireland and 3 UK have introduced Mental Health First Aider Training to support individuals in the workplace and has run a series of webinars on mental health topics. 3 Austria has introduced twice-weekly mental wellbeing sessions open to all employees and contractors training.



# 3 IRELAND AND 3 UK HAVE INTRODUCED MENTAL HEALTH FIRST AIDER TRAINING TO SUPPORT INDIVIDUALS IN THE WORKPLACE

## SUPPORT FOR EMPLOYEE FINANCIAL WELLBEING

Recognising the increased concern of employees over financial management in the cost-of-living crisis, and the importance of financial wellbeing to overall mental health and wellbeing, in 2022, 3 Ireland introduced, and 3 UK renewed its license with financial wellbeing app 'Nudge'. Nudge offers free, impartial information on all aspects of financial wellbeing including budgeting, saving and investing.



## INCLUSION AND DIVERSITY

CKHGT recognises the importance of providing equitable and inclusive working environments for its employees. Business units have policies and programmes in place to ensure that workforces reflect the diversity of the communities they serve, and offer inclusive environments in which all employee perspectives are valued.

### EQUAL OPPORTUNITIES

CKHGT is committed to promoting and protecting equal opportunities. In line with the Human Rights Policy and Code of Conduct the Group has zero tolerance towards discrimination on the basis of race, colour, national or social origin, ethnicity, religion, age, disability, sex, sexual orientation, gender, political affiliation, or any other status protected by law. It handles all reports of impropriety and misconduct in accordance with its Whistleblowing Policy.

### STRENGTH IN DIVERSITY

CKHGT recognises the value of embracing diverse perspectives, experiences and ideas, with a workforce that reflects the diversity of the customers and communities it serves.

CKHGT's business units implement inclusion and diversity programmes suited to their needs and circumstances. Most have put in place a dedicated steering group or working group to oversee their inclusion and diversity approach, with executive sponsorship, and a dedicated senior staff member or team with responsibility for driving progress - often the Head of Human Resources or a diversity specialist within the Human Resources team.

For example, the Diversity, Inclusion and Belonging Steering Committees of 3 UK and Ireland are sponsored by the Chief Portfolio and Change Officer and General Counsel respectively, and there is a Diversity, Inclusion and Belonging Team responsible for delivery. 3 Sweden launched its Diversity Council during the year to drive progress on diversity targets. Wind Tre has a dedicated Diversity and Inclusion Manager with responsibility for defining and driving implementation of the strategy.

The business units often have employee resource groups focused on specific concerns. For example, 3 UK has networks for Pride, Menopause, Ethnical Cultural Diversity, Women@Three and Accessibility. In 2022 Wind Tre promoted dialogue and cooperation on inclusive behaviours, through the launch of GENERATIONS 4 INCLUSION - a teamwork initiative involving employees with a range of diverse perspectives (ages, genders, caregivers, LBGTQ+, disability, for example).

Many business units also run diversity and inclusion training. For example, 3 Ireland and 3 UK have a dedicated Diversity, Inclusion and Belonging e-module, and embed diversity, inclusion and belonging topics into Manager training. During 2022, 3 Sweden also conducted unconscious bias training, 3 Austria hosted its first cultural diversity training for all employees, and Wind Tre partnered with PARKS – an LGBTQ+ inclusion not-for-profit, to deliver a series of webinars encouraging greater understanding of gender identity.

### MENTORING AND MONITORING FOR DIVERSITY

**3 UK and Ireland have launched a Cross-Geography Mentorship programme that aims to develop skills, create connections, support career development, and develop deeper insight into Three. It is available to anyone and is digitally enabled to make it as accessible as possible. It identifies diversity data so diverse participation can be monitored. There are also mentoring circles for new or imminent mothers and transgender employees.**

### RECOGNITION FOR DIVERSITY RECEIVED IN 2022

- **Wind Tre was spotlighted in the Financial Times Diversity Leader in Europe report for leadership in diversity.**
- **3 UK was included in the list of 100 best places to work by the National Centre for Diversity.**
- **3 Ireland received an Investors in Diversity Gold award from the Irish Centre for Diversity.**

## GENDER EQUALITY

The gender balance across CKHGT is 62% male and 38% female, reflective of technology roles - that are filled disproportionately by men, and due to the fact that there are fewer women in senior leadership positions.

To redress imbalances, **3** UK, **3** Ireland, and **3** Sweden have established 50:50 gender balance targets for leadership roles. **3** Sweden also has a 50:50 gender balance target across all employees by 2025. **3** Austria has a target to increase female representation in management from its current 25%, to 30% in 2025, and to achieve balance in the longer term. **3** Denmark refreshed its gender balance targets in 2022, aiming for at least 40% representation of both genders on the Board of Directors, and within the Senior Management Team, and other management, by 2025.

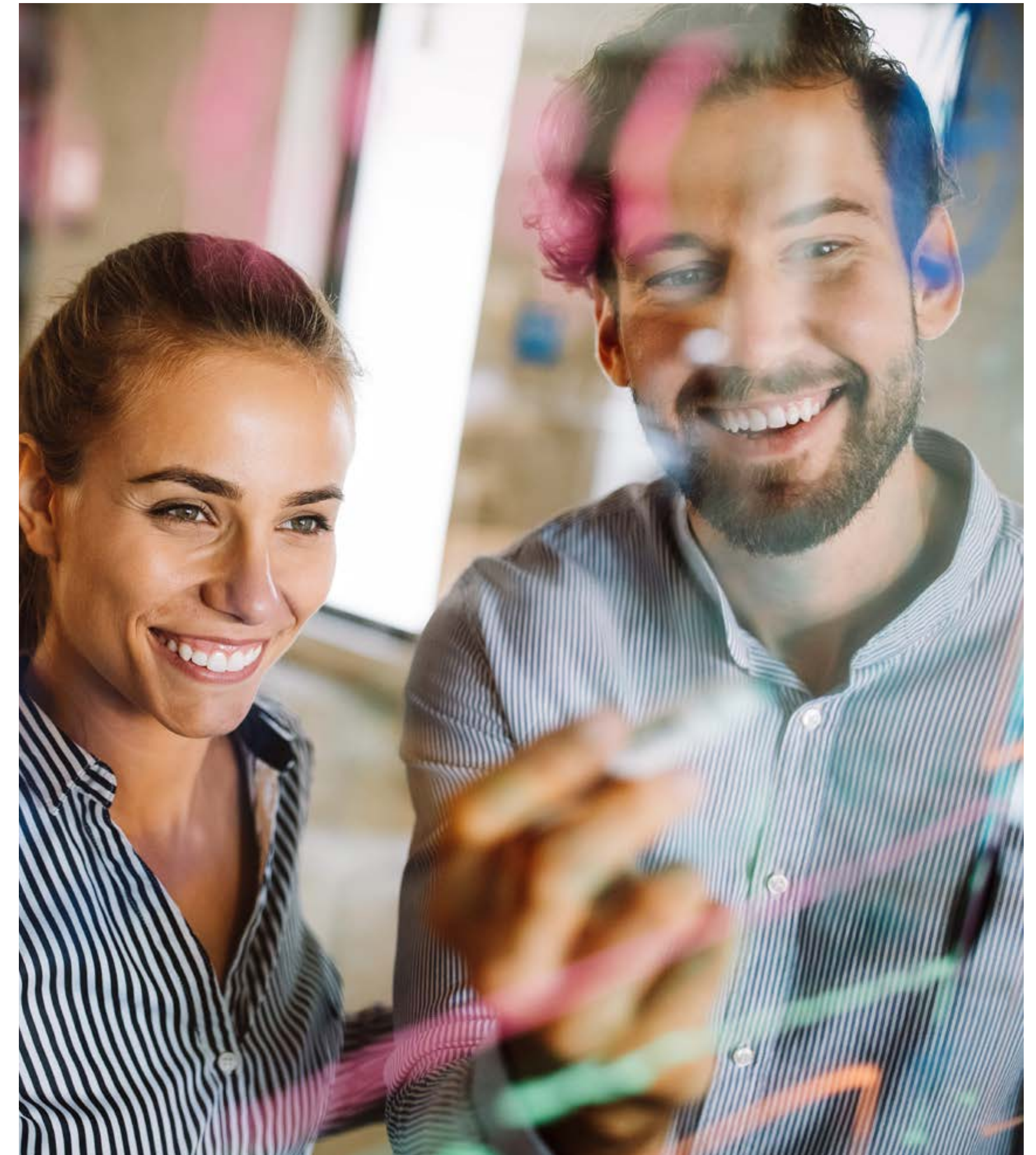
In addition to its target of 50:50 balance for all internal promotions, Wind Tre has committed to increasing its share of women in executive positions by 25% by 2025, (compared to its 2020 baseline). It has also linked gender diversity in hiring and pay practices with executive compensation together with the other goals of its ESG Plan.

To support the achievement of gender balance targets, business units have developed and implemented action plans that have included targeted communications and recruitment campaigns for women, changes to recruitment processes to reduce bias, and leadership development programs for women. For example, **3** UK and Ireland have introduced gender-neutral language in role advertisements and balanced interview panels. **3** Sweden held seminars and presentations for women in collaboration with a 'women in tech' community and at the internal 'Close the Gap' equality festival. Wind Tre trained 200 female executives, people managers and other professionals over 2,500 hours on ways in which women can be more empowered to realise their potential in professional life.

## GENDER PAY GAP REPORTING

CKHGT welcomes the new legislation on mandatory gender pay gap reporting that is relevant for a number of business units, and is supportive of actions that can be taken across its businesses to create gender pay equality. In 2022, Wind Tre became the first telecommunications company in the world to obtain certification from the EQUAL-SALARY Foundation. It underwent a statistical analysis and external audit of employee remuneration to demonstrate that it applies equal pay for women and men.

**3** UK has been reporting on its [Gender Pay Gap](#) since 2018. **3** Ireland reported on its [Gender Pay Gap](#) for the first time in 2022. Both business units have action plans in place to reduce gaps. Their focus on avoiding bias in recruitment is expected to enable the recruitment of more women into higher paid technical roles, and they are focused on equal opportunities for development through mentoring and internal management training.



## EMPLOYEE LEARNING AND DEVELOPMENT

Structured talent development programmes are in place across CKHGT aiming to address the skills development needs of each business unit as well as employees' career development aspirations. This is supported with performance management systems enabling employees to set objectives and receive feedback, in line with business objectives and personal growth goals.

### BEING FUTURE-READY

The telecommunications industry is evolving at a rapid speed with technologies such as AI cloud computing and the transition to 'Open RAN' demanding more from employee skillsets, and softer skills such as critical thinking, problem-solving and self-management, becoming more important. Business units therefore constantly review the critical skills needs of their employees and invest in programmes to keep their skills and knowledge future-ready.

In 2022, **3** UK and **3** Ireland launched a 'Digital Academy', offering employees the opportunity to develop digital skills through e-learning, mentoring, events and professional qualifications. They also offer access to over 16,000 courses via LinkedIn Learning and dedicated tech-skills learning platforms such as INE and Pluralsight. Both business units have set targets to achieve a 25% increase in employee engagement with its digital learning platforms in 2023.

**3** Academy is the learning and development platform in Denmark offering learning opportunities to all employees to assist in their career progression. In 2022, 133 employees participated in the **3** Academy program, which offers ECTS points recognised by European universities, and awards a Danish Ministry of Education-accredited 'Academy Profession Degree' (AP Degree) in Commerce and Marketing upon completion of six **3** Academy courses.

### PREPARING FOR FUTURE CHALLENGES

**Wind Tre is preparing its people for the challenges of the future by supporting their employability. As part of its sustainability strategy, it has committed to a target of 100% 'future-ready' people centred on promoting a culture of lifelong learning and self-development. In 2022, it delivered more than 385,000 training hours for its employees, including its Digital Mindset Development Programme, selected as global best practice by the Top Employers Institute.**



### UPSKILLING FOR SUSTAINABILITY LEADERSHIP

**An ever-increasing number of team members across all business units are involved in implementing and communicating the Group's sustainability objectives. During 2022, to support these colleagues in gaining a broad-based understanding of global sustainability trends, business units provided employee access to an online short course from the Cambridge Institute of Sustainability Leadership entitled 'Sustainability Essentials for Business'.**

### INVESTING IN LEADERS

Investing in future leaders is essential for ensuring CKHGT's business units remain innovative and resilient while nurturing the talent pipeline to retain high performers. Business units have developed comprehensive programmes to facilitate high performance in leaders and their teams.

**3** UK and **3** Ireland offer 'Amplify' – a six-month development journey for those who are new to leading others or new to leading at Three, delivered through learning sessions and coaching. Experienced senior leaders can participate in the 'Connected Leaders' program, exploring leadership models that enable businesses to flourish and grow into the future, and developing skills for coaching

and courageous conversations. 'Phenomenal Teams' is also available for leaders and their teams to support ongoing high performance.

In addition to this, during 2022 Wind Tre launched and implemented its first corporate 'Women Academy', supporting 200 female leaders in their personal and professional growth.

# OPERATING RESPONSIBLY AND WITH INTEGRITY



## SECTIONS

DATA PRIVACY

CYBERSECURITY

ENVIRONMENTAL POLICY AND MANAGEMENT

SUSTAINABLE PROCUREMENT AND SOCIAL SUPPLIER STANDARDS

HEALTH AND SAFETY

ELECTROMAGNETIC RADIATION

PRODUCT QUALITY AND SAFETY

BUSINESS CONTINUITY PLANNING





CKHGT is committed to acting responsibly and with integrity in the way it manages its operations and its value chain. It also aims to play an active role in protecting customers from risks and potential harm where telecommunications services are misused or abused.

This includes working to protect the privacy of customer data, maintaining the highest level of cyber-security standards, managing environmental risks associated with operations and products through their life cycle, and sourcing responsibly.

## DATA PRIVACY

The right to privacy is recognised in the Universal Declaration of Human Rights as a fundamental human right. This has been extended to recognise the right to data privacy in many jurisdictions throughout the world. Protecting the data entrusted to us by customers and employees is therefore of the highest priority to CKHGT. 2022 saw increased data privacy enforcement by regulators globally. Incorporation of privacy into the design stage of new products and services is now paramount. Failure to maintain a

rigorous approach to data privacy can have significant impact on reputation as well as direct financial consequences.

### APPLYING LEADING DATA PROTECTION STANDARDS

Data protection laws throughout the world continue to emerge and evolve, and compliance with these laws is guided by country-specific privacy policies with advice and guidance provided by locally appointed Data Protection Officers. The EU General Data Protection Regulation (GDPR) is considered to be the highest standard of data protection legislation and compliance, and standards to uphold this regulation are embedded in operations and processes throughout CKHGT European business units.

### DATA PRIVACY GOVERNANCE AND POLICY

CKHGT business units operate according to the [CK Hutchison Holdings Personal Data Governance Policy](#). This outlines required practices related to: data privacy compliance; privacy by design; privacy and data protection training; privacy risk assessments; privacy notices; disclosure of personal data to law

enforcement authorities; responding to data security incidents; use of CCTV; and requirements of third party processors.

In addition, business units typically have a local level data protection or data governance policy to reflect local circumstances and requirements.

Each business unit has a designated Data Protection Officer to oversee data privacy compliance and practice, accountable to the local CEO. In addition, there is often a local privacy steering committee or working group to steer data privacy activities and support ongoing compliance as the business evolves.

### REGULAR TRAINING

Mandatory training is provided by business units to all employees at least annually. Training is typically delivered through a dedicated module, often alongside regular cybersecurity training, and is updated as necessary by Data Protection Officers. Furthermore, in several business units, specific training has been developed for customer-facing staff, appropriate to their roles, and for certain external data controllers and processors.

## INNOVATIVE DATA PRIVACY TRAINING IN WIND TRE

During 2021 and 2022, Wind Tre invested in the development of innovative data privacy training series of 'bite-sized' videos for sale staff and external partners ('external data controllers'). Developed with input from relevant department heads and with oversight from external experts in online compliance training, topics included: the Wind Tre privacy policy including privacy consents; security controls over data processing; self-assessment procedures via a privacy dashboard and on-site checks; and other operating instructions linked to privacy compliance.



Customer consent is required for sending of commercial information about products and services

## PRIVACY RISK ASSESSMENTS AND AUDITS

Business units routinely conduct privacy risk assessments in relation to new products, technologies and business operations. This includes, for example in our European business units, Records of Processing Activity (ROPA) (with initial risk assessment) and Data Protection Impact Assessments (DPIA) associated with GDPR, as well as Transfer Impact Assessments (TIA) where required. The principles of data privacy by design and by default are central to approaches taken across CKHGT, with strategy, transformation and new product teams typically working closely with Data Protection Officers to ensure that data protection principles are adhered to.

Internal audits are conducted on an ongoing basis, including by Group Management Services (GMS) and local Data Protection Officers. External audits are also performed by national supervisory authorities, appointed external auditors, and other relevant bodies. These are conducted in accordance with applicable legal and regulatory requirements as well as data privacy policies.

European business units also regularly conduct audits of third-party Data Controllers and Data Processors.

## PRIVACY NOTICES AND EXTERNAL DATA PRIVACY POLICIES

Country-specific Privacy Notices have been developed and adapted to local regulatory requirements. These are available on business unit websites in local languages, with clear information on the collection, use, sharing, retention and deletion of personal data including data transferred to third parties (in addition to the ability to opt-out). Where a policy change occurs that affects the way customer data is managed, the Privacy Notice is updated accordingly, and in some circumstances, a significant change may be notified directly to the customer e.g. through their account communications.

Contact details are provided within the Privacy Notice and / or on external privacy business unit websites with information on how data subjects can raise concerns about data privacy and exercise their rights under data protection legislation. This includes how they can raise concerns and make amendments, where they have not been able to do this via data self-management functions often available online.

## PRIVACY BREACHES

The CKHGT Personal Data Governance Policy requires that when a Data Security Incident occurs involving personal data, business units should aim to mitigate the potential consequences and to secure personal data from further unauthorised access, use or damage as quickly as possible. Business units should respond rapidly and in accordance with applicable procedures, which may include notifying the privacy authorities and/or affected individuals if required.

Business units notify relevant authorities and data subjects of a privacy breach at a minimum in line with legislative requirements, and often going further, depending on the significance of the breach.



## REQUIREMENTS ON THIRD PARTIES

Entrusting the personal data of customers and employees to third party vendors for data processing services requires adequate data protection from a technical and organisational point of view and specific security requirements are required from all vendors as part of contractual due diligence. These requirements relate to:

- General security in terms of physical security, access policies, software, hardware and cloud resources protection;
- Security controls focusing on the protection of data;
- Applicable privacy law; and
- For European business units, a list of internationally-verified certifications, standards and frameworks.

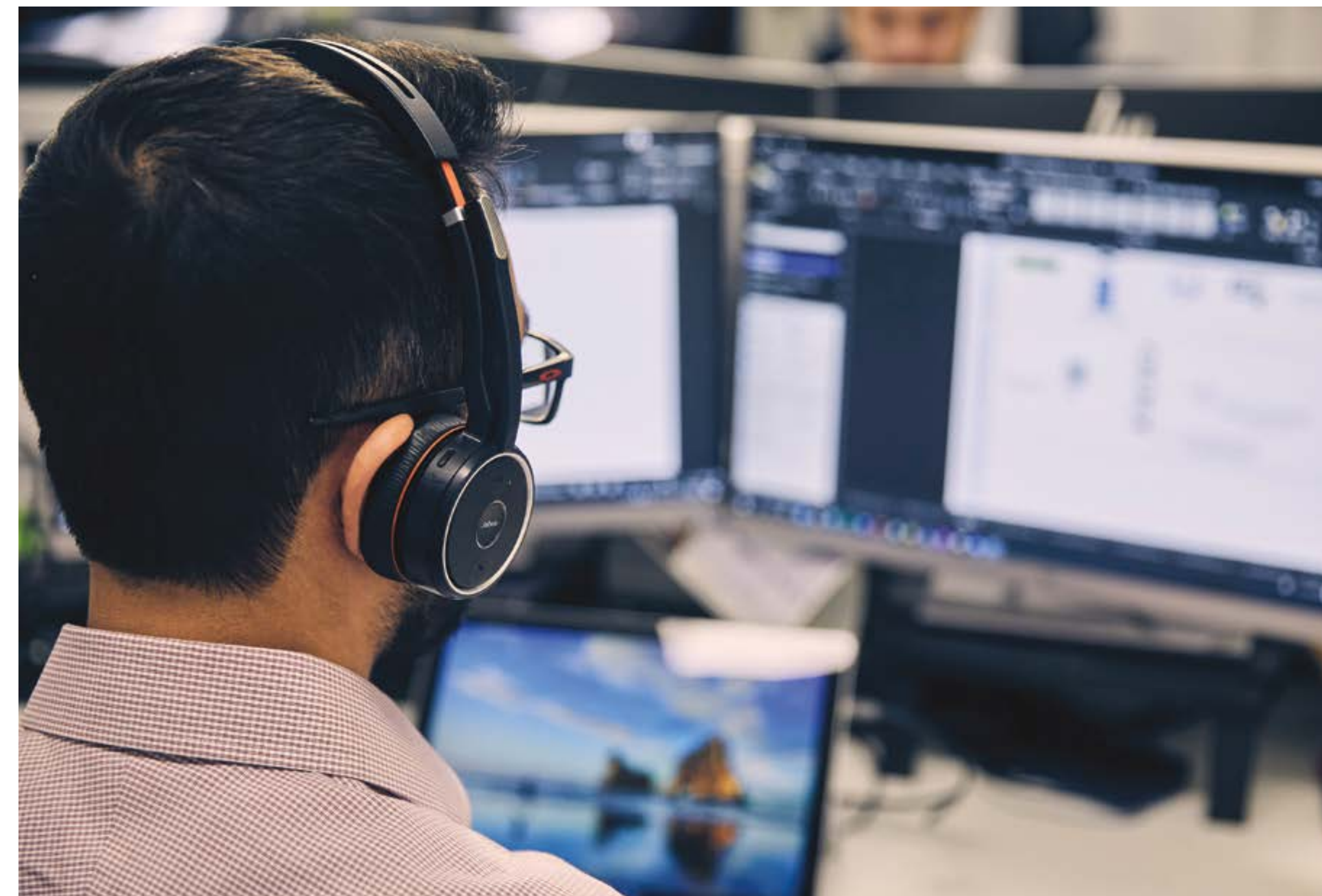
These requirements are supplemented with many other compliance requirements in line with country-specific data privacy laws. Third parties must also undergo rigorous assessments where appropriate and adhere to the terms and conditions in data processing agreements. Further in-depth inspections are carried out for selected third parties.

CKHGT continues to adopt new control systems to strengthen governance, risk management and compliance to minimise the risk of regulatory action being taken for non-compliance with data privacy legislation. For example, Wind Tre has adopted a Governance, Risk Management and Compliance system that allows it to monitor the entire data processing chain, as well as to analytically assess the level of compliance of each system involved. In 2022, Wind Tre invested approximately €25 million in services and platforms for data and system security.

As the rate of technological development continues at speed, new legislation on data protection has developed globally. CKHGT is monitoring developments in this area to ensure that any transfer of data is in compliance with appropriate transfer mechanisms.



## IN 2022, WIND TRE INVESTED APPROXIMATELY €25 MILLION IN SERVICES AND PLATFORMS FOR DATA AND SYSTEM SECURITY



## CYBERSECURITY

CKHGT's cybersecurity measures protect the confidentiality, integrity and availability of systems and information. This is an issue of significant public concern. As critical infrastructure increasingly moves onto digital platforms with the potential vulnerability to cyber-attacks, a strong competency in cybersecurity is essential to protect customer privacy, rights and safety.

### CYBERSECURITY GOVERNANCE

At a CKHH level, a Cyber Security Working Group oversees the cybersecurity risks and defences of the Group to ensure that its efforts in this area are effective, coherent, and well-coordinated. The Cyber Security Working Group is chaired by the Group Finance Director and Deputy Managing Director of CKHH - who is also a CKHGT Board member and sits on the CKHGT Policy Board of CEOs. The CEO and Director of Global Technology and Market Intelligence (former Chair of the GSMA Fraud and Security Advisory Panel) from CKHIOD - CKHGT's dedicated innovation and collaboration business - represents CKHGT on this working group.

The working group also includes representatives from Internal Audit and Group Information Services Department.

To supplement this, a sub-Working Group focused on operational technology has also been established to further build common approaches to cybersecurity within mobile networks, while leveraging the deep knowledge and opportunities for collaboration across the Group's businesses. CKHIOD provides specialist input to this sub-Working Group where needed; for example during 2022, advising on how business units can leverage AI-driven tools to predict potential attacks.

The CKHIOD business has responsibility for cybersecurity in relation to a number of central functions across CKHGT: Group roaming hub and services; SIM and eSIM functions; the MVNO enabling platform; the Group IoT platform; and the Group Digital Hub (consumer applications). The CKHIOD cybersecurity operations team is managed by the Director of Technology, with oversight of security operations by the Director of Global Technology and Market Intelligence.

In addition, each operating company has its own cybersecurity governance arrangements with dedicated cybersecurity teams led by a Chief Information Security Officer or IT department head, reporting either to the business unit Chief Technology Officer or the business unit CEO. These business unit teams manage governance and operational responsibility for network and IT security developing and implementing cybersecurity programmes, aligning cybersecurity and business objectives, incident reporting, disaster recovery, staff cybersecurity training and managing relationships with the relevant national security agencies.

The cybersecurity defences of 3 Hong Kong and Macau are governed by a Security Committee which manages cybersecurity defences and monitors the cyber threat landscape to gain insights into emerging and existing attacks and their implications. It also ensures that the efforts in managing cyber risks are effective, coherent and well-coordinated.

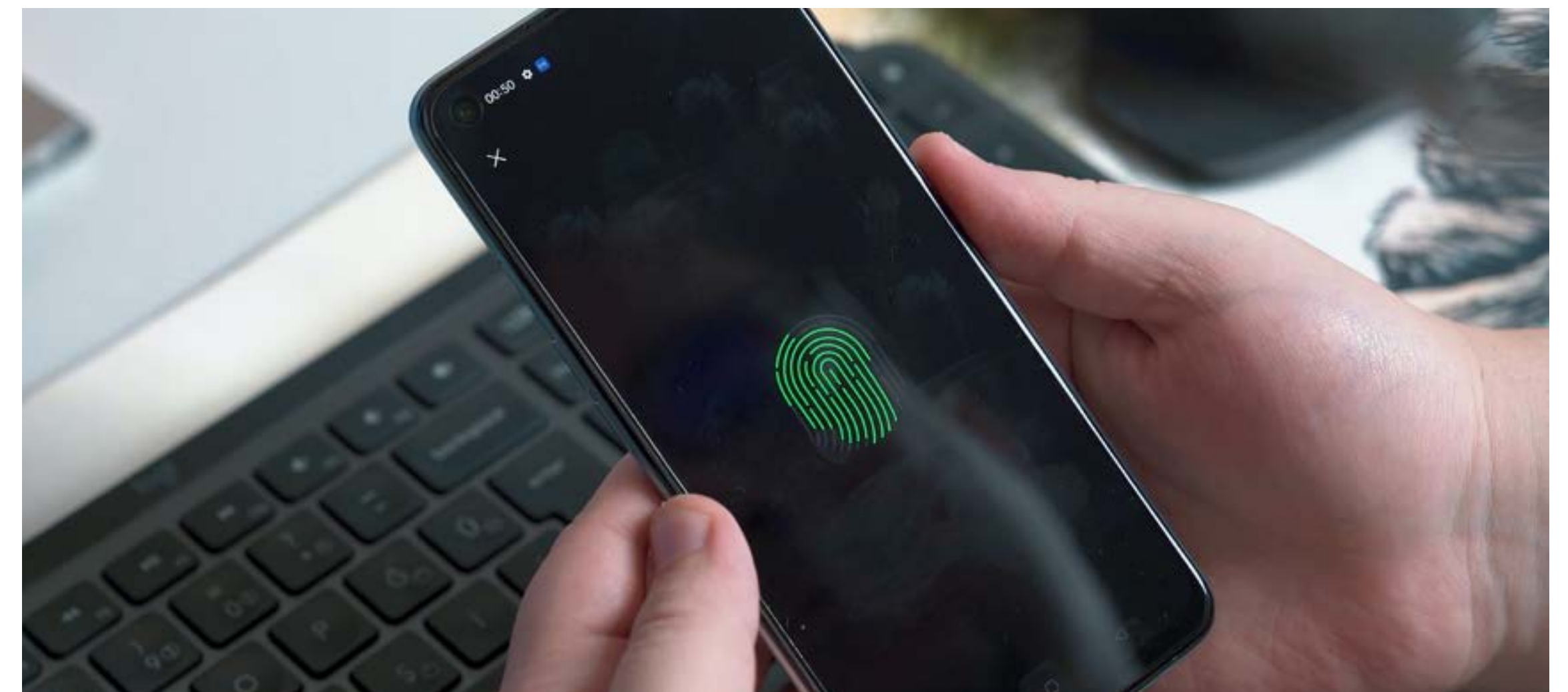
To meet the ongoing challenges of cybersecurity risk management and mitigate the latest threats, CKHGT collaborates with wider industry bodies such as the GSMA and European Telecommunications Standards Institute (ETSI). Business units also monitor the latest cybersecurity threats through industry forums and bulletins at a local level to maintain awareness of the latest and emerging risks.

All cybersecurity management is conducted within the framework of the CK Hutchison Holdings [Information Security Policy](#).

## CYBERSECURITY RISK MANAGEMENT FRAMEWORKS

Wind Tre and 3 Austria, together representing 56% of CKHGT operations, are certified in accordance with ISO 27001, and our other UK and European business units comply with ISO27001 minimum control standards, to support robust arrangements for information security risk management, with security a key criterion in the design, implementation, running and decommissioning of systems.

Business units also incorporate best practice and guidance from the National Institute of Standards and Technology (NIST) into their cybersecurity risk management approach.



## EXTERNAL AND INTERNAL AUDITS AND VULNERABILITY ASSESSMENTS

Regular external and internal audits and ongoing vulnerability assessments are an important element of CKHGT's information security risk management approach.

All business units conduct regular security reviews, vulnerability assessments and penetration testing on their networks, systems and externally facing applications, either led internally or using external consultants. These reviews are performed using standardised approaches, reflecting threat intelligence feeds and industry benchmarks, with results reviewed and operational changes made as necessary. These exercises probe not only the IT aspects, but also the people aspects, for example by sending phishing emails to gauge staff responses and attempting to put monitoring devices into networks or IT infrastructure.

Wind Tre has a dedicated 'Security Operation Centre' that carries out continuous and real-time protection and threat neutralisation

using advanced data analysis and process automation technologies.

In 2022, the Cyber Security Working Group launched a programme of benchmarking and monitoring the cybersecurity preparedness of business units, including those of CKHGT. This programme will extend into 2023.

## EMPLOYEE TRAINING

People factors are crucial in raising cyber-security awareness and maintaining vigilance. Research shows that the level of knowledge of cyber threats depends on education, age, and training. CKHGT therefore invests in continuous cybersecurity training for staff.

CKHGT business units deliver mandatory annual training and offer additional online training for employees, and contractors where appropriate, to boost staff security awareness - especially on aspects relating to social engineering, phishing and ransomware attacks, and data security compliance. Instructor-led sessions are also held for high-risk functions to reinforce best practice and identify any areas of concern.

In 2022, **3** Sweden held a 'security day' with seminars on different security topics, and Wind Tre held online training for all employees involving games and simulations in partnership with Politecnico di Milano.

**3** UK holds 'Security Clinic' events for all employees to meet and ask questions related to cybersecurity, and annually holds 'Cyber Awareness Month' with two dedicated days of presentations from external experts.

Furthermore, business units distribute periodic fraud alerts and run workshops related to new and common threats to raise cyber-security awareness.



## RESPONDING TO DATA BREACHES AND CYBER-ATTACKS

CKHGT business units have implemented endpoint detection and response, data recovery strategies, and incident response plans for data breaches and cyber-attacks. CKHGT is also investing in and procuring tools and services to detect cybersecurity attacks thereby enabling a quick response.

Business units have local level procedures for responding to crises or critical incidents, including Data Security Incidents. These procedures can also include the appointment of third-party specialists, as well as intelligence/alert sharing to other CKHGT business units.

The process followed is dependent on the significance of the incident; in the event of a Data Security Incident involving personal data, business units will respond immediately according to applicable procedures to mitigate the potential consequences and secure personal data from further unauthorised access, use or damage.

The Legal and Regulatory Affairs Department, Corporate Security teams, and Corporate Affairs teams for some business units, will be alerted, and the relevant authorities and affected individuals (data subjects) will be notified if required.

Following an initial assessment of incident significance, the response proceeds according to established plans including business continuity plans, disaster recovery plans, and backup and data recovery strategies. Failover and restore tests are regularly performed, including as a part of system changes.

Guidance on handling Data Security Incidents and the notification process is reviewed and updated periodically.

### LOOKING AHEAD

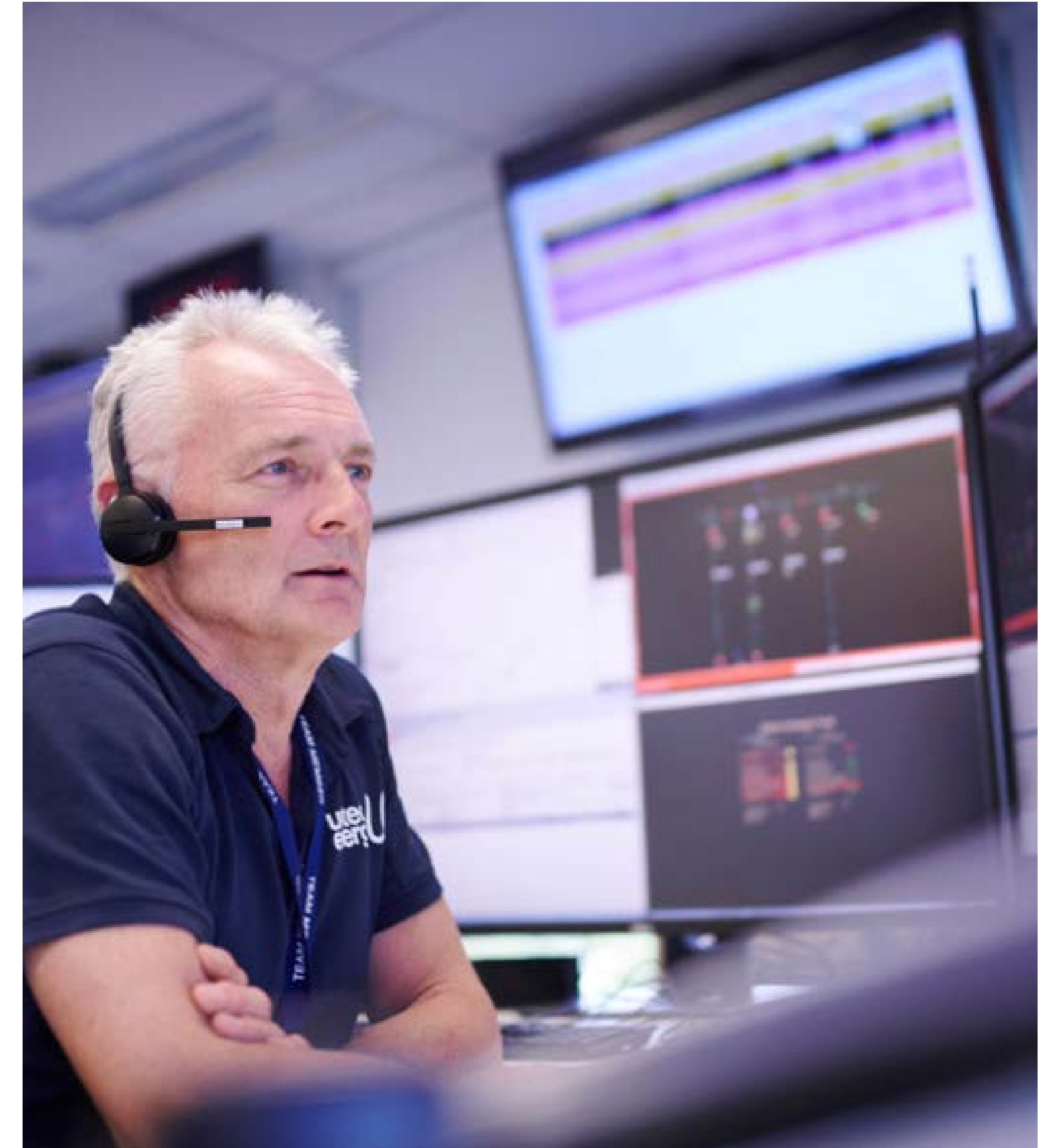
CKHGT is continuously evaluating emerging technologies to assess relative risks and benefits and developing appropriate security policies and technical capabilities.

The ongoing roll-out of 5G as well as the decentralisation of mobile networks through increased use of the cloud and Mobile Edge Computing create new cybersecurity

challenges to which business units must respond, requiring continued investment in tools for Endpoint Detection and Response, Security Rating Service, and External Attack Surface Management.

CKHGT has also begun the first stage of a long-term project of transition to 'quantum-resistant' cryptography, such that systems and customers can continue to be protected in a 'post-quantum' world.

In 2023-2024 the CKHGT business units operating in the EU will begin preparing for compliance with the forthcoming EU Cyber Resilience Act, which will introduce new regulatory cybersecurity requirements for products with digital elements. This is aimed at establishing a trusted supply chain, and consistency with NIST and the EU Cybersecurity Act.



## ENVIRONMENTAL POLICY AND MANAGEMENT

All CKHGT business units manage environmental impacts in line with the [CKHH Environmental Policy](#), which is applicable to all Group businesses. A number of business units have additional local level environmental policies to guide their activities.

### ENVIRONMENTAL MANAGEMENT SYSTEMS

Wind Tre has environmental management systems over network design, installation and maintenance operations certified to ISO 14001: 2015 standard, representing 44% of CKHGT operations. During 2022, Wind Tre expanded its Integrated Management System with the achievement of two new certifications: ISO 50001, which certifies the commitment to a better use of energy; and ISO 14064-1 for the reduction of climate-changing gas emissions.

### ENVIRONMENTAL AUDITS

Business units undertake a range of external and internal audits of environmental compliance and performance. For example, environmental data and reporting forms part of the regular internal audit programme of CK Hutchison's GMS team, with **3** Denmark and **3** Austria audited in 2022. **3** Sweden has a regular external energy audit in accordance with Swedish regulatory requirements, with the most recent audit conducted in 2021-2022. HTHKH undertook a 'green audit' as part of its participation in the Green Office Award Labelling Scheme (GOALS) of the World Green Organisation (WGO) - an independent non-governmental organisation concerned with environmental conservation and environmentally related livelihood and economic affairs.

### ENVIRONMENTAL TARGETS

As outlined in this report chapter '[Taking Action on Climate Change](#)', CKHGT has committed to near-term science-based targets that have been approved by the SBTi, and all business units are working collaboratively towards these.

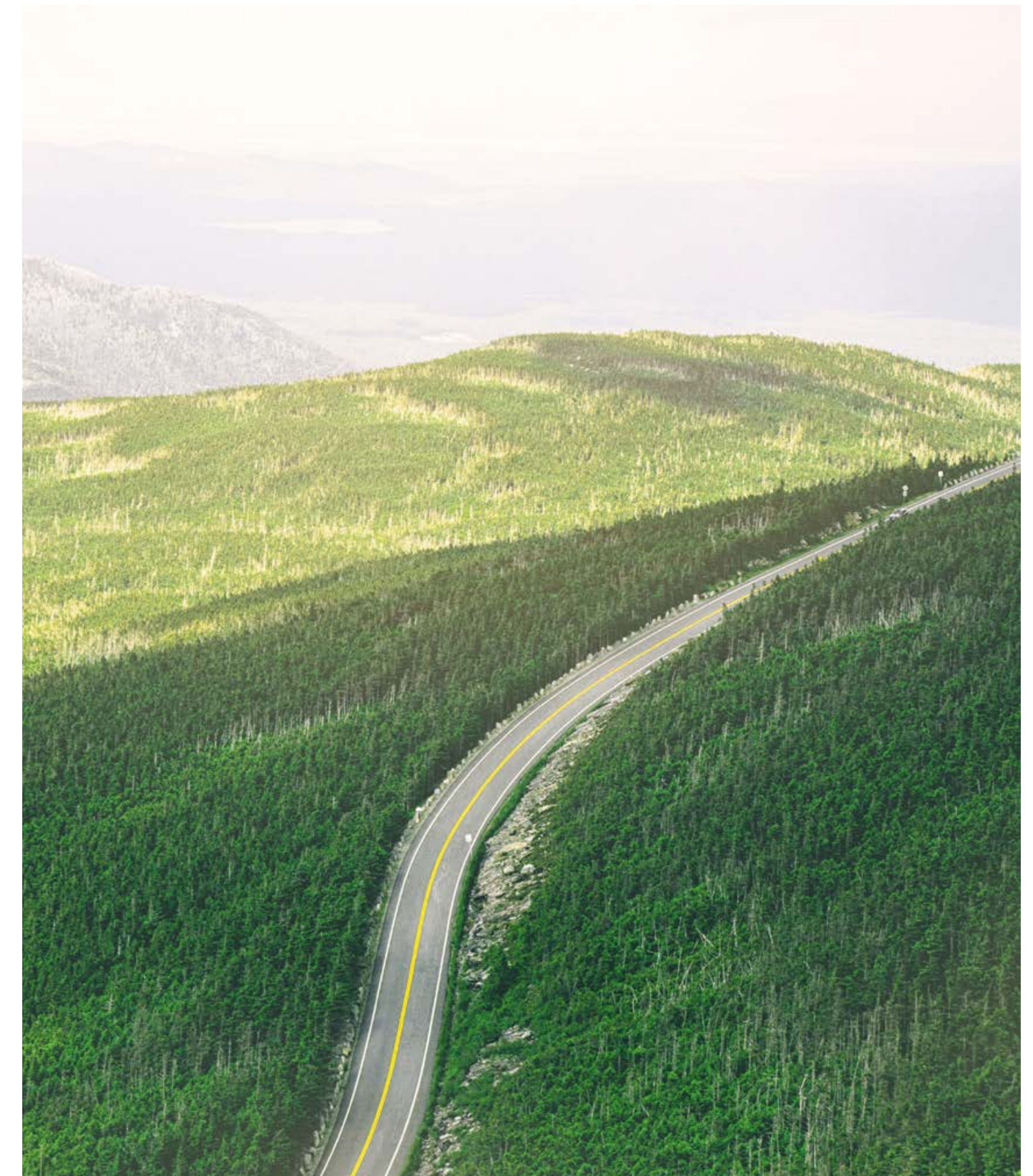
Additionally, a number of business units

have set individual targets across aspects of environmental management including percentage of electricity from renewable sources, reductions in fleet emissions, reductions in paper usage, and increase in network energy efficiency.

### MANAGING CLIMATE RISKS AND IMPACTS

During 2022, with increasing materiality of climate-related risks, the CKHGT Climate Action Working Group initiated a large-scale project to identify and prioritise climate risks in the context of three different scenarios, through a series of internal workshops, in line with the recommendations from the TCFD. Further detail on this project can be found in CKHGT's TCFD Report 2022.

Furthermore, reflecting the risks associated with the physical impacts of climate change, at the end of 2021, Wind Tre commissioned an assessment of its 27 'top technological sites'. This involved a preliminary assessment of vulnerability, and reporting on hydrological, geological and seismic risks for more vulnerable sites, supporting the implementation of measures to address weaknesses.



# SUSTAINABLE PROCUREMENT AND SOCIAL SUPPLIER STANDARDS

## SUSTAINABLE PROCUREMENT POLICIES AND FRAMEWORKS

Sustainable procurement, involving the identification and management of environmental, social and governance risks in the supply chain, is an essential aspect of operating responsibly. As a large group of companies, CKHGT also has an opportunity and a responsibility to use its influence to drive improvements in supplier practices.

All business units procure goods and services in line with the CKHGT Supplier Code of Conduct, and the CKHGT Human Rights Policy. The CKHGT Supplier Code of Conduct covers expectations of suppliers in

relation to a broad range of topics including: environmental management and protection; climate change and GHG reduction; protection of natural resources and biodiversity; human rights, labour rights and other social standards. These include our aim to prioritise suppliers that have a commitment to a science-based emissions reduction target and / or a GHG reduction plan.

As outlined in the CKHGT Supplier of Conduct, the requirements are applicable to second tier suppliers, with first tier suppliers expected to disseminate and educate the requirements of the Code to their employees, agents, sub-contractors and suppliers, and hold them accountable for any non-conformance acts.

## SUPPLY CHAIN MANAGEMENT

Within each business unit, senior level responsibility for supply chain rests with the Chief Financial Officer supported by one or more procurement directors or managers.

Business units have developed more detailed, local level supplier codes of conduct, aligned to the Group Policy, that selected suppliers

## SUSTAINABLE PROCUREMENT PROGRAMS IN UK AND IRELAND

**During 2022, 3 UK and 3 Ireland undertook a significant programme of change in the area of sustainable procurement. Both business units introduced new supplier codes of conduct to be comprehensive and accessible, for example, including: expanded requirements on health and safety; and new provisions on climate impact, environmental impact of goods and services, circular economy and the protection and restoration of biodiversity. External internet pages were updated to make these refreshed expectations easily available to suppliers.**

**3 UK and 3 Ireland set targets to assess 95% of their suppliers by spend by the end of 2023, and are integrating the scorecard results into supplier management processes. As at the end of 2022, 3 UK had assessed 64% suppliers by spend and 3 Ireland had assessed 28%.**



are often required to accept or adhere to as part of their contract. A number of business units have implemented programs to assess supplier risks associated with environmental, social and corporate governance factors, and

identify non-compliant suppliers through assessment using EcoVadis or another supplier assessment tool, and to weight these factors in procurement decisions.

A number of business units provide channels for supply chain workers to raise concerns. For example, 3 Sweden provides a contact number whereby breaches of the Code of Conduct for Business Partners can be reported to the Director HR or Chief Legal Officer, including provision for anonymous reporting if required.

## CONFLICT MINERALS

Conflict minerals (tin, tungsten, tantalum and gold - commonly referred to as 3TG) are minerals that can finance armed conflict or mining using forced labour, particularly in conflict-affected and high-risk areas as defined by the Organisation for Economic Co-operation and Development (OECD). The Group is committed to avoiding the use of conflict minerals in its supply chain, as stated in the CKHGT Human Rights Policy and as required of suppliers within the CKHGT Supplier Code of Conduct.

A number of business units assess supplier approaches to conflict minerals through their environmental, social and governance risk supplier assessment process using EcoVadis or a similar tool. During 2023, there will continue to be a focus on extending the Group's engagement with suppliers on conflict minerals.



## HEALTH AND SAFETY

CKHGT complies with or exceeds applicable health and safety laws and regulations and upholds industry specific standards for best practice. All business units manage health and safety in accordance with the [CKHH Health and Safety Policy](#). A number of business units have adopted the ISO 45001:2018 Occupational Health and Safety Management Systems standard, with Wind Tre (certain Network Design, Installation and Maintenance Operations), representing 44% of CKHGT operations, obtaining certification. 3 Hong Kong has also commenced a programme of certification.

Health and safety risks and controls are constantly under review with ongoing enhancements to support effective risk management. For example, during the year, 3 UK also undertook a comprehensive review of its access policy for mechanical and satellite equipment rooms, including risk assessments for electromagnetic frequency and lasers - introducing new processes to strengthen safety processes.

### AWARD-WINNING SAFETY FOR EMPLOYEES, PARTNERS AND CONTRACTORS

In 2023, 3 UK received a Gold Medal award from the internationally renowned Royal Society for the Prevention of Accidents (RoSPA) for achieving five gold awards in consecutive years. The RoSPA Gold awards submission is led by master partners SGS and involves collaboration in all areas of 3UK. This includes submitting evidence of assessing and managing risks at all levels, training of staff, managing contractors and compliance though compliance auditing and providing evidence of Executive Leadership Team engagement in health and safety.



## ELECTROMAGNETIC RADIATION

CKHGT takes health and safety very seriously and is committed to the highest scientific and safety standards in all operations. Sites are designed and operated to comply with best international practice in mobile telecommunications and with all applicable national and international standards including those related to electromagnetic radiation fields.

The International Commission on Non-ionising Radiation Protection (ICNIRP) has developed international guidelines for Electromagnetic Frequency (EMF) radiation exposure which set out the safe operating limits for radio wave transmissions, including safety zones required around antennas.

These limits have been assessed and endorsed by the World Health Organisation (WHO) and by the European Commission's 2015 report from their Scientific Committee on Emerging and Newly Identified Health Risks. The WHO has stated in its EMF Fact Sheet that "no adverse health effects have been established as being caused by mobile phone use" while the European Commission

has stated that "EMF does not represent a health risk if the exposure remains below the existing limits".

Business units are required to operate their networks within safe limits in accordance with their licenses, and monitor compliance with required limits, in some cases audited by external, national regulators.

A number of business units take an active role in industry dialogue on EMF radiation. For example, 3 Austria and 3 Sweden participate in industry forums to share information and advice, and 3 Denmark has collaborated with other local operators to develop guidelines on compliance with limits. Wind Tre is actively working to raise awareness among national institutions and customer advocates of the existing differences between Italian and other European electromagnetic emission limits.

3 Sweden collaborates with other local operators and Tech Sweden to raise awareness about the effects of EMFs, via published information sheets and a dedicated EMF spokesperson.

## PRODUCT QUALITY AND SAFETY

The products sourced by business units are compliant with European or local regulations and standards related to health, safety and environmental protection, including for example, labelling according to the requirements of the Waste Electrical and Electronic Equipment Directive. Product quality and safety standards are specified within supplier agreements.

Within individual operating companies, certifications are required from vendors, or maintained directly within operations.

CKHGT's largest business unit, Wind Tre, representing 44% of operations, maintains accreditation with ISO9001 Quality Management System, in relation to aspects of telecommunication product and service delivery for large business customers. This helps to ensure ongoing product and service quality, continuous improvement in processes and compliance with relevant legislative requirements.

## BUSINESS CONTINUITY PLANNING

Business units maintain business continuity plans (BCPs) and crisis management procedures as part of the wider risk management framework, to maintain network resilience and minimise disruption to operations, customers and staff in the event of a significant incident or major planned activity. These plans include management responsibilities, internal and external actions for response, recovery and resumption, and communications between stakeholders to be undertaken in times of crisis. Drills are often conducted to ensure that key team members are well prepared for any emergency, with debriefs conducted to assess performance and further enhance the response programme.

Wind Tre, representing 44% of operations, has developed its Business Continuity Framework in line with the ISO: 22301:2019 standard for business continuity management and has developed BCPs for all critical processes from an economic, legal reputation, strategic or operational perspective. Ongoing activities during 2023 include testing BCPs, expanding the scope of processes for which a BCP is in place, undertaking specialist training, and continuous remediation focused on risk mitigation.



# APPENDICES

## SECTIONS

ENVIRONMENTAL AND SOCIAL PERFORMANCE KEY PERFORMANCE INDICATORS

ASSURANCE STATEMENT



# ENVIRONMENTAL KPIS

GHG EMISSIONS	UNITS	2022	2021	2020
<b>Scope 1 emissions</b> - total	tCO <sub>2</sub> -e	14,410*	16,306	17,245
<b>Scope 2 (market-based) emissions</b> - total	tCO <sub>2</sub> -e	378,050*	416,951	459,912
<b>Scope 2 (location-based) emissions</b> - total	tCO <sub>2</sub> -e	418,953*	385,160	414,953
<b>Scope 3 emissions</b> - total	tCO <sub>2</sub> -e	1,407,049*	1,764,665	1,628,807
<i>Purchased goods and services</i>	tCO <sub>2</sub> -e	632,861	871,320	847,714
<i>Capital goods</i>	tCO <sub>2</sub> -e	436,799	578,035	564,630
<i>Fuel- and energy-related activities</i>	tCO <sub>2</sub> -e	118,164	173,896	113,114
<i>Upstream transportation and distribution</i>	tCO <sub>2</sub> -e	24,050	16,390	11,895
<i>Waste generated in operations</i>	tCO <sub>2</sub> -e	70	113	346
<i>Business travel</i>	tCO <sub>2</sub> -e	5,852	613	920
<i>Employee commuting</i>	tCO <sub>2</sub> -e	8,037	6,583	8,481
<i>Upstream leased assets</i>	tCO <sub>2</sub> -e	27,211	39,638	0
<i>Downstream transportation and distribution</i>	tCO <sub>2</sub> -e	-	-	-
<i>Processing of sold products</i>	tCO <sub>2</sub> -e	-	-	-
<i>Use of sold products</i>	tCO <sub>2</sub> -e	83,309	51,887	55,169
<i>End-of-life treatment of sold products</i>	tCO <sub>2</sub> -e	2,711	2,370	2,074
<i>Downstream leased assets</i>	tCO <sub>2</sub> -e	-	-	-
<i>Franchises</i>	tCO <sub>2</sub> -e	1,098	1,693	6,812
<i>Investments</i>	tCO <sub>2</sub> -e	66,889	22,126	17,652
<b>Total GHG emissions (scopes 1,2 and 3) (‡)</b>	tCO <sub>2</sub> -e	1,799,509	2,197,922	2,105,964
Total GHG emissions intensity (scope 1,2 and 3) (‡)	tCO <sub>2</sub> -e / (‡)	0.022	0.024	0.023
Total GHG emissions intensity (scope 1 and 2) (‡)	tCO <sub>2</sub> -e / (‡)	0.005	0.005	0.005

(‡) using scope 2 market-based emissions (†) revenue HK\$'000

Footnote: In 2022, restatements were made to 2020 and 2021 data reflecting: i) a change to the use of tariff-specific emissions factor for market-based emissions calculations in HK and Macau; ii) the percentages of renewable energy consumption in Austria and Sweden were reduced to reflect the identification of 'landlord' sites for which energy attribute certificates could not be confirmed; emissions associated with electricity consumption of passive equipment on mobile towers moved from scope 3 to scope 2 (for Austria and Denmark), aligning with new GSMA Scope 3 Methodology Guidance.

We engaged KPMG LLP to undertake independent limited assurance, reporting to CKHGT, using the assurance standards ISAE (U.K.) 3000 and ISAE 3410, for the selected GHG emissions that have been highlighted above with an \*. KPMG LLP's full statement is available on page 63 of this report.

[Greenhouse gas data for 2022 was calculated in accordance with the GHG Reporting Criteria 2022](#)

WATER		2022	2021	2020
Water consumption - total	m <sup>3</sup>	97,515	120,023	157,907
Water consumption - intensity	m <sup>3</sup> / (†)	0.001	0.001	0.002

(†) revenue HK\$'000

ENERGY	UNITS	2022	2021	2020
Total energy consumption	MWh	1,584,661	1,511,955	1,391,305
Total direct energy consumption	MWh	45,112	41,567	41,812
<i>Petrol</i>	MWh	3,509	1,262	1,199
<i>Diesel</i>	MWh	33,306	32,015	32,370
<i>Natural gas</i>	MWh	7,718	7,484	8,203
<i>Gas (excluding natural gas)</i>	MWh	3	13	40
<i>Solar</i>	MWh	576	793	-
Total indirect energy consumption	MWh	1,539,549	1,470,358	1,349,492
<i>Electricity</i>	MWh	1,537,329	1,468,503	1,349,492
<i>Heat</i>	MWh	2,220	1,855	-
Purchased renewable electricity consumption	MWh	676,816	516,042	349,676
Renewable electricity percentage	Percentage	44%	29%	27%

## WASTE AND CIRCULAR ECONOMY

Hazardous waste - total produced	Tonnes	125	269	113
Non-hazardous waste - total produced	Tonnes	1,821	2,598	1,845
Non-hazardous waste - recycled	Tonnes	1,258	1,899	1,615
Non-hazardous waste - other management methods	Tonnes	564	699	230
Total waste recycled	Tonnes	1,320	1,928	1,615
Percentage of network waste recycled (§)	Percentage	66%	-	-

(§) Percentage of network waste recycled is based on 3 Austria, 3 Denmark, 3 Sweden and 3 HK only.

## SOCIAL KPIS

### EMPLOYEE NUMBERS UNITS 2022 2021 2020

Number of employees - total	Headcount	17,214	16,946	16,649
<i>By employment type - full time</i>	Headcount	14,041	13,692	13,232
<i>By employment type - part time</i>	Headcount	3,173	3,254	3,417

### EMPLOYEE DEMOGRAPHICS (BASED ON FULL-TIME EMPLOYEES ONLY)

By gender - male	Headcount	8,772	8,574	8,390
By gender - female	Headcount	5,269	5,118	4,842

By employee category - Manager grade or above	Headcount	934	1,064	848
By employment type - General staff	Headcount	13,107	12,628	12,384

By age group - under 30	Headcount	2,437	2,314	2,239
By age group - 30-49	Headcount	8,033	8,200	8,258
By age group - 50 or above	Headcount	3,571	3,178	2,735

By geographical region - Hong Kong	Headcount	966	872	816
By geographical region - Mainland China	Headcount	100	100	100
By geographical region - Europe and UK	Headcount	12,975	12,720	12,316

### EMPLOYEE TURNOVER UNITS 2022 2021 2020

Overall	Percentage	16%	16%	14%
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<i>By gender - male</i>	Percentage	16%	16%	15%
<i>By gender - female</i>	Percentage	15%	16%	13%

<i>By age group - under 30</i>	Percentage	40%	41%	36%
<i>By age group - 30-49</i>	Percentage	12%	12%	11%
<i>By age group - 50 or above</i>	Percentage	8%	9%	8%

<i>By geographical region - Hong Kong</i>	Percentage	45%	42%	18%
<i>By geographical region - Mainland China</i>	Percentage	14%	10%	22%
<i>By geographical region - Europe and UK</i>	Percentage	14%	14%	14%

### WORKPLACE HEALTH AND SAFETY

Work-related fatalities	Number of employees	0	0	0
Number of work days lost due to injury	Number of days	608	605	1,606
Number of lost time injury incidents	Number of incidents	102	26	82

## SOCIAL KPIS

### TRAINING UNITS 2022 2021 2020

Full-time employees who received training	Percentage	80%	82%	76%
Percentage of full-time employees who received training among total trained full-time employees				
<i>By gender - male</i>	Percentage	64%	65%	65%
<i>By gender - female</i>	Percentage	36%	35%	35%
<i>By employee category - Manager grade or above</i>	Percentage	6%	6%	8%
<i>By employment type - General staff</i>	Percentage	94%	94%	92%

Average hours of training completed by full-time employees - total	Hours	35	27	21
<i>By gender - male</i>	Hours	35	28	24
<i>By gender - female</i>	Hours	34	26	16
<i>By employee category - Manager grade or above</i>	Hours	27	21	24
<i>By employment type - General staff</i>	Hours	35	28	21

Employees that received training on anti-corruption / ethics and integrity - total	Number	6,385	7,555	11,099
<i>By employment type - full time</i>	Number	5,034	5,857	8,762
<i>By employment type - part time</i>	Number	1,351	1,698	2,337
Employees that received training on anti-corruption / ethics and integrity - percentage	Percentage	31%	37%	60%

Number of training hours completed on anti-corruption / ethics and integrity - total	Number	12,554	17,521	19,961
<i>By employment type - full time</i>	Number	9,780	13,357	16,192
<i>By employment type - part time</i>	Number	2,774	4,165	3,768

### COLLECTIVE BARGAINING UNITS 2022 2021 2020

Percentage of workforce covered by a collective bargaining agreement	Percentage	39%	38%	-
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### SUPPLIERS

Number of suppliers	Number	7,842	10,042	-
<i>By geographical region - Asia (excluding Hong Kong, Mainland China)</i>	Number	23	28	-
<i>By geographical region - Australia</i>	Number	7	6	-
<i>By geographical region - Canada</i>	Number	4	5	-
<i>By geographical region - Europe</i>	Number	6,271	8,359	-
<i>By geographical region - Hong Kong</i>	Number	347	397	-
<i>By geographical region - Mainland China</i>	Number	369	342	-
<i>By geographical region - New Zealand</i>	Number	0	0	-
<i>By geographical region - Other region</i>	Number	25	34	-
<i>By geographical region - United Kingdom</i>	Number	710	755	-
<i>By geographical region - United States</i>	Number	86	116	-

### CUSTOMERS AND PRODUCTS

Percentage of total products sold or shipped subject to recalls for safety and health reasons	Percentage	0%	0%	0%
Number of complaints - product related	Number	47,964	57,924	61,883
Number of complaints - service related	Number	1,049,027	1,120,686	1,373,088

For 2021 and 2022, in addition to operating business units (Wind Tre, 3 UK, 3 Ireland, 3 HK and 3 Macau, 3 Denmark, 3 Austria, 3 Sweden), employee-related data also includes CKH IOD Ltd.



## **Independent Limited Assurance Report of KPMG LLP to CK Hutchinson Group Telecom Holdings Limited**

KPMG LLP (“KPMG” or “we”) were engaged by CK Hutchison Group Telecom Holdings Limited (“CKHGTH”) to provide limited assurance over the Selected Information described below for the year ended 31 December 2022.

### **Our conclusion**

Based on the work we have performed and the evidence we have obtained, nothing has come to our attention that causes us to believe that the Selected Information has not been properly prepared, in all material respects, in accordance with the Reporting Criteria.

This conclusion is to be read in the context of the remainder of this report, in particular the inherent limitations explained below and this report’s intended use.

### **Selected Information**

The scope of our work includes only the information included within the “Taking action on climate change section” of CKHGTH’s Sustainability Report (“the Report”) for the year ended 31 December 2022 marked with the symbol \* (“the Selected Information”) (and also listed in Appendix 1).

We have not performed any work, and do not express any conclusion, over any other information that may be included in the Report or displayed on CKHGTH’s website for the current year or for previous periods unless otherwise indicated.

### **Reporting Criteria**

The Reporting Criteria we used to form our judgements are CKHGTH’s Greenhouse Gas Reporting Criteria (2022) as set out at [https://www.ckhutchison telecom.com/en/sustainability/reports/Greenhouse\\_Gas\\_Reporting\\_Criteria\\_2022.pdf](https://www.ckhutchison telecom.com/en/sustainability/reports/Greenhouse_Gas_Reporting_Criteria_2022.pdf) (“the Reporting Criteria”). The Selected Information needs to be read together with the Reporting Criteria.

### **Inherent limitations**

The nature of non-financial information; the absence of a significant body of established practice on which to draw; and the methods and precision used to determine non-financial information, allow for different, but acceptable evaluation and measurement techniques and can result in materially different measurements, affecting comparability between entities and over time. The Reporting Criteria has been developed to assist CKHGTH in reporting Sustainability information selected by CKHGTH as key metrics to measure the success of its Sustainability strategy. As a result, the Selected Information may not be suitable for another purpose.

### **Directors’ responsibilities**

The Directors of CKHGTH are responsible for:

- designing, operating and maintaining internal controls relevant to the preparation and presentation of the Selected Information that is free from material misstatement, whether due to fraud or error;
- selecting and/or developing objective Reporting Criteria;
- measuring and reporting the Selected Information in accordance with the Reporting Criteria; and
- the contents and statements contained within the Report and the Reporting Criteria.

## **Our responsibilities**

Our responsibility is to plan and perform our work to obtain limited assurance about whether the Selected Information has been properly prepared, in all material respects, in accordance with the Reporting Criteria and to report to CKHGTH in the form of an independent limited assurance conclusion based on the work performed and the evidence obtained.

## **Assurance standards applied**

We conducted our work in accordance with International Standard on Assurance Engagements (UK) 3000 *Assurance Engagements other than Audits or Reviews of Historical Financial Information* (“ISAE (UK) 3000”) issued by the Financial Reporting Council and in accordance with International Standard on Assurance Engagements 3410 *Assurance Engagements on Greenhouse Gas Statements* (“ISAE 3410”), issued by the International Auditing and Assurance Standards Board. Those standards require that we obtain sufficient, appropriate evidence on which to base our conclusion.

## **Independence, professional standards and quality management**

We comply with the Institute of Chartered Accountants in England and Wales (“ICAEW”) Code of Ethics, which includes independence, and other requirements founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour, that are at least as demanding as the applicable provisions of the IESBA Code of Ethics. The firm applies International Standard on Quality Management 1 *Quality Management for Firms that Perform Audits or Reviews of Financial Statements, or Other Assurance or Related Services Engagements* which requires the firm to design, implement and operate a system of quality management including policies or procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

## **Summary of work performed**

A limited assurance engagement involves planning and performing procedures to obtain sufficient appropriate evidence to obtain a meaningful level of assurance over the Selected Information as a basis for our limited assurance conclusion. Planning the engagement involves assessing whether the Reporting Criteria are suitable for the purposes of our limited assurance engagement. The procedures selected depend on our judgement, on our understanding of the Selected Information and other engagement circumstances, and our consideration of areas where material misstatements are likely to arise.

The procedures performed included:

- conducting interviews with CKHGHT’s management to obtain an understanding of the key processes, systems and controls in place over the preparation of the Selected Information;
- carrying out selected testing remotely over location-level Selected Information for four locations;
- selected limited substantive testing at the head office and in relation to the above locations, including agreeing a selection of the Selected Information to corresponding supporting information including invoices, certificates, consumption reports and the calculation of estimates in accordance with the basis set out in the Reporting Criteria;
- considering the appropriateness of the carbon conversion factor calculations and other unit conversion factor calculations used by reference to widely recognised and established conversion factors;
- reperforming a selection of the carbon conversion factor calculations and other unit conversion factor calculations;



- performing analytical procedures over the aggregated Selected Information, including a comparison to the prior periods' amounts having due regard to changes in business volume and the business portfolio; and
- reading the narrative within the Report with regard to the Reporting Criteria, and for consistency with our findings.

The work performed in a limited assurance engagement varies in nature and timing from, and is less in extent than for, a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.

### **This report's intended use**

Our report has been prepared for CKHGTH solely in accordance with the terms of our engagement. We have consented to the publication of our report for the purpose of CKHGTH showing that it has obtained an independent assurance report in connection with the Selected Information.

Our report was designed to meet the agreed requirements of CKHGTH determined by CKHGTH's needs at the time. Our report should not therefore be regarded as suitable to be used or relied on by any party wishing to acquire rights against us other than CKHGTH for any purpose or in any context. Any party other than CKHGTH who obtains access to our report or a copy and chooses to rely on our report (or any part of it) will do so at its own risk. To the fullest extent permitted by law, KPMG LLP will accept no responsibility or liability in respect of our report to any other party.

KPMG LLP

### **KPMG LLP**

Chartered Accountants

London

30 June 2023

The maintenance and integrity of CKHGTH's website is the responsibility of the Directors of CKHGTH; the work carried out by us does not involve consideration of these matters and, accordingly, we accept no responsibility for any changes that may have occurred to the reported Selected Information, Reporting Criteria or Report presented on CKHGTH's website since the date of our report.

**Appendix 1 – Selected Information**

<b>KPI</b>	<b>Assured Value</b>
Scope 1 CO2e emissions (tonnes)	14,410
Scope 2 CO2e emissions (tonnes) location-based	418,953
Scope 2 CO2e emissions (tonnes) market-based	378,050
Scope 3 CO2e emissions (tonnes)	1,407,049