How We Create Value

NATURAL CAPITAL

Our approach

Mapping to Our Strategy and Material Matters

G4   E1   S6

CelcomDigi is committed to achieving a low-carbon pathway in our operations and supply chain. The telecommunications sector is strategically positioned to fast-track information, communication and technological (ICT) enablement that will reduce global CO_2 emissions and resource use, and drive efficiencies *(Ref: GeSI SMARTer 2030 report)*.

As Malaysia commits to advancing green growth, we shall steer ourselves to incorporate more ambitious climate targets and mitigation strategies across our value chain. We aspire to align ourselves with clearly defined climate reduction pathways, empower our customers to reduce their carbon footprint, and adopt a stronger whole-of-society climate adaptation and resilience approach towards shaping a more sustainable planet.

Key inputs in 2022

- Advocating climate priorities within our operations
- Strong governance and leadership oversight on environment
- Commitment to reducing emissions and setting targets in alignment with net zero pathway
- Ramping up network modernisation activities
- Maintaining LEED and GBI certification
- Environmental Management System (EMS)– ISO 14001:2015 recertification

Outputs

- Managing our environmental impacts positively
- Risks and opportunities aligned with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD)
- Adopting whole-of-society approach to advance the climate agenda

Looking ahead

Climate change poses both physical and transition risks as well as opportunities for our business. Routine assessment of these risks and opportunities can maximise the long-term shared value we bring to our customers, investors, and the communities we operate in. The ICT sector has the potential to enable a 20% reduction in global CO_2 emissions by 2030, based on a 2015 baseline. ICT emissions as a percentage of global emissions will decrease over time to 1.97% of global emissions by 2030, compared to 2.3% in 2020 *(Ref: GeSI SMARTer 2030 report)*. We aspire to expedite efforts to positively contribute to stabilising global emissions by the end of this decade. We will formulate bold business decisions to tap into climate opportunities and long-term emissions reduction targets to limit the global average temperature rise to below 2°C above pre-industrial levels.

- ▶ Strengthen governance of climate action
- ▶ Streamline climate reporting and data controls
- ▶ Company-wide climate materiality assessment
- ▶ Explore renewable options
- ▶ Resource management and technological advancements
- ▶ Develop sustainable procurement with supply chain partners

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Managing our environmental impacts positively

CelcomDigi will continue to manage our environmental responsibilities systematically via the Environmental Management System (ISO 14001:2015 certification), which includes the management of energy sources, e-waste, water, and general waste. We foresee continuous and unprecedented growth in internet data, leading to incremental energy demand, which in turn will increase GHG emissions. We are committed to tackling these challenges by systematically transitioning into a low-carbon business model, driving holistic and systemic emissions reduction strategies and addressing our physical and transition risks. We shall continue to improve the standards of our climate reporting for greater transparency and accountability towards developing decision-useful and climate-related metrics.

Strengthened governance of climate action

The Board addresses climate change risks through its oversight of climate change and environmental management. At the organisational level, the Senior Management team takes charge of deliberation on climate risk assessments and guides mitigation strategies to ensure the exposure is within acceptable levels.

▶ **CelcomDigi's Sustainability policy** affirms our commitment to protecting the environment and contributing to climate change mitigation and adaptation

▶ **Development of guiding manuals** to better support new ESG ambitions for CelcomDigi

Establishment of
Climate Working Committee (CWC)

To improve cross-functional participation and oversight of matters pertaining to climate and environment moving forward, CelcomDigi has established a Climate Working Committee (CWC), represented by the Heads of Sustainability, Enterprise Risk Management, Network, Workspace & Facilities, and Procurement. The CWC will convene on a quarterly basis to monitor environmental performance and recommend new initiatives to the leadership team. It will be chaired by the CCAO, and the CFO and CTO will participate as required to provide advice on matters pertaining to environmental management.

Streamline climate reporting & data controls

The Climate Data Integrity exercise we conducted significantly improved the quality of data aggregation through a structured streamlining of assets, data flows, and reviews across different process owners.

▶ A similar exercise shall be conducted to assess new, expanded, or consolidated assets to realise a holistic assets inventory listing for CelcomDigi

Company-wide climate materiality assessment

A climate materiality assessment will be necessary to better guide the organisation in determining its asset inventories and value chain and to set realistic baselines.

▶ A deep dive shall be conducted into our upstream and downstream activities (and to prioritise among the 15 categories of scope 3 emissions), where we see immense opportunities to influence and improve as part of our environmental efforts

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Managing our environmental impacts positively (Continued)

Adopting renewable options

CelcomDigi aspires to shift from fossil-based energy consumption to renewable and sustainable sources of energy. Over the years, we have deployed hybrid solar energy at our off-grid sites and buildings and converted sites powered by generators to grid to displace fuel dependency.

▶ CelcomDigi is transitioning towards renewable energy use under the Green Energy Tariff (GET) Programme of Tenaga Nasional Berhad (TNB)

Resource management and technological advancements

CelcomDigi is accelerating the adoption of climate solutions to address energy security, affordability, and environmental sustainability.
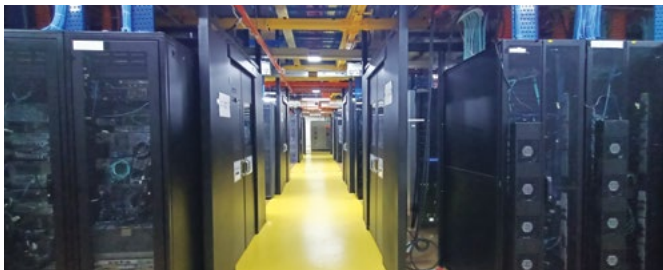
Precise cooling at our data centre to drive energy efficiencies

Modernising our network the climate-smart way
In 2022, we expanded the implementation of AI solutions, which enabled the automation of power-saving modes across our network sites.

▶ **Infrastructure Consolidation**
In parallel, CelcomDigi is undergoing a network and IS/IT consolidation exercise where we expect to see significant contributions to efficiencies and our environmental footprint.

Decommissioning, reusing, and upgrading of equipment is expected to significantly reduce our carbon emissions:

20% - 30%
Reduction in carbon footprint contributed by site decommissioning and equipment upgrades

▶ 3G Sunset – Shutdown of 30 core base stations control (BSC) and about 40 radio network controllers

▶ Centralised Self-Organising Network (CSON) AI Initiative

Implementation	No. of sites equipped
7,636 sites	**65%**

Average energy savings
5% per site

▶ Conversion to solar-powered gensets at remote sites
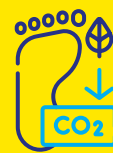
Implementation	Renewable energy generated
30 sites	**0.07 GWh**

Note:
a) Reported data for FY2022 limited to Digi only

Deployment of solar-powered gensets at remote sites

How We Create Value

Managing our environmental impacts positively (Continued)

We have adopted proactive measures in strengthening the resilience of our network sites to ensure quality service experiences with minimal disruptions for our customers.
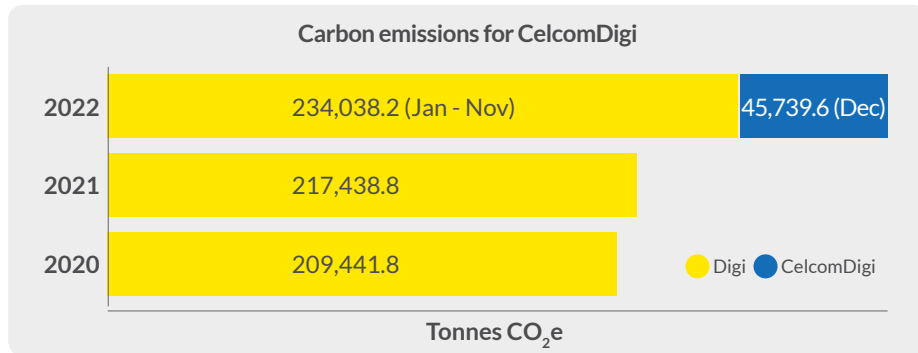
▶ Raised platform to protect network equipment against flooding

▶ Collaborated with the National Disaster Management Agency (NADMA) to send SMS alerts and early warning notifications to customers residing in flood-prone areas
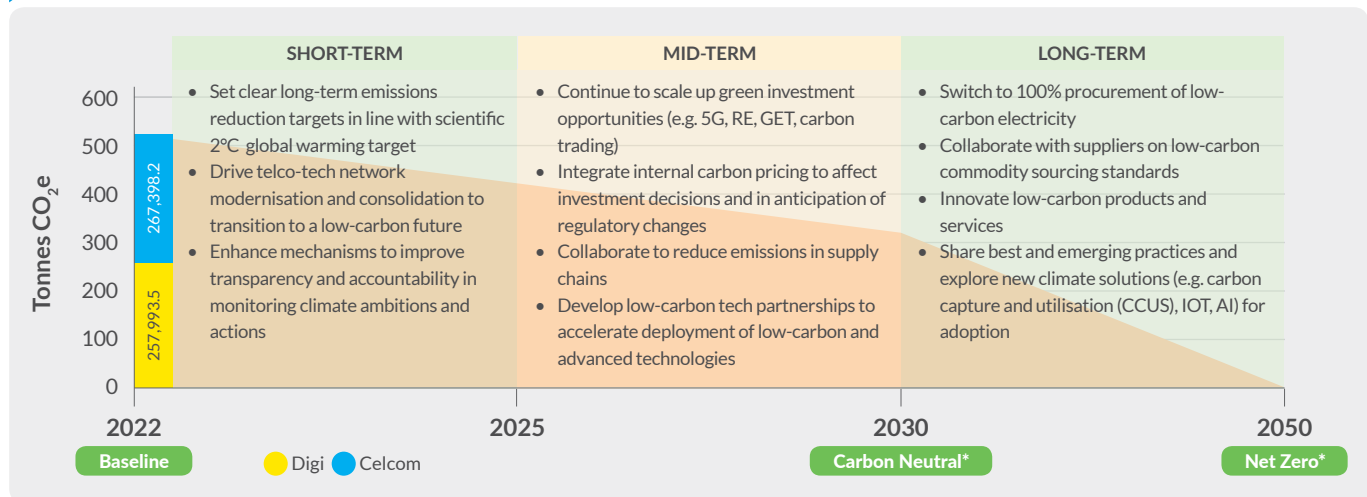

Our annual greenhouse gas (GHG) emissions inventory, in accordance with the GHG Protocol Corporate Standard, is illustrated below.

Carbon emissions for CelcomDigi

Year	Digi	CelcomDigi
2022	234,038.2 (Jan - Nov)	45,739.6 (Dec)
2021	217,438.8	
2020	209,441.8	

Tonnes CO_2e

● Digi ● CelcomDigi

Notes:
Scope, boundaries, and exceptions
a) *Reported data for Digi (FY2020 - FY2022) refers to Scope 1, 2, and 3 (limited to land and air business travel data), while reported data for Celcom (FY2022) refers to Scope 1 and 2 only*
b) *Methodology: Common GHG Emission Factors (EFs) are applied, notwithstanding different data aggregation approaches used by Celcom and Digi. Digi's reported data (FY2020 - FY2021) is restated to be consistent with the EFs applied*
c) *EF references - Scope 1: DEFRA UK GHG Conversion Factors | Scope 2: MGTC CDM Electricity Baseline for Malaysia | Scope 3: Telenor Non-Financial Reporting Criteria*

▶ **Carbon emissions roadmap for CelcomDigi**

	SHORT-TERM	MID-TERM	LONG-TERM
Tonnes CO_2e (600, 500, 400, 300, 200, 100, 0)	• Set clear long-term emissions reduction targets in line with scientific 2°C global warming target • Drive telco-tech network modernisation and consolidation to transition to a low-carbon future • Enhance mechanisms to improve transparency and accountability in monitoring climate ambitions and actions	• Continue to scale up green investment opportunities (e.g. 5G, RE, GET, carbon trading) • Integrate internal carbon pricing to affect investment decisions and in anticipation of regulatory changes • Collaborate to reduce emissions in supply chains • Develop low-carbon tech partnerships to accelerate deployment of low-carbon and advanced technologies	• Switch to 100% procurement of low-carbon electricity • Collaborate with suppliers on low-carbon commodity sourcing standards • Innovate low-carbon products and services • Share best and emerging practices and explore new climate solutions (e.g. carbon capture and utilisation (CCUS), IOT, AI) for adoption

267,398.2
257,993.5

2022 — 2025 — 2030 — 2050

Baseline ● Digi ● Celcom | Carbon Neutral* | Net Zero*

Notes:
a) Digi's emissions data (FY2022) is limited to Scope 1 and 2 only, and is independently assured by KPMG PLT
b) Celcom's emissions data (FY2022) is limited to Scope 1 and 2 only, and calculated in accordance with Digi's applied EFs
*c) *Ref: Definition as per GSMA's Mobile Net Zero State of the Industry on Climate Action Report*
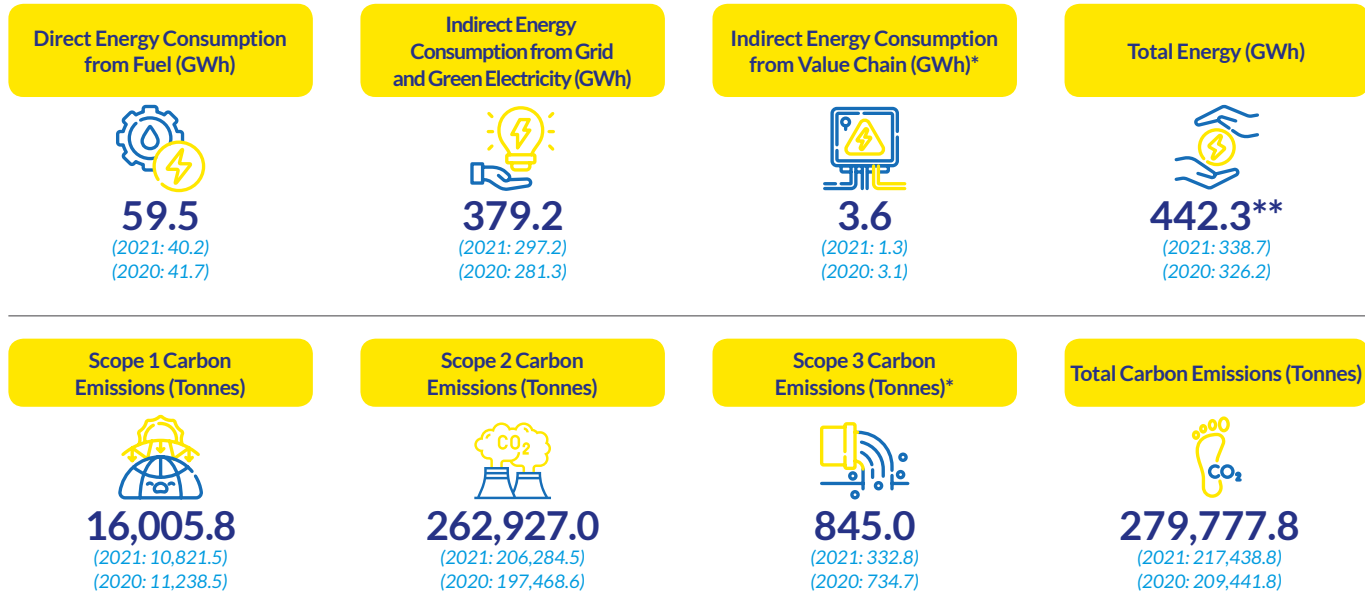
How We Create Value

NATURAL CAPITAL

Managing our environmental impacts positively (Continued)

Our environmental footprint

Direct Energy Consumption from Fuel (GWh)	Indirect Energy Consumption from Grid and Green Electricity (GWh)	Indirect Energy Consumption from Value Chain (GWh)*	Total Energy (GWh)
59.5	379.2	3.6	442.3**
(2021: 40.2)	(2021: 297.2)	(2021: 1.3)	(2021: 338.7)
(2020: 41.7)	(2020: 281.3)	(2020: 3.1)	(2020: 326.2)

Scope 1 Carbon Emissions (Tonnes)	Scope 2 Carbon Emissions (Tonnes)	Scope 3 Carbon Emissions (Tonnes)*	Total Carbon Emissions (Tonnes)
16,005.8	262,927.0	845.0	279,777.8
(2021: 10,821.5)	(2021: 206,284.5)	(2021: 332.8)	(2021: 217,438.8)
(2020: 11,238.5)	(2020: 197,468.6)	(2020: 734.7)	(2020: 209,441.8)

Notes:
a) Reported data for FY2022:
  Digi - January to November 2022, CelcomDigi - December 2022
b) Reported data for FY2020 - FY2021 limited to Digi only. Due to changes in reporting boundaries, FY2022 data should not be read comparatively to previous years
*c) *Reported data limited to Digi only*
*d) **Digi's total energy for FY2022 was 405.2 GWh, which has been independently assured by KPMG PLT*
e) Digi's reported energy (FY2020 - FY2021) is restated due to the change in EFs methodology

Customer Base (mil)	Energy Usage per Customer (kWh)	Carbon Intensity per Customer	Energy Usage per Data Terabyte (MWh)	Carbon Intensity per Data Usage (tCO$_2$e)
11.00	36.83	0.024	0.17	0.11
(2021: 10.32)	(2021: 33.25)	(2021: 0.021)	(2021: 0.16)	(2021: 0.10)
(2020: 10.44)	(2020: 31.24)	(2020: 0.020)	(2020: 0.18)	(2020: 0.12)
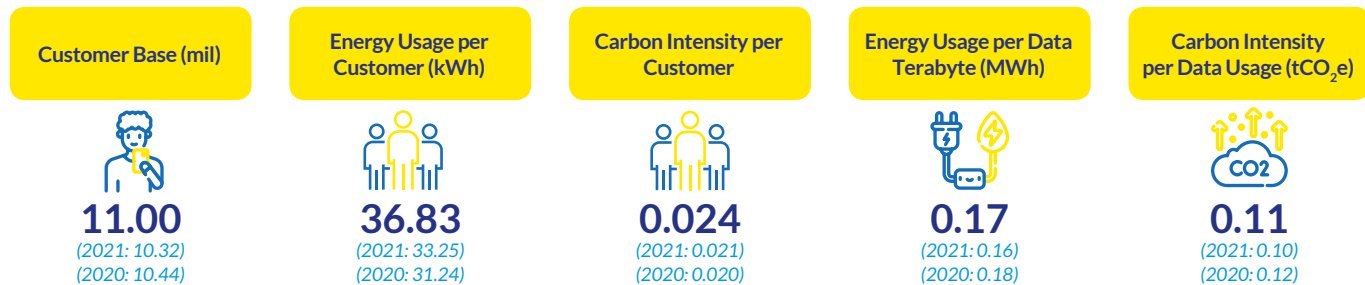
Note:
a) Reported data for FY2020 - FY2022 limited to Digi only

Managing our environmental impacts positively (Continued)

Our environmental footprint

General Waste	Water Consumption	E-Waste (Obsolete Electrical and Electronic Waste)

Waste Collected

76 tonnes
(FY2021: 148 tonnes)
(FY2020: 251 tonnes)

Water Consumed

103,388 m^3
(FY2021: 68,435 m^3)
(FY2020: 78,856 m^3)

E-waste Collected

248 tonnes
(FY2021: 162 tonnes)
(FY2020: 47 tonnes)

Waste Generated per Employee

51 KG
(FY2021: 103 KG)
(FY2020: 170 KG)

Water Consumed per Employee

70 m^3
(FY2021: 48 m^3)
(FY2020: 54 m^3)

E-waste Resold and Recycled

245 tonnes
(FY2021: 162 tonnes)
(FY2020: 10 tonnes)

Waste Recycled

1.8 tonnes
(FY2021: 1.7 tonnes)
(FY2020: 2.0 tonnes)

- *E-waste directly produced from our operations is managed under the Environment Quality (Scheduled Wastes) Regulation 2005 and our internal guidelines*
- *Decommissioned network equipment constitutes the largest amount of e-waste generated by tonnes. We reuse equipment, and send those that are obsolete to be recycled and disposed of safely by a licensed vendor*
- *Under our refreshed ESG guidelines, 'recycled' shall include e-waste treated by a professional service provider who has guaranteed that the waste is processed, sorted, resold, recycled, or disposed of in an environmentally sound manner*

Note:
a) Reported data for general waste, water, and e-waste for FY2020 - FY2022 limited to Digi only

Risks and opportunities aligned with the recommendations of the TCFD

CelcomDigi plans to adopt the recommendations of the TCFD in phases as we progressively integrate our business to a single network and converge our distribution channels, systems, fleet, and facilities. This will enable us to develop robust plans that can assess potential business implications of climate-related risks and opportunities. We continue to drive ambitions towards our science-based targets for 2030 and Net Zero for 2050. In tandem, the Management shall continue to prioritise climate governance via policies and clear roles and responsibilities, building towards the medium- and long-term ambitions. Based on preliminary assessments and external developments, we have identified and concluded some of the opportunities and material risks that are aligned with the recommendations of the TCFD:

Opportunities	Transition Risks	Physical Risks
▶ Demand for development of new climate-friendly solutions and low-carbon digital services	▶ Carbon pricing	▶ Extreme weather conditions and flooding that damage infrastructure, and outages due to power disruptions
▶ First mover advantage as climate thought leader	▶ Increased energy costs	
▶ Brand preference by customers as a responsible digital services provider	▶ Indirect price increases	
	▶ Carbon target gaps	
	▶ Reputational damage leading to revenue loss	

We aspire to publish a progressive TCFD report to deep dive further into these opportunities and risks, together with our planned mitigations.
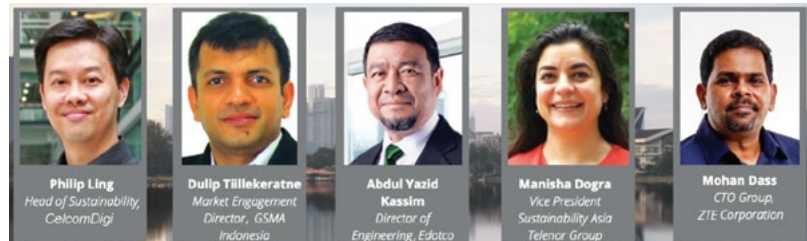
How We Create Value

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Adopting whole-of-society approach to advance the climate agenda

In 2022, as part of the CEO Action Network (CAN), we moderated a panel session with representatives from within the telecommunications value chain. The panel discussed the active roles that representatives from within the sector can take in advancing SDG 9 (Industry, Innovation, and Infrastructure) and SDG 13 (Climate Action) collectively, to build and manage resilient and innovative infrastructure to drive the climate action agenda.

Philip Ling
Head of Sustainability, CelcomDigi

Dulip Tillekeratne
Market Engagement Director, GSMA Indonesia

Abdul Yazid Kassim
Director of Engineering, Edotco

Manisha Dogra
Vice President Sustainability Asia Telenor Group

Mohan Dass
CTO Group, ZTE Corporation

Subsequently, we co-organised a roundtable on 'Renewable Energy (RE) Pathway for the Telecommunications Sector' led by GSMA and UNGC Malaysia, bringing together mobile network operators (MNOs), relevant government departments, and electricity utility providers to discuss the country's changing policy and renewable energy landscapes.

We actively engage with our investors, analysts, and regulators in dialogues pertaining to our climate roadmap and alignment with the national Net Zero ambition. These discussions reinforced the need for public-private dialogues between the relevant government agencies, utility providers, and mobile operators to jointly achieve Malaysia's national climate strategy. We also gained understanding of utility providers' renewable energy plans and trajectory; shared the mobile sector's role through its network-enabled technologies to reduce emissions; and shared challenges in accessing renewables.

#CAREbazaar
To cultivate green habits among employees, we organised a two-day bazaar featuring eco-friendly social enterprises and NGOs who provided training and raised awareness on the importance of living sustainably and caring for the environment.