systems **Microsoft**

ENABLING A
DIGITAL TOMORROW

'Together Towards a Sustainable Future'

Accelerate your sustainability journey

Agenda

1 Climate and Business challenges

2 Microsoft Sustainability Journey

3 Microsoft Cloud for Sustainability

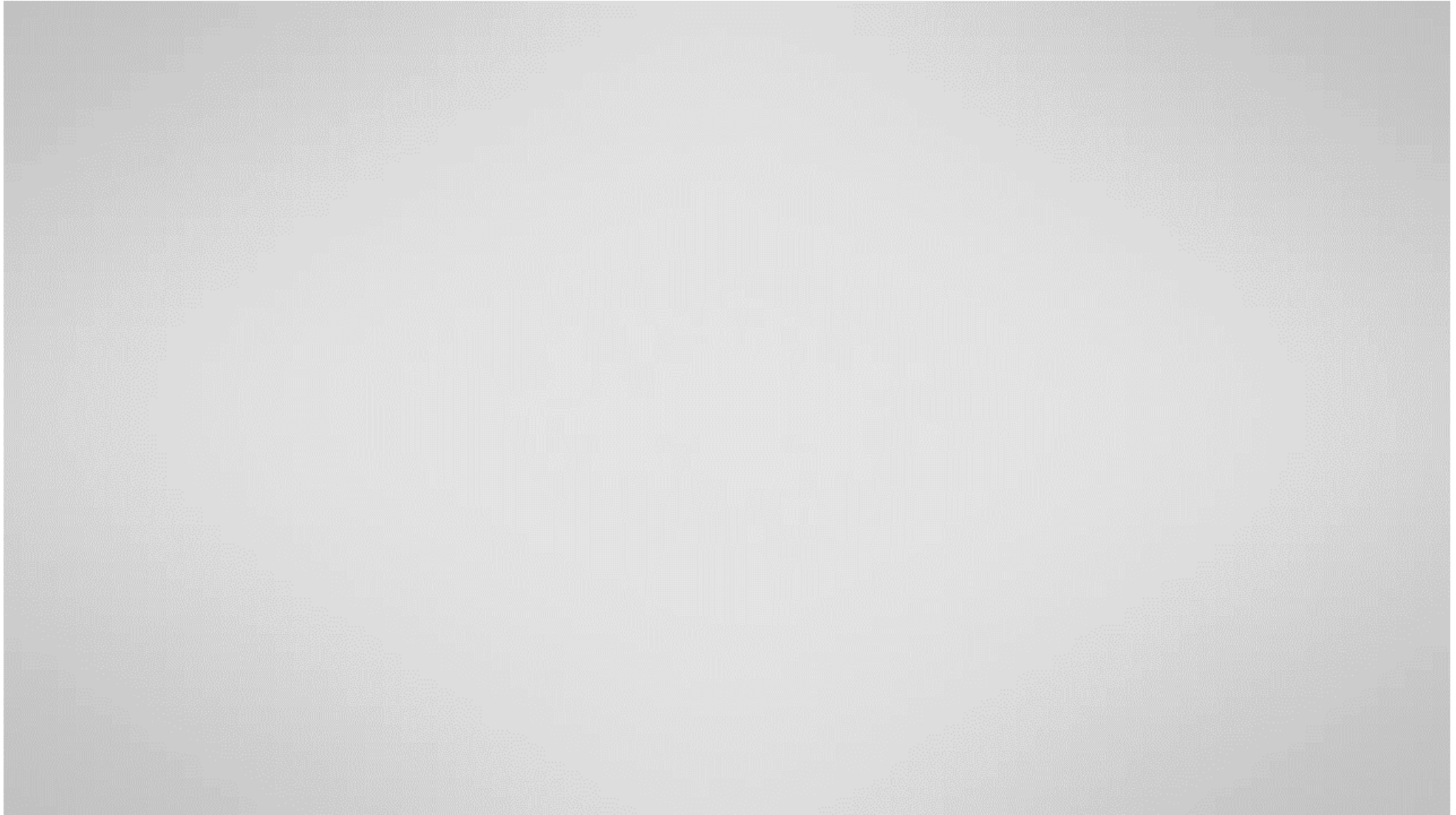**4** Microsoft Sustainability Manager for Telcos + Demo

5 Why Techvista?

6 Techvista's Sustainability Assessment

Climate and Business Challenges

Our climate,
our future

Sustainability drivers

Increasing regulatory requirements

~50k

Companies in the European Union may have to adhere to detailed sustainability reporting standards in 2024

Growing expectations from investors

73%

Investors state that efforts to improve the environment and society contribute to their investment decisions

Energy consumption and costs

65%

According to Gartner, 65% of executives are mitigating energy consumption cost increases with sustainability programs
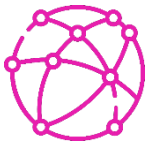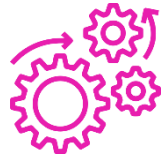
Emerging economic opportunities

$43T

Strong climate action could deliver trillions to the global economy by 2070
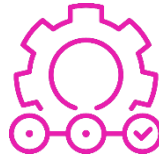
Navigating obstacles

Lack of global standards

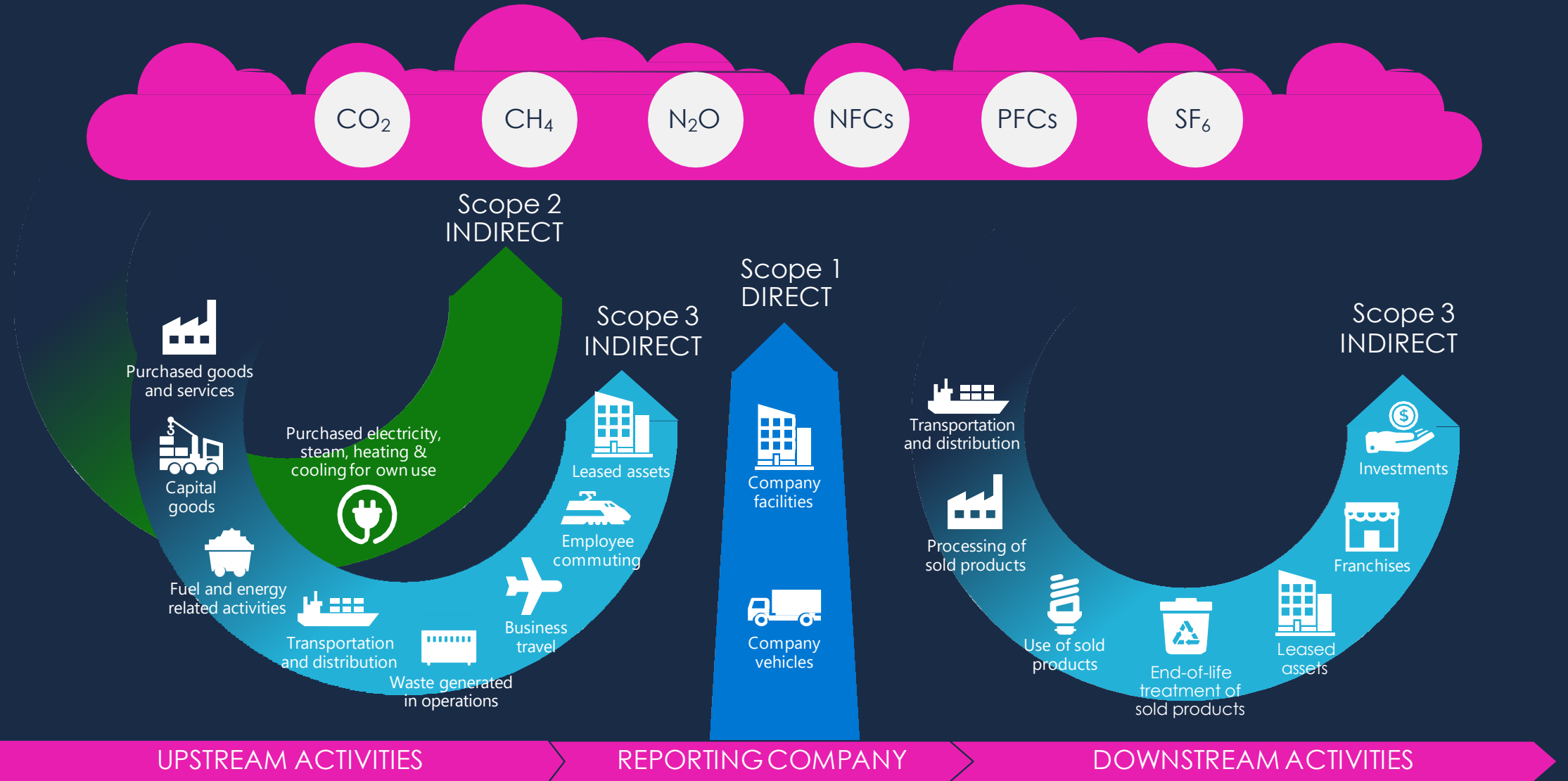Slow manual processes

Value chain transparency

Siloed data

Capital investments tradeoff

Scopes and emissions across the value chain

"Technical Guidance for Calculating Scope 3 Emissions," Greenhouse Gas Protocol

Environment Vision 2030

Waste management - enhanced value creation through optimized material flows and waste management.

Climate change - minimizing the impact of climate change

Clean air and noise pollution - contributing to safe and healthy living conditions

Water resources - efficient management and conservation of water resources
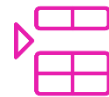
Biodiversity, habitats and cultural heritage - conserved for current and future generations

"Our sustainability plans and ambitions are aligned to support the UAE's Net Zero 2050 Strategic Initiative and the United Nations Sustainable Development Goals (UN SDGs), as well as our commitment to the GSMA's initiative to take the entire mobile industry to net zero carbon emissions by 2050.

- Hatem Dowidar
Chief Executive Officer
E& Group

Environment Vision 2030 (Abu Dhabi)

COP 28 UAE

4 priority areas

Migration

- Increase Renewable energy generation
- Low-carbon hydrogen production to at least 180 million
- Work with the energy industry to accelerate decarbonization.

Adaptation

- Extreme weather and biodiversity protection of communities
- Preserve and invest in natural ecosystems.
- Resilient global food system
- Double adaptation finance for the Global South to $40 billion annually by 2025.

Finance

- Make climate finance more affordable and accessible.
- Ensure that every concessional dollar is matched by $2 or $3 worth of private capital.
- Inclusive international reform of the multilateral development banks and international financial institutions.
- the UAE, as chair of the World Bank-IMF Development Committee, intends to play a proactive, supportive and facilitating role.
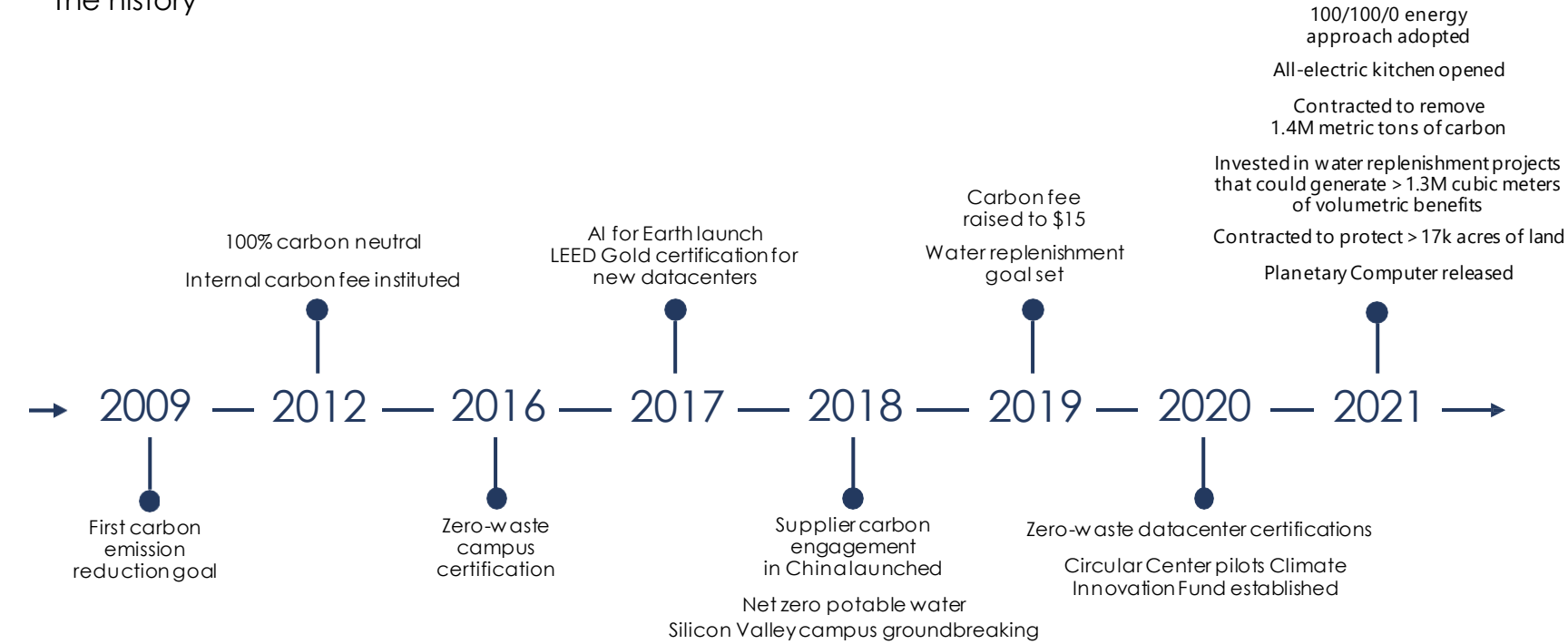
Loss and Damage

- Rebuild after climate-related disasters.
- Together with the international community, build on the progress made in Sharm El Sheikh to fully operationalize the loss-and-damage fund.

Microsoft
Sustainability journey

Decades of action

The history

Our commitments

2009
First carbon emission reduction goal

2012
100% carbon neutral
Internal carbon fee instituted

2016
Zero-waste campus certification

2017
AI for Earth launch
LEED Gold certification for new datacenters

2018
Supplier carbon engagement in China launched
Net zero potable water
Silicon Valley campus groundbreaking

2019
Carbon fee raised to $15
Water replenishment goal set

2020
Zero-waste datacenter certifications
Circular Center pilots Climate Innovation Fund established

2021
100/100/0 energy approach adopted
All-electric kitchen opened
Contracted to remove 1.4M metric tons of carbon
Invested in water replenishment projects that could generate > 1.3M cubic meters of volumetric benefits
Contracted to protect > 17k acres of land
Planetary Computer released

2025
Operate with 100% renewable energy

2025
Protect more land than Microsoft uses

2030
Become carbon negative

2030
Become zero waste

2030
Become water positive

2050
Remove all historic emissions

Tool sets

Solutions

Internal systems

Microsoft Cloud
for Sustainability

Cloud for Sustainability data model

Emission factors

Emission sources

Data ingestion

Emission calculations

Organization

Reporting
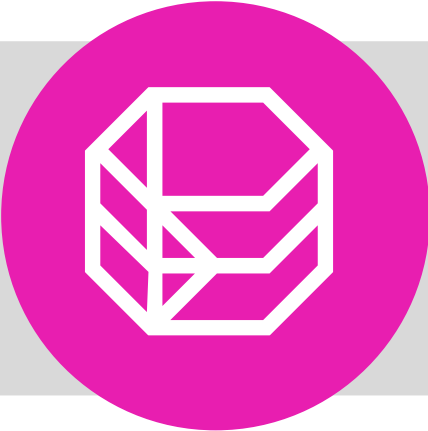
Full Documentation: [Microsoft Cloud For Sustainability Data Model](#) and [Cloud For Sustainability Water Data Model](#)

Solution Areas

Record — **Report** — **Reduce** — **Replace** — **Remove**

① Unify data intelligence
(Microsoft Sustainability Manager)
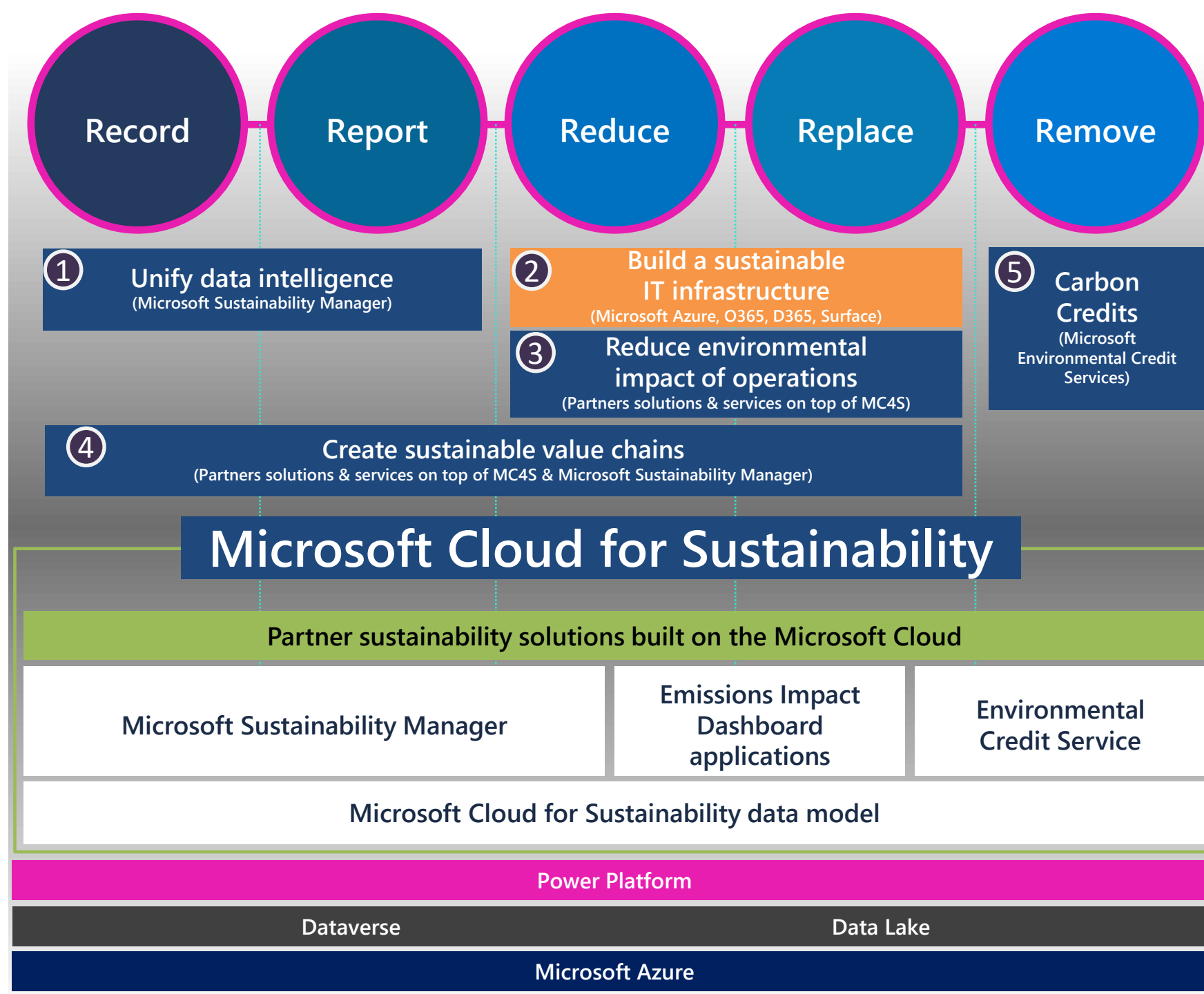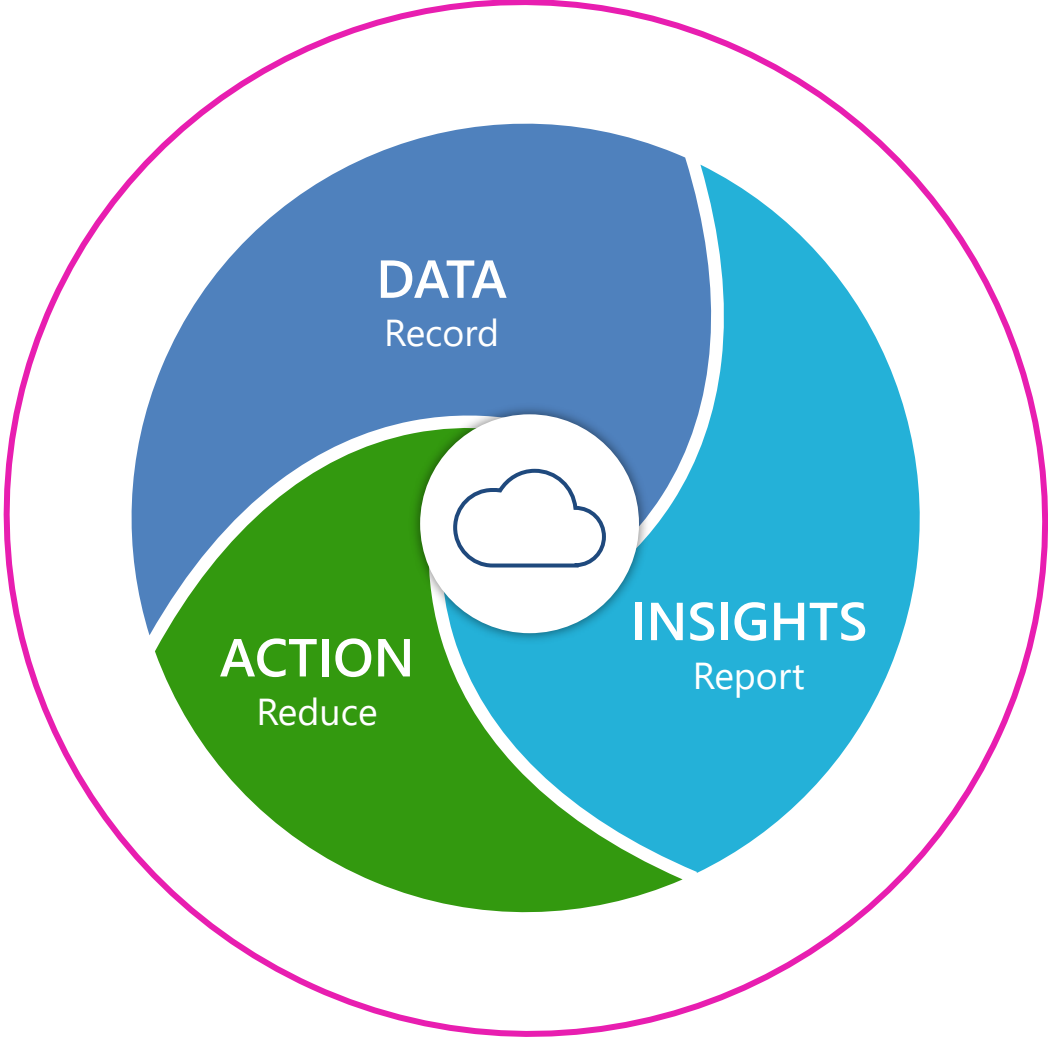
② Build a sustainable IT infrastructure
(Microsoft Azure, O365, D365, Surface)

③ Reduce environmental impact of operations
(Partners solutions & services on top of MC4S)

⑤ Carbon Credits
(Microsoft Environmental Credit Services)

④ Create sustainable value chains
(Partners solutions & services on top of MC4S & Microsoft Sustainability Manager)

Microsoft Cloud for Sustainability

Partner sustainability solutions built on the Microsoft Cloud

Microsoft Sustainability Manager	Emissions Impact Dashboard applications	Environmental Credit Service

Microsoft Cloud for Sustainability data model
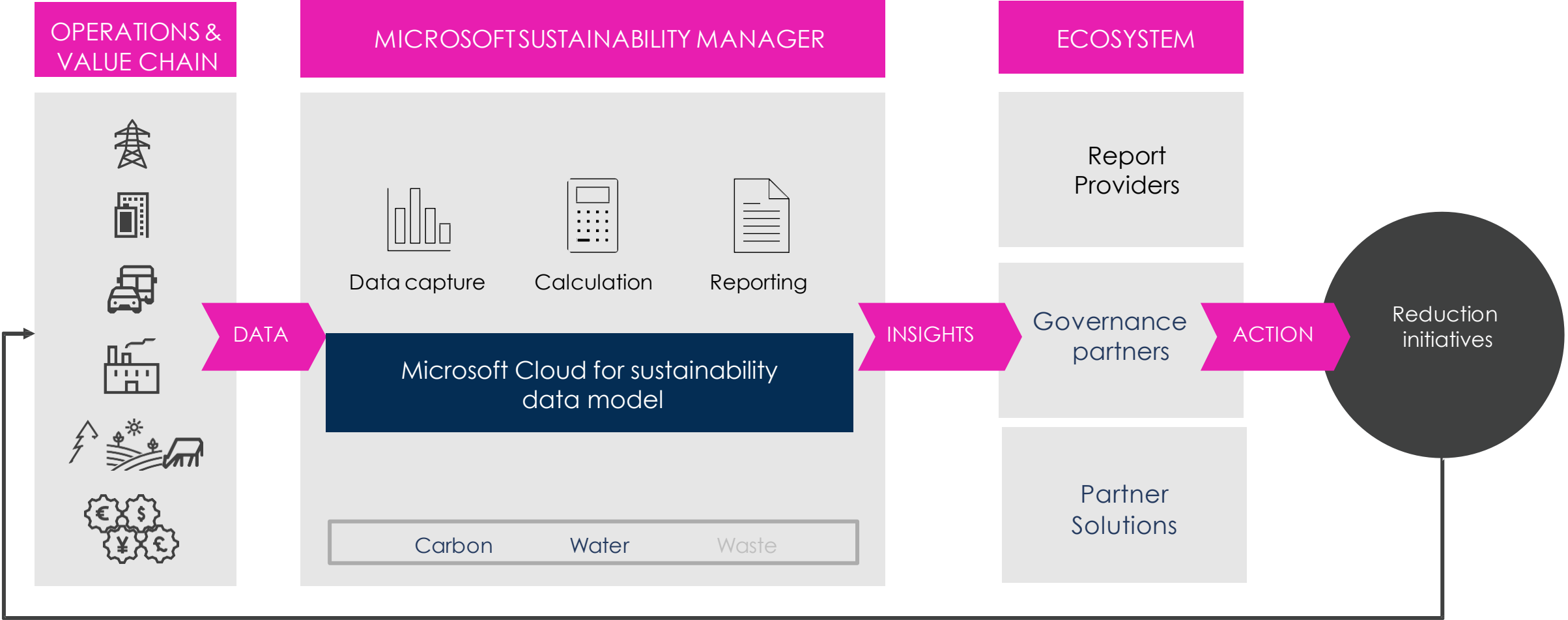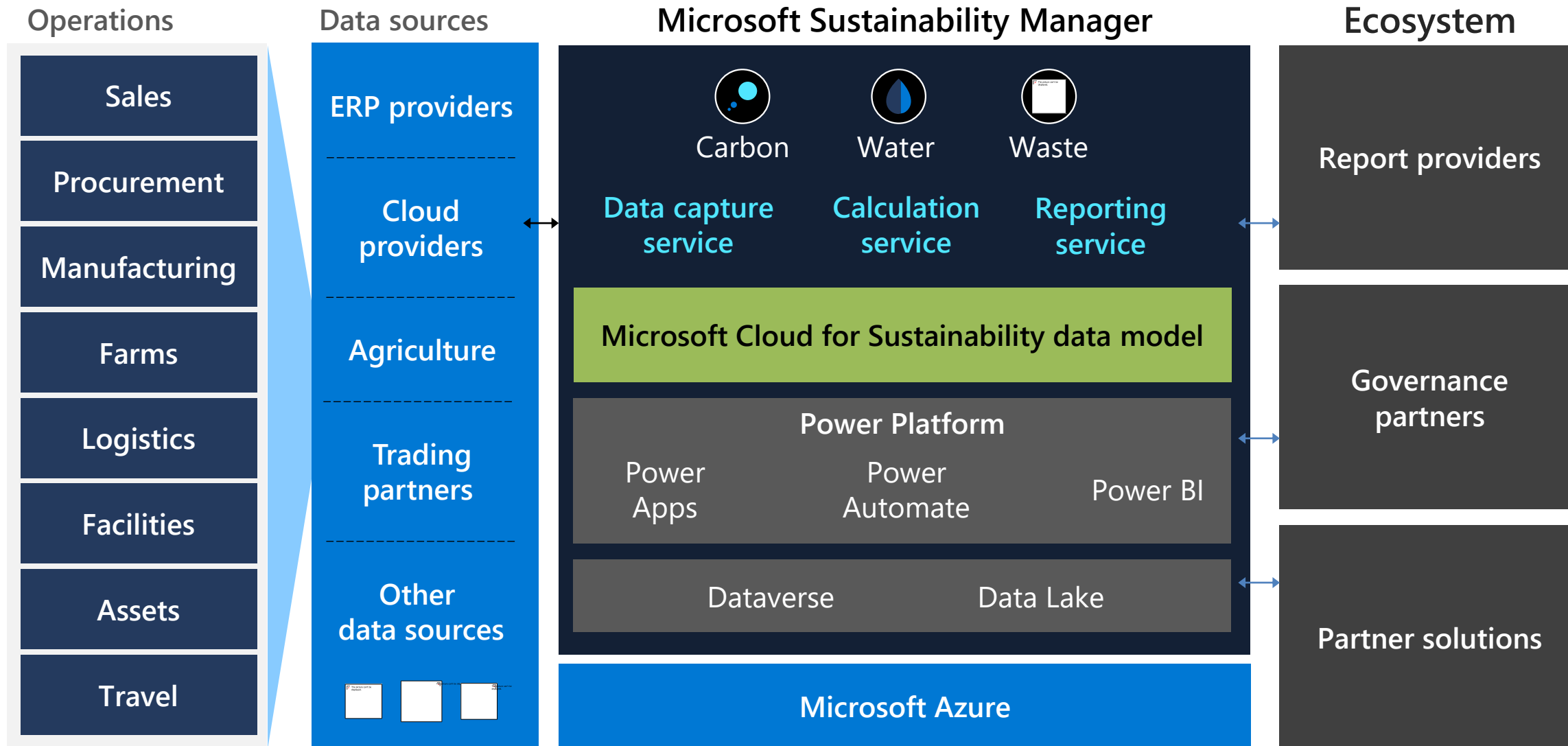
Power Platform

Dataverse	Data Lake

Microsoft Azure

Microsoft Sustainability Manager

Unify data intelligence to help you **monitor and manage** your sustainability performance

DATA
Record

INSIGHTS
Report

ACTION
Reduce

Microsoft Sustainability Manager empowers organizations to turn data insights into action and reduce environmental impact

OPERATIONS & VALUE CHAIN

MICROSOFT SUSTAINABILITY MANAGER

Data capture   Calculation   Reporting

Microsoft Cloud for sustainability data model

Carbon   Water   Waste

DATA

INSIGHTS

ACTION

ECOSYSTEM

Report Providers

Governance partners

Partner Solutions

Reduction initiatives

Operations

- Sales
- Procurement
- Manufacturing
- Farms
- Logistics
- Facilities
- Assets
- Travel

Data sources

- ERP providers
- Cloud providers
- Agriculture
- Trading partners
- Other data sources

Microsoft Sustainability Manager

Carbon Water Waste

| Data capture service | Calculation service | Reporting service |

Microsoft Cloud for Sustainability data model

Power Platform

Power Apps Power Automate Power BI

Dataverse Data Lake

Microsoft Azure

Ecosystem

- Report providers
- Governance partners
- Partner solutions

Microsoft Sustainability Manager

Record data
Record the emissions footprint of the entire operations and value chain more accurately through direct data connections and automation.
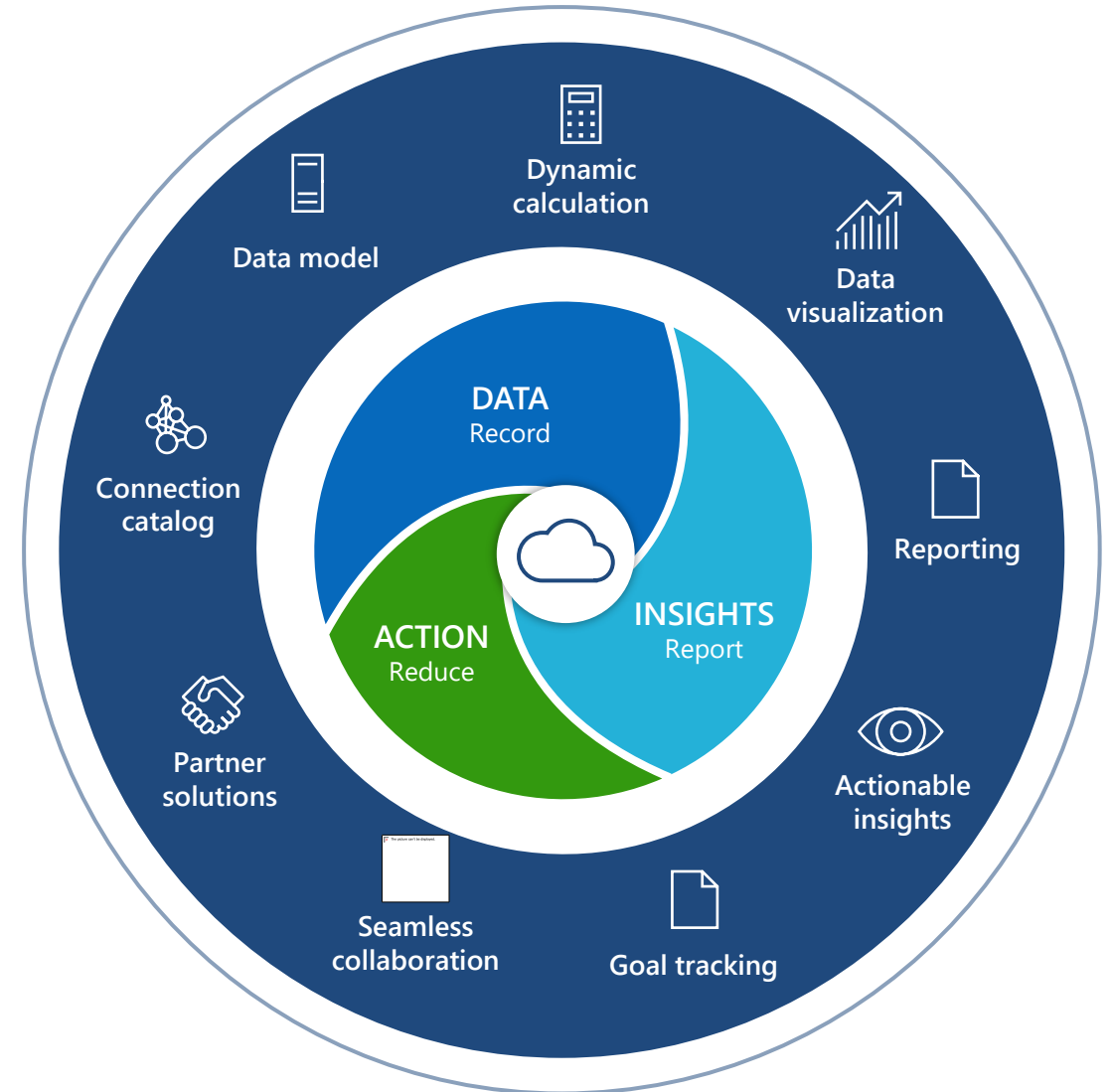
Report insights
Analyze, visualize, and report resource consumption, environmental impact, and sustainability progress.

Reduce footprint
Set goals and take action to reduce the emissions footprint and transform the business through solutions from Microsoft and its partner ecosystem.

- Data model
- Dynamic calculation
- Data visualization
- Connection catalog
- Reporting
- Partner solutions
- Actionable insights
- Seamless collaboration
- Goal tracking

DATA — Record
INSIGHTS — Report
ACTION — Reduce

Microsoft Sustainability Manager for Telcos

Sustainability presents market opportunities

$26T
Economic benefits[1]

$60B
Energy optimization opportunity[2]

$640B
Building energy efficiency investments[3]

74%
of consumers value ethical corporate practices in brand choices[4]

[1] "Climate Smart Growth Could Deliver 26 Trillion USD to 2030, Finds Global Commission," United Nations Climate Change
[2] "Global electric energy efficiency spending is expected to near $60B by 2028," Electrical Line Magazine
[3] "Net Zero by 2050: A Roadmap for the Global Energy Sector," IEA
[4] "Global carbon offsets market could be worth $200 billion by 2050: Berenberg," S&P Global

Telco carbon emissions primarily occur in the supply chain

Sustainability solutions for all industries rely on telco innovations

70%
of telco GHG emissions occur in supply chain[1]

ICT sector accounts for **1.4%** of global CO_2 emissions[2]

Telco innovations such as 5G, IoT, and Edge Computing are the enablement factor for sustainable transformation

[1] "2019 Mobile Industry Impact Report: Sustainable Development Goals," GSMA
[2] "Climate FAQs," GSMA
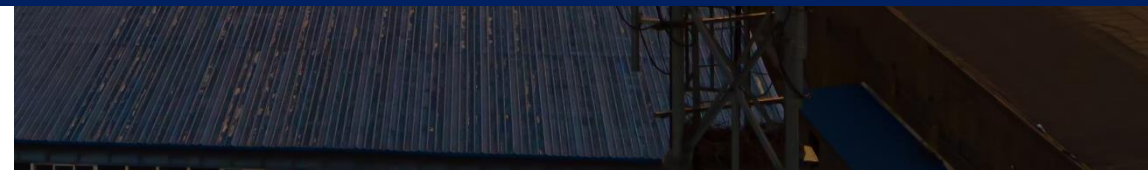
Demands for sustainability drive telco industry transformation

Major investors prioritize ESG

Consumers value ethical brands

Digital enables innovative product and service delivery

Reach and scale enables telco companies to deliver sustainability solutions and lead the world

"We know that climate risk is investment risk. But we also believe the climate transition presents a historic investment opportunity."
Larry Fink, CEO of BlackRock[1]

1.44B MWh

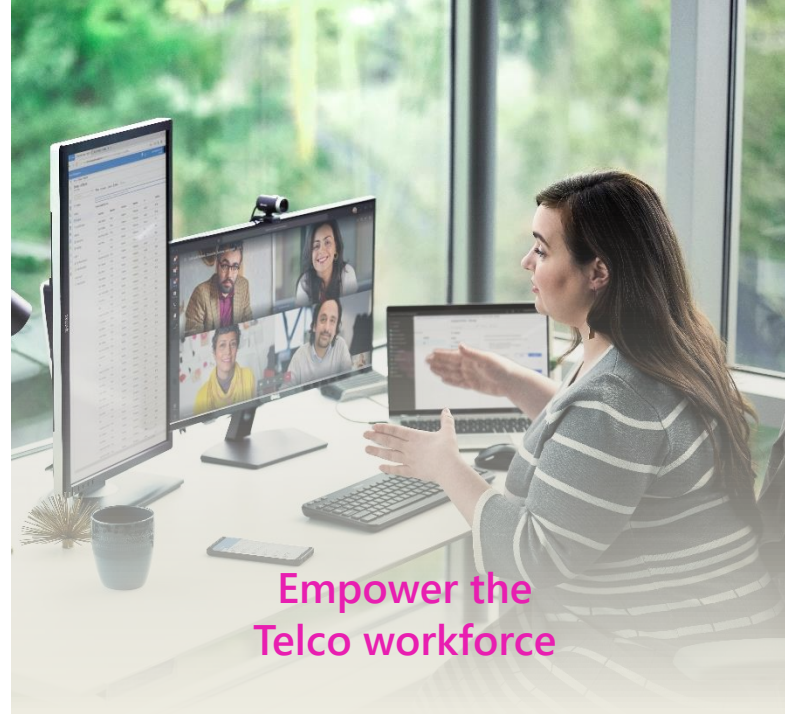of electricity and gas saved through mobile technologies in 2018[3]

[1] "Larry Fink CEO Letter," BlackRock
[2] "The Enablement Effect," GSMA

Telco

Global awareness raises the stakes for telco companies to help achieve global sustainability goals.

With the breadth and depth customer relationships the industry's enablement factor is unparalleled.

Empower the Telco workforce

Streamline operations and business support systems

Deploy and optimize next-gen networks

Transform customer experiences

Demo
How it works?

Why Techvista?

Techvista's Pledge for Sustainability

Investing in digitalized processes in the company.

Minimized on one-time disposable wastage

Aim to provide digitalized solutions to partners and customers cross verticals.

Investing in Eco designed equipment across the enterprise.

Implemented sustainability initiatives across the supply chain.

Target to enter the S&P Global Sustainability Yearbook by 2030

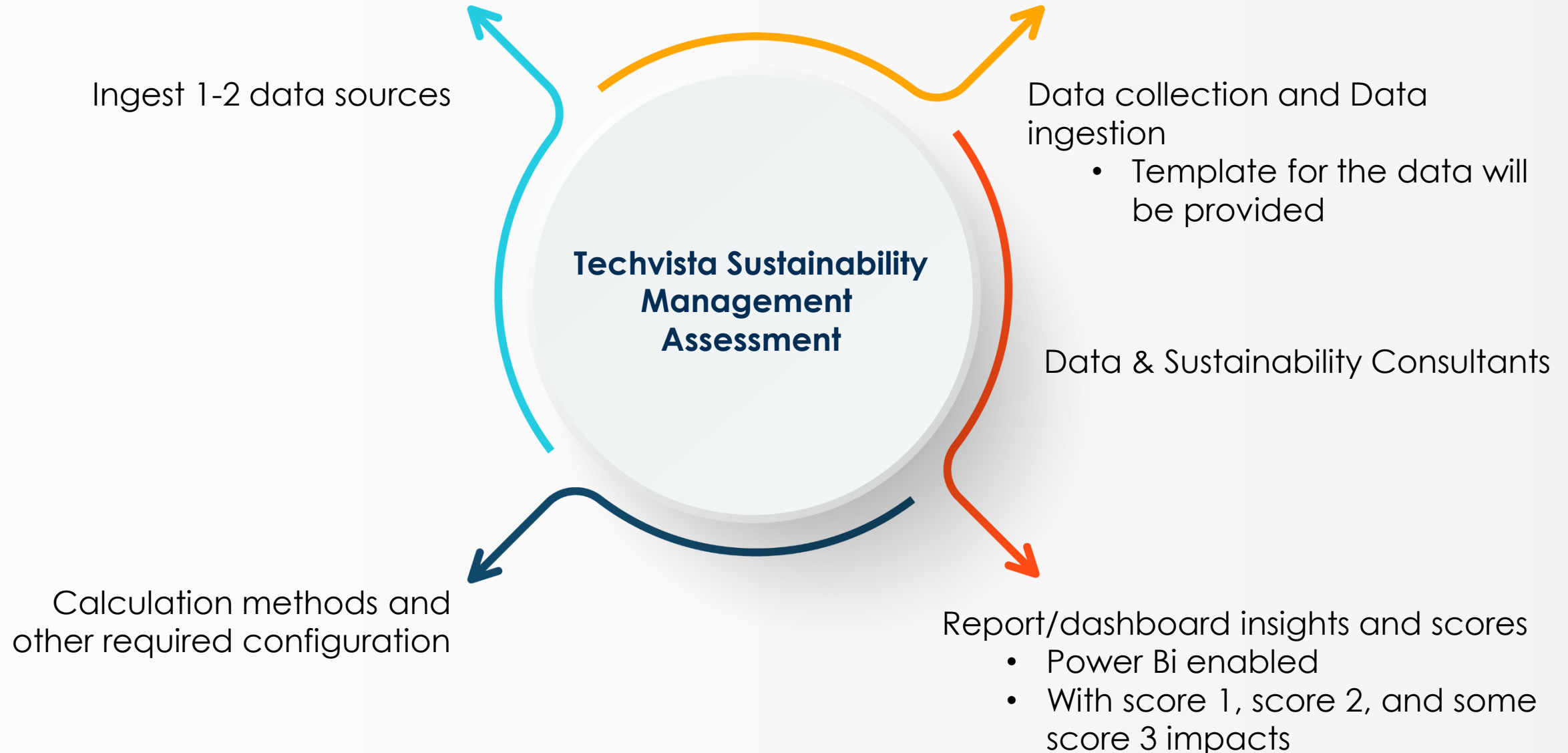# Our vision is to enable transformation for a sustainable future

through technology and by building communities to connect data, share insights, and take collective action

Improved data interoperability

Simplified ESG reporting

Shaped policies & standards

Reduced emissions & consumption

Expanded business value

Scenario modeling

Breadth & depth solutions

Industry benchmarking

Continuous innovation

ESG reporting

Microsoft Cloud for **Sustainability data model**

Policy leadership

Cross-customer collaboration

Organizations

Partners

Governance boards

Reporting institutions

Next steps

Sign up for a Free Trial!

Let's embark on a journey to sustainability, starting today!

Appendix

Scope 3 Categories

Category 1: Purchased Goods and Services

All upstream (i.e., cradle-to-gate) emissions from the production of products purchased or acquired by the reporting company. Products include both goods (tangible products) and services (intangible products).

Category 2: Capital Goods

All upstream (i.e., cradle-to-gate) emissions from the production of capital goods purchased or acquired by the reporting company.

- Equipment
- Machinery
- Buildings
- Facilities
- vehicles

Category 3: Fuel- and Energy-Related Activities

Emissions related to the production of fuels and energy purchased and consumed by the reporting company that are not included in scope 1 or scope 2.

- Upstream emissions of purchased fuels
- Upstream emissions of purchased electricity
- Transmission and distribution (T&D) losses
- Generation of purchased electricity that is sold to end users

Category 4: Upstream Transportation and Distribution

Transportation and distribution of products purchased and third party transportation services.

- Air transport
- Rail transport
- Road transport
- Marine transport
- Storage of purchased products in warehouses, distribution centers, and retail facilities

Category 5: Waste Generated in Operations

Emissions from third-party disposal and treatment of waste generated in the reporting company's owned or controlled operations; includes emissions from disposal of both solid waste and wastewater.

- Disposal in a landfill
- Recovery for recycling
- Incineration
- Composting
- Combustion of municipal solid waste (MSW) to generate electricity
- Wastewater treatment

Category 6: Business Travel

Emissions form vehicles not accounted for in Scope 1 or Scope 2.

- Air travel
- Rail travel
- Bus travel
- Automobile travel (e.g., business travel in rental cars or employee-owned vehicles other than employee commuting to and from work)
- Other modes of travel.

Companies may optionally include emissions from business travelers staying in hotels.

Category 7: Employee Commuting

Emissions from the transportation of employees between their homes and their worksites.

- Automobile travel
- Bus travel
- Rail travel
- Air travel
- Other modes of transportation (e.g., subway, bicycling, walking).

Companies may include emissions from teleworking (i.e., employees working remotely) in this category.

Scope 3 Categories (cont..)

Category 8: Upstream Leased Assets

Emissions from the operation of assets that are leased by the reporting company and not already accounted for in Scope 1 or Scope 2. This category is applicable only to companies that operate leased assets (i.e., lessees).

Category 9: Downstream Transportation and Distribution

Emissions that occur from transportation and distribution of sold products in vehicles and facilities not owned or controlled by reporting company

- Warehouses and distribution centers
- Retail facilities
- Air, rail, road, marine transport

Category 10: Processing of Sold Products

Emissions from processing of sold intermediate products by third parties (e.g., manufacturers) subsequent to sale by the reporting company. Intermediate products are products that require further processing, transformation, or inclusion in another product before use and therefore result in emissions from processing subsequent to sale by the reporting company and before use by the end consumer.

Category 11: Use of Sold Products

Emissions from the use of goods and services sold by the reporting company. End users include both consumers and business customers that use final products. Includes

- Direct use-phase emissions (required)
  e.g. automobiles, engines requiring fuel

- Indirect use-phase emissions (optional)
  e.g. clothes requiring washing/drying, food requiring cooking, soaps requiring heated water

Category 12: End-of-Life Treatment of Sold Products

Emissions from the waste disposal and treatment of products sold by the reporting company at the end of their life.

- Disposal in a landfill
- Recovery for recycling
- Incineration
- Composting
- Combustion of municipal solid waste (MSW) to generate electricity
- Wastewater treatment

Category 13: Downstream Leased Assets

Emissions from the operation of assets that are owned by the reporting company (acting as lessor) and leased to other entities.

Category 14: Franchises

Emissions from the operation of franchises not included in Scope 1 or Sope 2. A franchise is a business operating under a license to sell or distribute another company's goods or services within a certain location. This category is applicable to franchisors (i.e., companies that grant licenses to other entities to sell or distribute its goods or services in return for payments, such as royalties for the use of trademarks and other services). Franchisors should account for emissions that occur from the operation of franchises (i.e., the Scope 1 and Scope 2 emissions of franchisees) in this category

Category 15: Investments

Emissions associated with the reporting company's investments not already included in Scope 1 or Scope 2. This category is applicable to investors (i.e., companies that make an investment with the objective of making a profit) and companies that provide financial services.

- Equity investments
- Debt investments
- Project finance
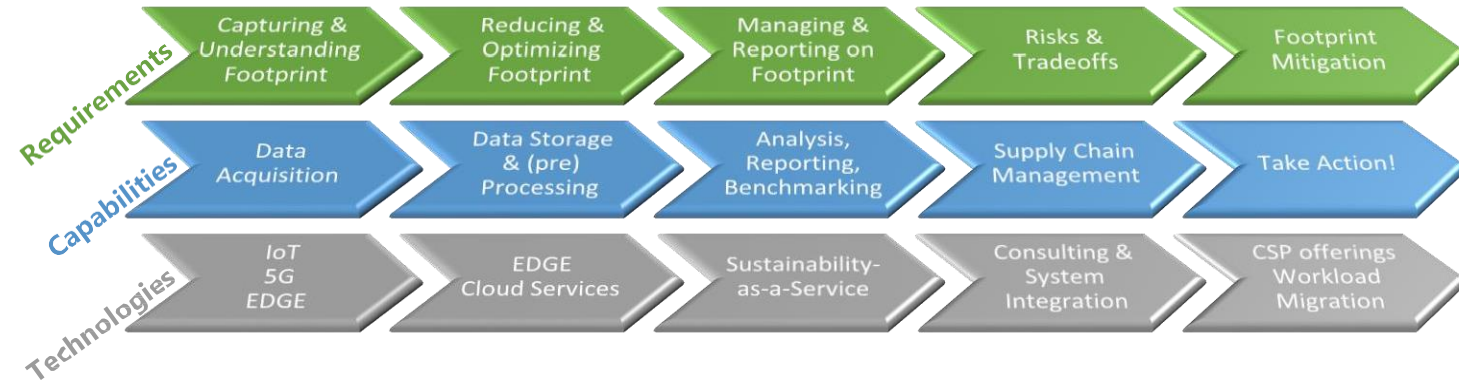- Managed investments and client services.

Emissions from investments should be allocated to the reporting company based on the reporting company's proportional share of investment in the investee.

Sustainability for Telcos

KEY TRENDS

- There is strong (and growing) regulatory pressure to report on and reduce carbon emissions, particularly in the European Union.

- The GSMA Board set a goal for the mobile industry to reach net zero carbon emissions by 2050, through voluntary actions.

- More than a third of telco operators worldwide have committed to reach carbon zero by 2050 or earlier.

- On average, 75%+ of a telco's energy use goes toward operating their network.

- Analysts project $3.5T+ in opportunities for telcos by enabling other sectors to advance ESG goals and engaging in similar activities.

- Globally, governments and utilities alone are expected to invest up to $60B in energy efficiency by 2028, much of which will rely on 5G, IoT, Edge Computing and Digital Twins.

Sustainability "value chain" *powered* by telcos

Requirements

| Capturing & Understanding Footprint | Reducing & Optimizing Footprint | Managing & Reporting on Footprint | Risks & Tradeoffs | Footprint Mitigation |

Capabilities

| Data Acquisition | Data Storage & (pre) Processing | Analysis, Reporting, Benchmarking | Supply Chain Management | Take Action! |

Technologies

| IoT 5G EDGE | EDGE Cloud Services | Sustainability-as-a-Service | Consulting & System Integration | CSP offerings Workload Migration |

VALUE PROPOSITION	BUSINESS OUTCOMES	VALUE DIFERENTIATORS
Sustainable and Compliant Operations • Digitalize telco operations/processes to capture sustainability metrics and productivity opportunities. • Move workloads to the cloud to reduce emissions and cost whilst improving scalability and flexibility. **Sustainability as a revenue enabler** • Leverage telco-native technologies (IoT, 5G, EDGE) to bring sustainability-focused solutions to market. • Design, develop and market carbon-neutral ("green") products & services	• Optimize the energy use & carbon footprint of telco infrastructure using advanced technologies such as AI and virtualization to analyze patterns and plan and forecast traffic. Become carbon neutral; obtain "license to lead". • Increase revenue opportunities by leveraging telco products and solutions to enable communities, individuals and other industries to avoid carbon emissions. • Digitalizing B2B customers' businesses, enables them to increase their efficiency, optimize their resource utilization, and reduce commuting and travel needs.	• Telcos' own technology stack is ready for virtualization, cloud operations and for leveraging AI for planning, forecasting, optimization. • Telco-specific technologies like IoT, 5G, EDGE are primed to be used in sustainability use cases like smart city, smart building, sustainability/data management. • Telcos have a high "enablement factor" allowing for new revenue sources via sustainability progress through digitalization in other industries and segments.

Carbon-neutral telco promotes collaboration with nationwide secure data hub

Telstra, Australia's leading telco, saw a challenge in securely sharing data between data producers like citizens, governments, and IoT devices and aggregating it across sectors and value chains. Telstra launched a unique initiative with Microsoft to create the Telstra Data Hub—a repeatable and scalable solution to securely share data among a diverse community of stakeholders. Use cases include optimizing water use, monitoring pollution, and streamlining supply chains. Telstra was certified carbon neutral in 2020 has is setting the stage to help all Australia achieve sustainability.

Drive digital innovation
Telstra Data Hub enables data-driven decision making and product development nationwide

Target sustainability use cases
Enable smart asset tracking, supply chain management, and buildings

Connect 5G to AI
New data sources, including remote locations, can leverage the power of the Microsoft Cloud

O2 dials up a culture change saves costs, boosts sustainability

O$_2$

110K users worldwide
O2 first organization within
Telefonica group to move to
Teams and full group followed

Carbon neutral by 2025
Remote collaboration
contributes to organizational
sustainability targets

Customer story: **AT&T**

AT&T sets goal to reduce global emissions by 1 gigaton

AT&T will target eliminating 1 billion metric tons of greenhouse gas emissions, working with Microsoft, universities, and other alliances to unleash the power of 5G and other broadband technologies through the AT&T Connected Climate Initiative. The company will work with businesses including Microsoft, Equinix, and Duke Energy, along with research universities, and a range of other organizations to deliver broadband-enabled climate solutions at global scale. This collaborative effort builds on AT&T's standing commitment to aggressively reduce emissions, while enabling the transition to a net-zero economy.

AT&T

**Gigaton equals
15% of U.S. emissions**
A gigaton of GHG can also be expressed as 1.6 billion flights from New York to Los Angeles

**Help enterprises
 hit targets**
55% of Fortune Global 200 have GHG reduction goals

Connect 5G to AI
New data sources, including remote locations and IoT, can leverage the power of the Microsoft Cloud