ENGINEERING TOMORROW

Green Deal, Taxonomie, ESG – nur Schlagworte oder tatsächlich ein Systemwandel

Andrea Voigt, Head of Global Public Affairs, Danfoss Climate Solutions

Danfoss Group: a global leader in energy efficiency technologies

3 Pillars
Power Solutions
Climate Solutions
Drives

40,043
Employees

7.5€bn net sales
in more than **100** countries

95 factories
in **27** countries

Privately held
Ownership

Nordborg, Denmark
Headquarters

Danfoss Power Solutions

Construction

Industry

Forestry

Agriculture

Danfoss Climate Solutions

Controls

Refrigeration

District Energy

Thermal Comfort

Danfoss Drives

Industry

Food & Beverage

Automotive

HVAC

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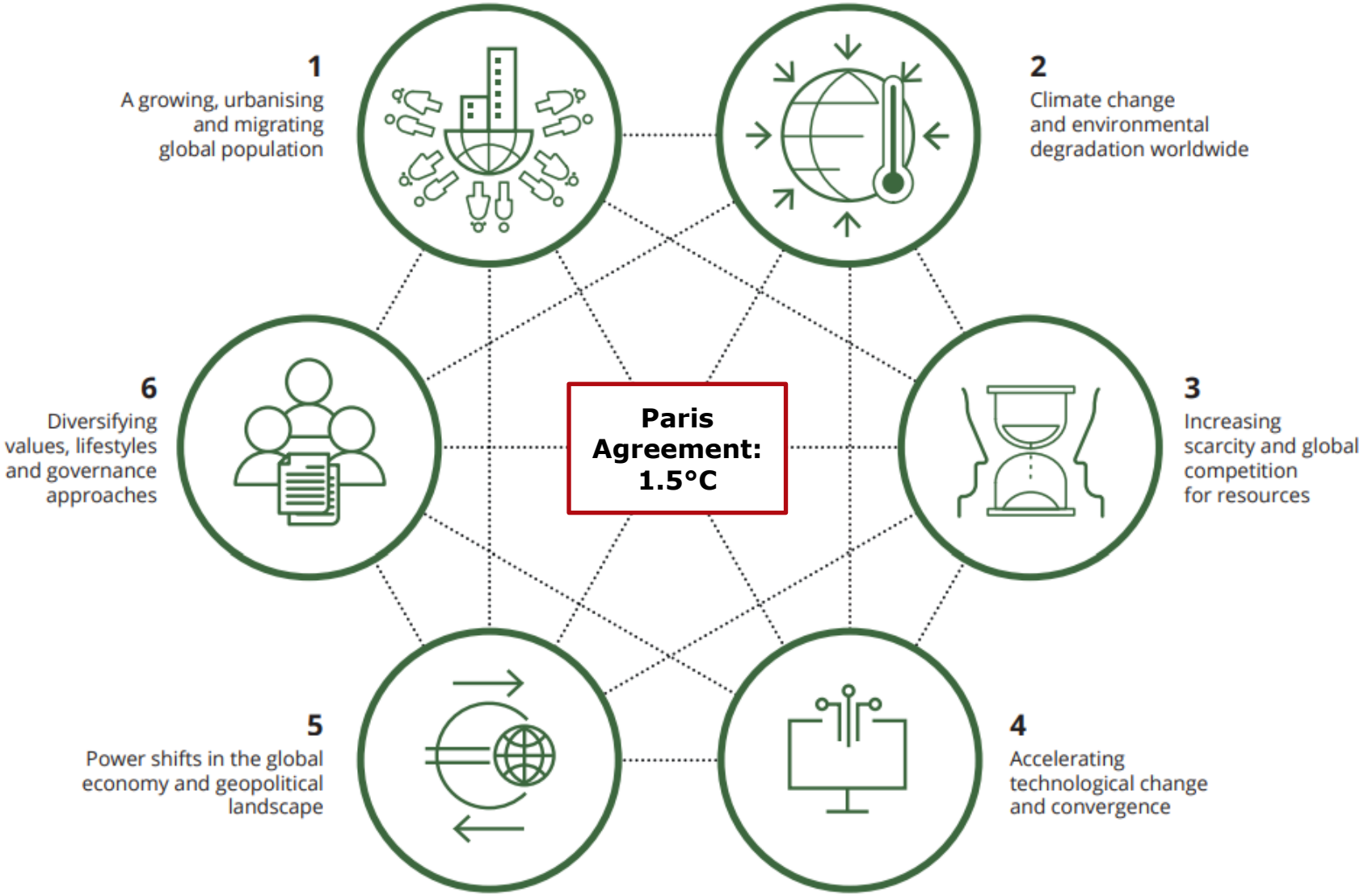
The challenge:

An increasingly complex world and an undeniable increase of emissions

Our world is changing: Key drivers



Source:The European environment state and outlook 2020, EEA 2020

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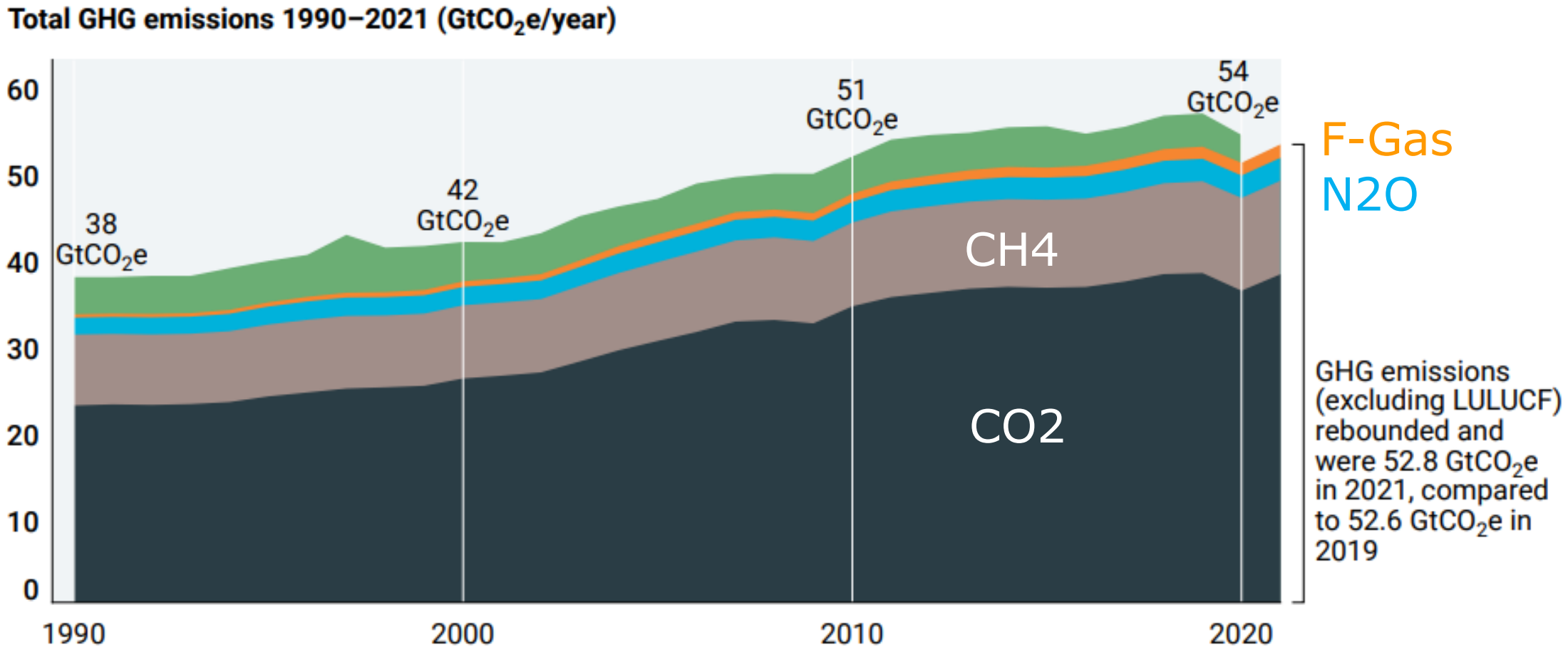
Global Greenhouse Gas Emissions continue to increase
Fossil CO2 represents the highest share



Source: UNEP Emissions Gap Report, 2022

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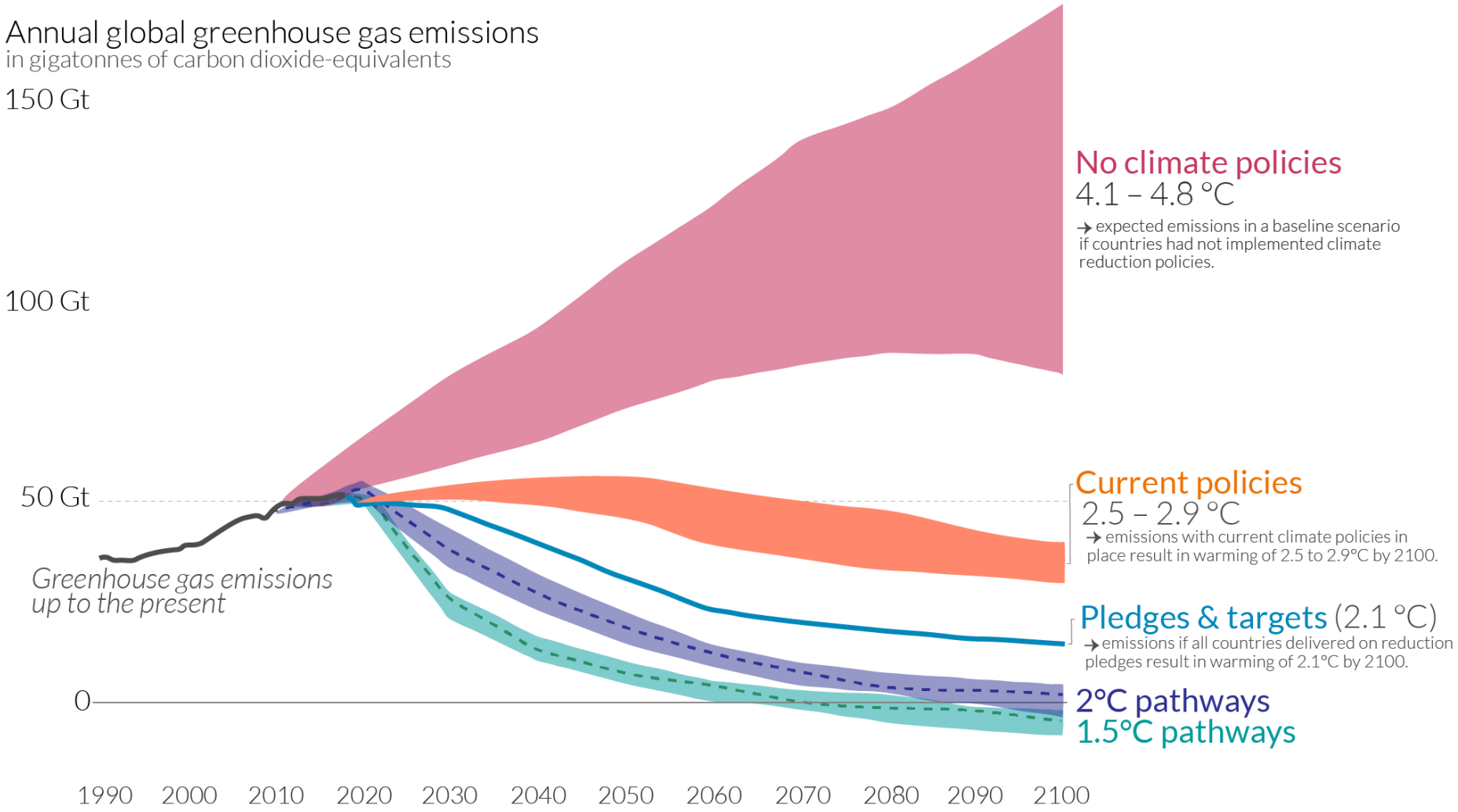
The challenge is massive, and the gap twds 1.5°C remains big



Data source: Climate Action Tracker (based on national policies and pledges as of November 2021).
OurWorldinData.org – Research and data to make progress against the world's largest problems.

Last updated: April 2022.
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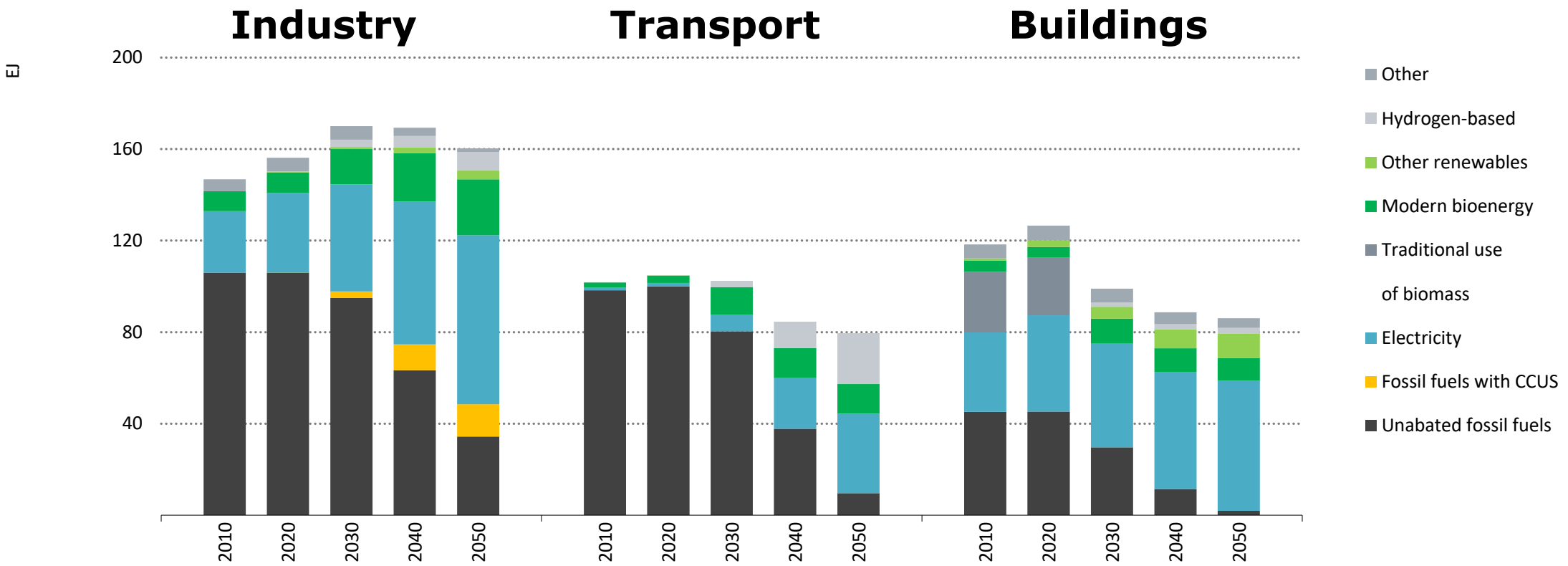
Where to act?

Decarbonising our economy: from energy efficiency to resource efficiency

Electrification and Efficiency throughout



Decarbonising Electricity - Electrification
Material and operational efficiency

Source: IEA Net Zero by 2050 Scenarios, 2021

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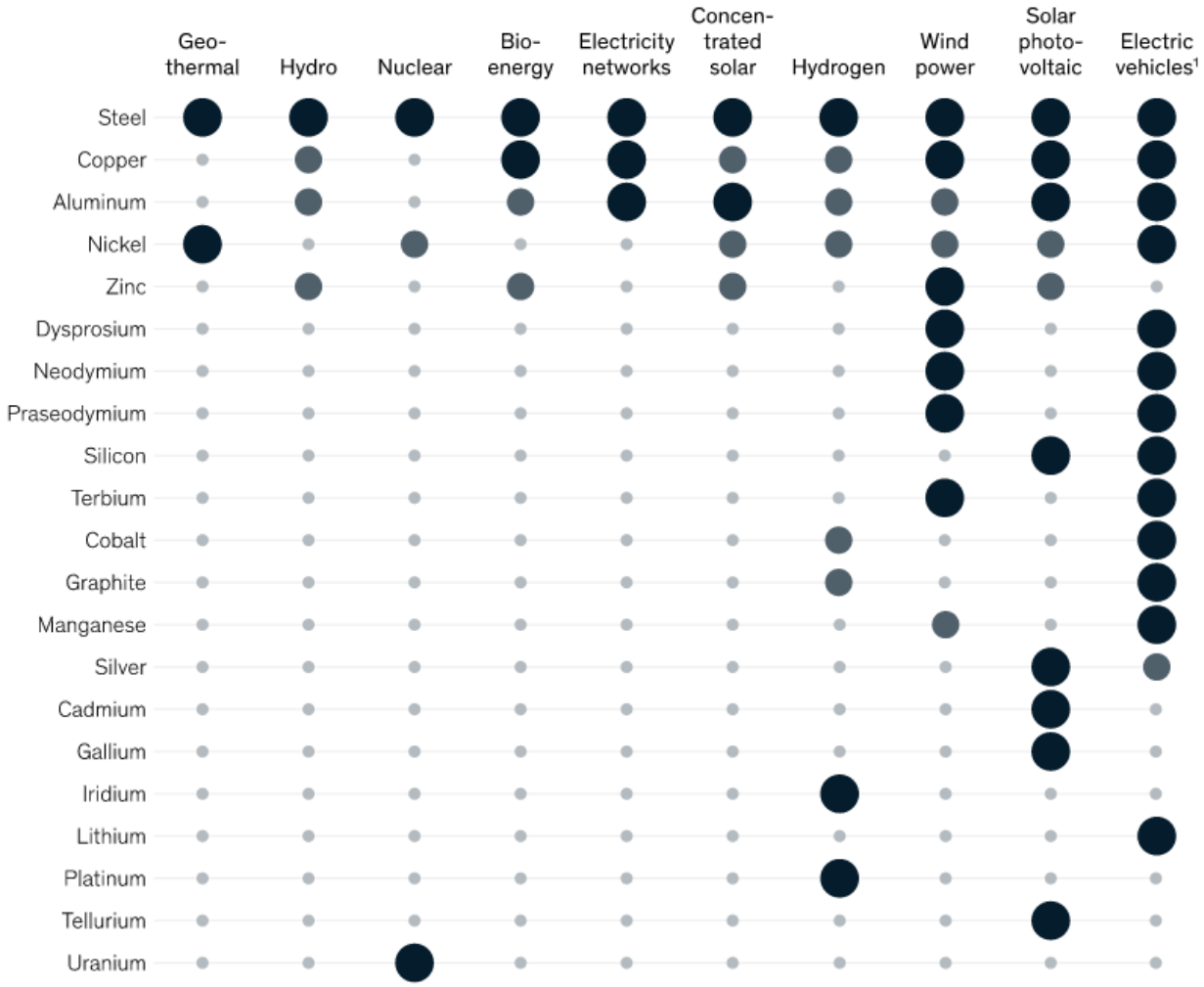
Raw materials and water use: intrinsic part of the green equation



[1]Includes energy storage.
Source: *Critical raw materials for strategic technologies and sectors in the EU*, A foresight study, European Commission, Mar 9, 2020; *The role of critical minerals in clean energy transitions*, IEA, May 2021; McKinsey analysis

- **Steel, copper and aluminium** are the three top raw materials needed to achieve the energy transition and electrification of key sectors such as EVs or heating
- **Steel** is one of the most energy intensive industries
- >50% of **lithium and copper** production is concentrated in areas with high water stress level and/or extreme heat or flooding
- **Geographical concentration** of some of the raw materials, for example in China, plays an important geopolitical role

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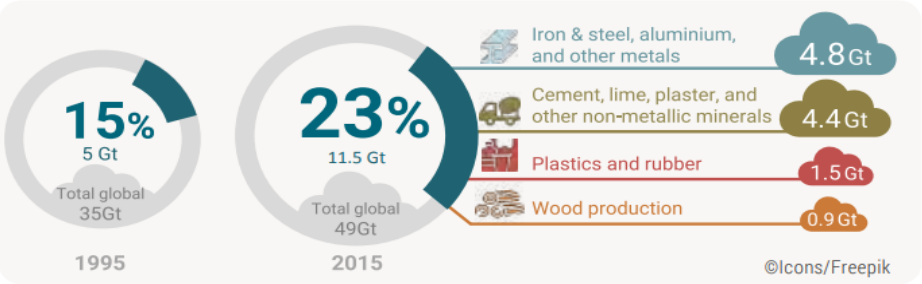
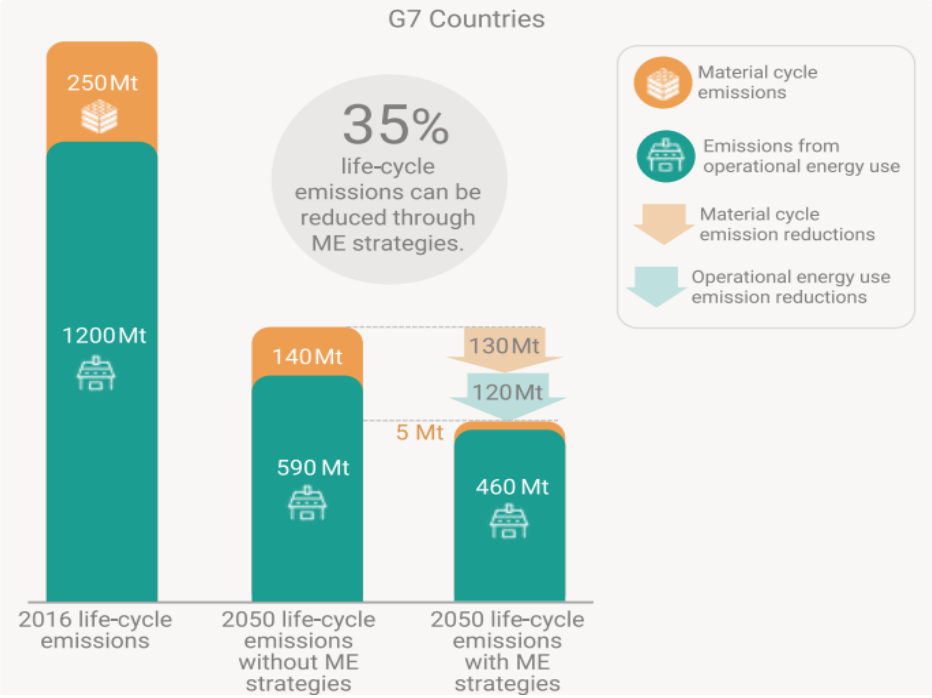
Energy Efficiency + Material Efficiency = Resource Efficiency
Essential for a decarbonized future





Source: UNEP / IRP: Resource Efficiency and Climate Change, 2020

- Emissions from the production of materials as a share of global GHGs increased from 15% in 1995 to 23% in 2015
- Many of these materials are also crucial to reduce operational emissions, especially when moving towards renewable electricity and electrification
- Life-cycle assessment links the aspects of material efficiency and energy efficiency as **resource efficiency**
- **Circularity** will need to be an intrinsic part of a decarbonized future: **Rethink – Reduce – Recirculate**

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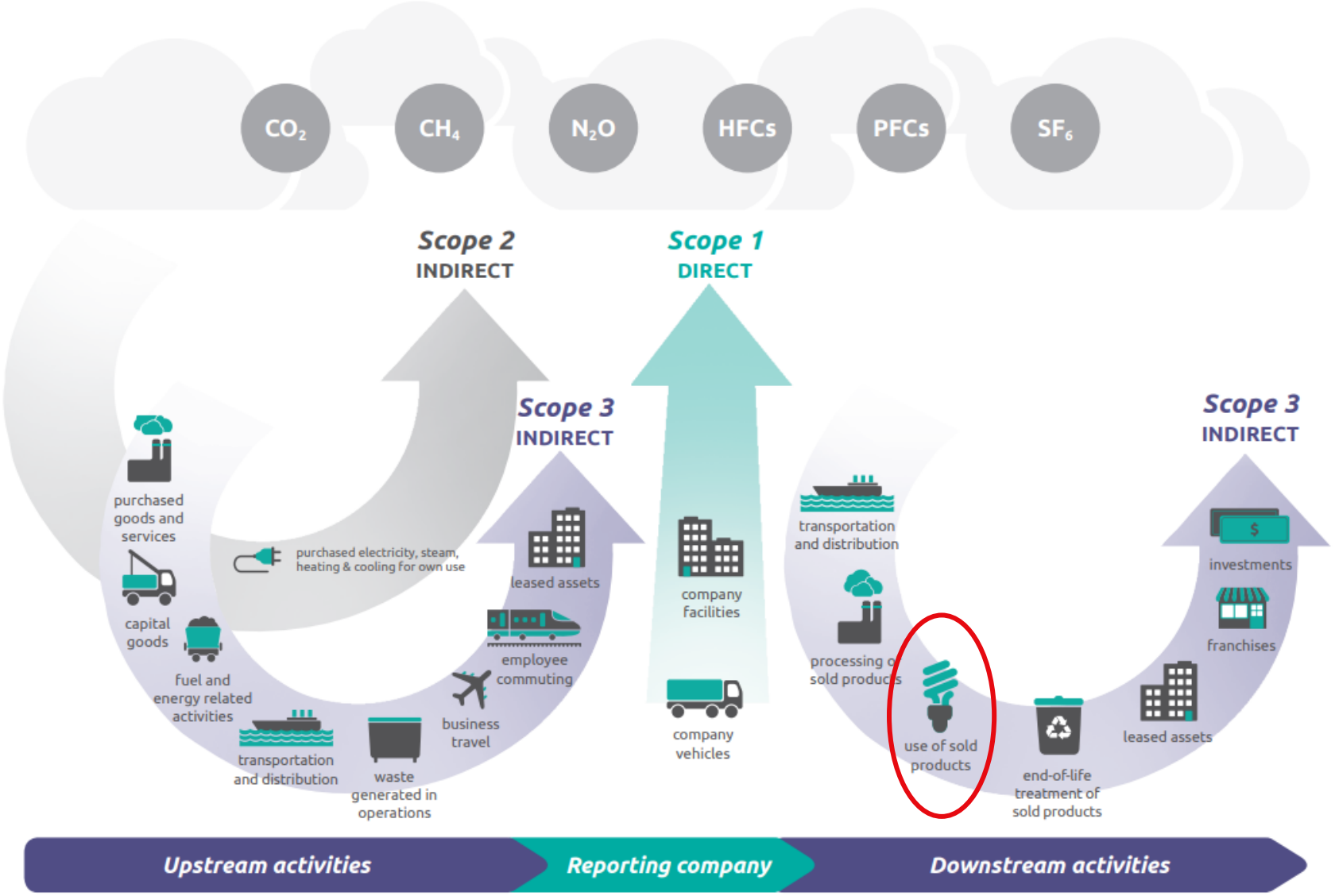
Who and how to act?

Reducing emissions – the role of public and private sector

Categorisation according to the Greenhouse Gas Protocol



Source: Greenhouse Gas Protocol

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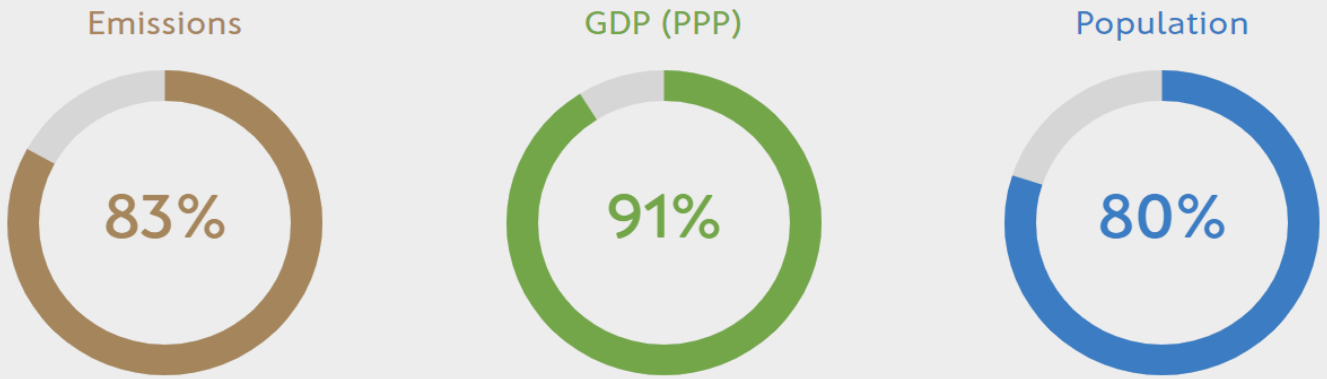
Countries, cities: Encouraging pogress, but more is needed

GLOBAL NET ZERO COVERAGE



Country-level coverage only. We do not include sub-national net zero targets in countries without a target.

NET ZERO NUMBERS

Countries	Regions
139	116
Cities	**Companies**
241	799

Out of 198 countries, 713 regions, 1,177 cities and 2,001 companies.

- **National net zero targets** surge from 10% of total GHG coverage in December 2020 to 65% in June 2022
- **The number of large cities** with net zero targets has doubled but more than 900 large cities still lack a net zero target.
- **The Global North** with high income countries in NA, Europe, Asia, has set the majority of sub-national targets, other regions lag behind

Source: Net zero tracker, 2022

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The "Scope 3" challenge:
For most manufacturers the biggest share of emissions

Type of Emissions	*Product Type*	*Examples*
Direct use-phase emissions (*required*)	Products that directly consume energy (fuels or electricity) during use	Automobiles, aircraft, engines, motors, power plants, buildings, appliances, electronics, lighting, data centers, web-based software
	Fuels and feedstocks	Petroleum products, natural gas, coal, biofuels, and crude oil
	Greenhouse gases and products that contain or form greenhouse gases that are emitted during use	CO_2, CH_4, N_2O, HFCs, PFCs, SF_6, refrigeration and air-conditioning equipment, industrial gases, fire extinguishers, fertilizers
Indirect use-phase emissions (*optional*)	Products that indirectly consume energy (fuels or electricity) during use	Apparel (requires washing and drying), food (requires cooking and refrigeration), pots and pans (require heating), and soaps and detergents (require heated water)

Source: Table 5.8 from the *Scope 3 Standard.*

CO_2e emissions from use of sold products =

sum across fuels consumed from use of products:

∑ (total lifetime expected uses of product × number sold in reporting period × fuel consumed per use (kWh) × emission factor for fuel (kg CO_2e/kWh))

+

sum across electricity consumed from use of products:

∑ (total lifetime expected uses of product × number sold in reporting period × electricity consumed per use (kWh) × emission factor for electricity (kg CO_2e/kWh))

+

sum across refrigerant leakage from use of products:

∑ (total lifetime expected uses of product × number sold in reporting period × refrigerant leakage per use (kg) × global warming potential (kg CO_2e/kg))

Key factors that impact "direct use phase emissions":

- Type of energy used
- Energy efficiency
- Refrigerants (GWP, charge, leakage)

Source: https://ghgprotocol.org/sites/default/files/standards/Scope3_Calculation_Guidance_0.pdf

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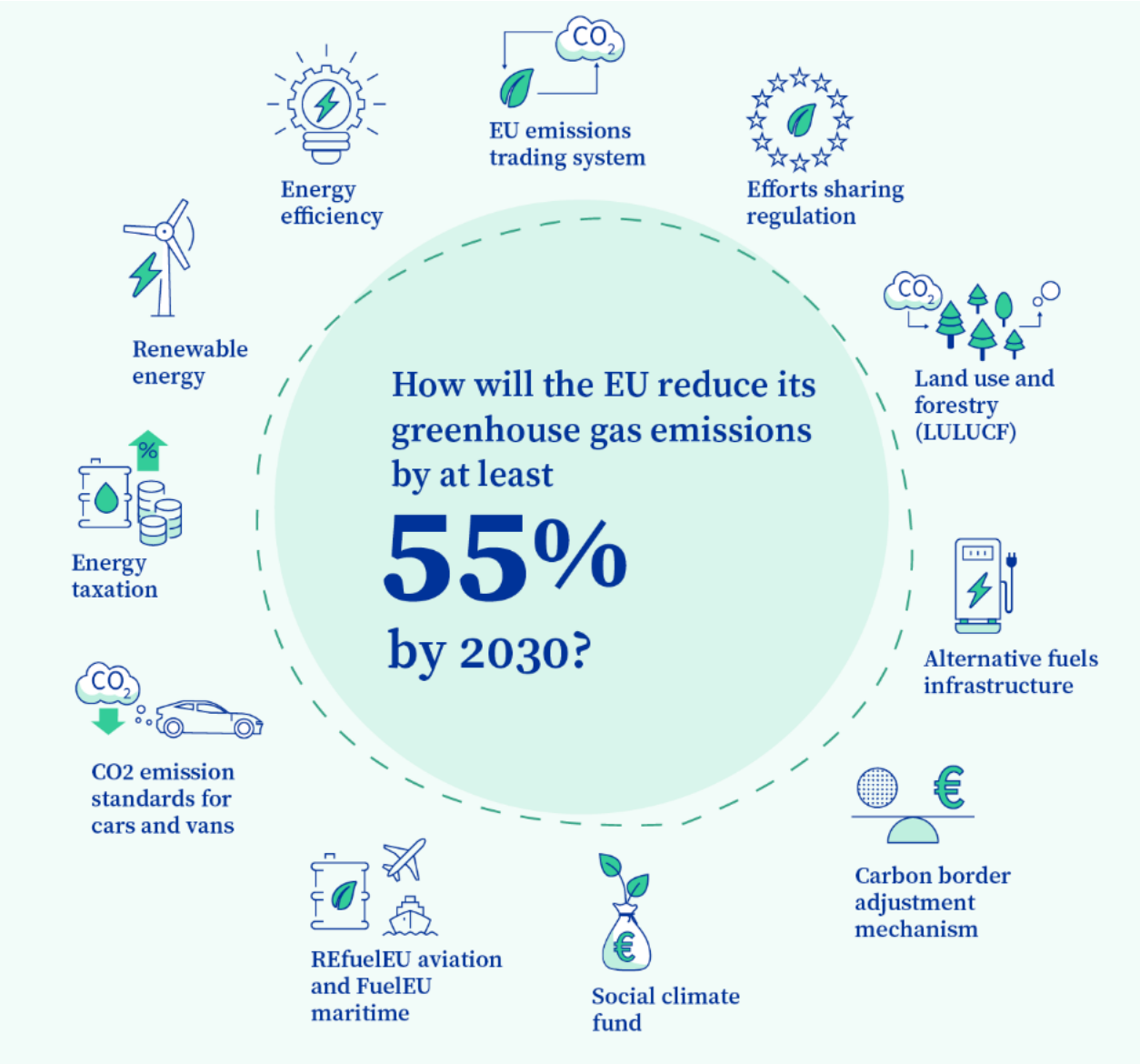
The risk of green-washing

Taxonomy and others to address the problem

Example of the EU



Europe wants to lead the world: first continent to enshrine net zero in law

- **The EU Climate Law:**
  - By 2050, EU countries must reach a net-zero emissions balance.
- **The EU's Green Deal:**
  - Decarbonise the **energy** sector
  - Renovate **buildings**
  - Support **industry** to become leaders in green economy
  - Roll out cleaner, cheaper and healthier forms of **transport**
- **The Fit-for-55 Package:**
  - Reduce Greenhouse Gas Emission by 55% by 2030

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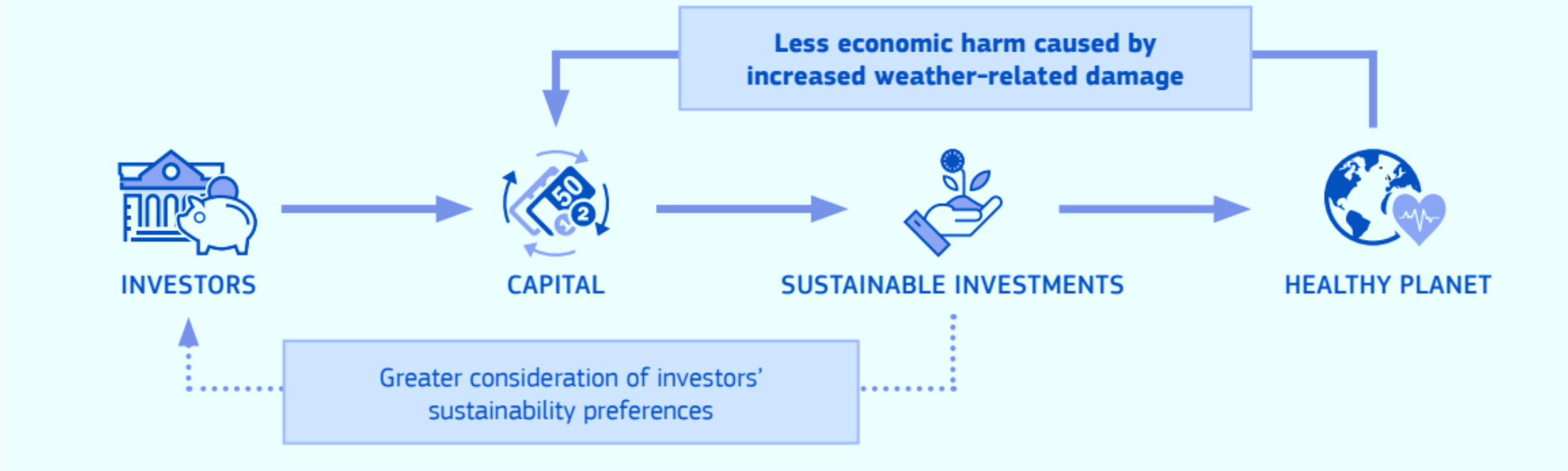
Without finance no Green Deal: But investors need guidance



Source: https://finance.ec.europa.eu/system/files/2020-01/200108-financing-sustainable-growth-factsheet_en.pdf

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The EU taxonomy was born:
A framework to guide investors and companies…

It classifies economic activities as being "environmentally sustainable"

It introduces disclosure obligations for companies and investors on their share of Taxonomy-aligned activities.

- It is not a mandatory list of economic activities for investors to invest in
- It does not set mandatory requirements on environmental performance for companies or for financial products.

Why?

- ✓ Create a frame of reference for **investors** and **companies**.
- ✓ Support companies in their efforts to plan and finance their transition.
- ✓ Help mitigate market fragmentation.
- ✓ Protect against greenwashing.
- ✓ Accelerate financing of those projects that are already sustainable and those in transition, to deliver on the objectives of the European Green Deal.

Linked to reporting and funding:

1. **Corporate Sustainability Reporting Directive (CSRD)**
   - Disclosure about a company's Taxonomy aligned activities
2. **Sustainable Finance Disclosure Regulation (SFDR)**
   - For financial entities, but with indirect impact on companies that are being invested in. Taxonomy criteria apply
3. **Funding: Recovery & Resilience, etc., Horizon Europe:**
   - "Do no siginifcant harm principle" applies

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How does the Taxonomy work

To qualify as „green", an economic activity must:

1. Contribute substantially to at least one of the 6 environmental objectives, OR directly enable other activities to do so
2. Do no significant harm in view of any of these objectives, including evidence from LCAs
3. Comply with minimum social safeguards
4. Comply with technical screening criteria

- The Taxonomy Regulation 2020/852 framework entered into force in June 2020..
- Delegated acts will provide the details, in particular the „technical screening" criteria for each of the six objectives. These criteria are elaborated by a Technical Expert Group on Sustainable Finance. (TEG)
- It is not only about environment, but also about human rights, e.g. link to Corporate Due Diligence Directive
  - Protect human rights, including labour rights
  - Promote international standards and improve living conditions in developing countries
  - Support citizens in making informed choices …

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The new trend

Environmental Social Governance – Example of Danfoss

What does ESG cover?

Environmental

- Circular economy, waste, resource management, and recycling
- Energy, emissions, and climate change
- Water
- Biodiversity and land

Social

- Human rights and inclusiveness in supply chain and workforce
- Safety and well-being
- Socio-economic development: local and national
- Access and inclusiveness in products and services

Governance

- Corporate governance and ethics
- Influencer of change, advocacy strategy and policy shaping
- Anti-corruption
- Reporting and KPIs

Cross-cutting

External

- External partnerships
- Corporate foundation and sponsorships
- Stakeholder engagement and communications
- Contribution to the SDGs
- Sustainable finance & investment

Internal

- Organization and governance
- Employee engagement Talent attraction & retention
- Business case and value proposition
- Sustainability impact measurement, Prepare for new customer expectations

Source: BCG

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Danfoss ESG Ambition 2030

We pioneer solutions for customers to **enable decarbonization**

We innovate best-in-class **circular products**

We offer a leading employee experience that values and respects **diversity and inclusion**

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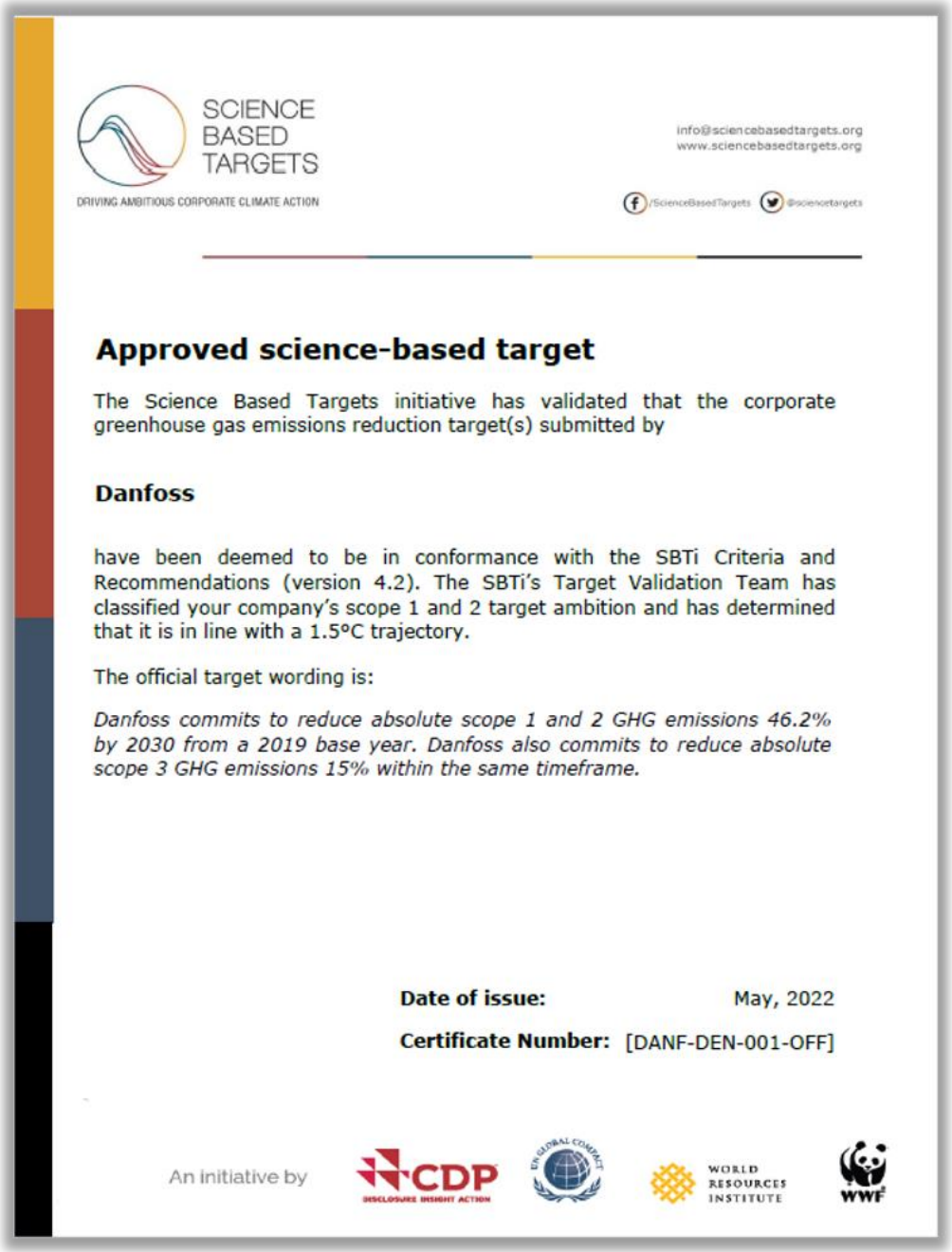

SCIENCE BASED TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

info@sciencebasedtargets.org
www.sciencebasedtargets.org

/ScienceBasedTargets @sciencetargets

Approved science-based target

The Science Based Targets initiative has validated that the corporate greenhouse gas emissions reduction target(s) submitted by

Danfoss

have been deemed to be in conformance with the SBTi Criteria and Recommendations (version 4.2). The SBTi's Target Validation Team has classified your company's scope 1 and 2 target ambition and has determined that it is in line with a 1.5°C trajectory.

The official target wording is:

Danfoss commits to reduce absolute scope 1 and 2 GHG emissions 46.2% by 2030 from a 2019 base year. Danfoss also commits to reduce absolute scope 3 GHG emissions 15% within the same timeframe.

Date of issue: May, 2022

Certificate Number: [DANF-DEN-001-OFF]

An initiative by CDP DISCLOSURE INSIGHT ACTION · UN GLOBAL COMPACT · WORLD RESOURCES INSTITUTE · WWF

We lead by example:

Science Based Targets Initiative (SBTi)
The Gold Standard for Climate Targets

Targets aligned to the Paris Agreement to:

- limit global warming to well below 2°C above pre-industrial levels
- pursue efforts to limit warming to 1.5°C

Our targets to become carbon neutral in our global operations by 2030 have been approved by the SBTi

>2,700
joined SBTi

>1,300
committed to 1.5°C

>1,200
with approved targets

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Our 3-step approach to become CO_2-neutral in our operations by 2030 (Scope 1 + 2)

Scope 1
Danfoss' direct emissions

- Combustion of fuels
- Company cars
- Leakage of cooling agents in factories

Scope 2
Danfoss' indirect emissions

- Purchased electricity
- Purchased heating

Step 1
Energy efficiency
reduce

Step 2
Energy recovery
re-use

Step 3
Source renewables
re-source

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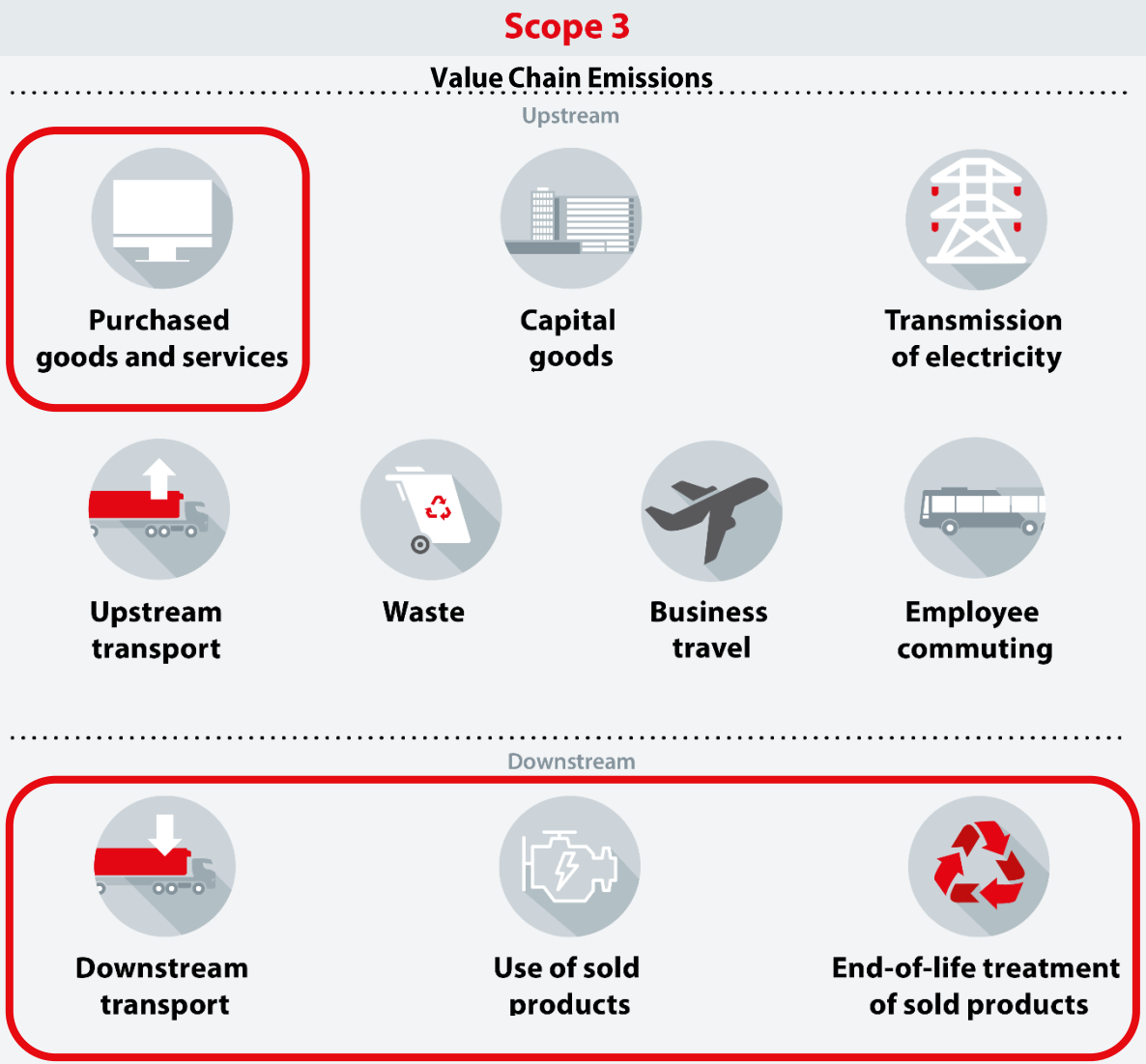
Our approach to reduce scope 3 emissions

1. Design for **low carbon products** at a manageable cost partnering with suppliers
2. Making our **portfolio circular to decarbonize** our value chains
3. **Optimize logistics** with partners
4. Reduce emissions from use of our products by optimizing the products and **help our customers decarbonize their operations**



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Danfoss Climate Solutions Diversity & Inclusion

- an attractive workplace

A diverse workforce helps us to understand and serve our global customers best

1. Combination of **equals** - we build on the best experiences and practices
2. Securing '**High-performing diverse teams**' with leadership commitment and better pre-/onboarding
3. We will **engage our teams** and share opportunities as they arise
4. Leadership & teams' development with focus on **Growth Mindset** for competence development
5. We aim for having **30% female leaders in 2025**.

30%
Female leaders by 2025

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