

The powerful trends shaping sustainable investing and how they interact

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Marketing document intended exclusively for Professional Investors

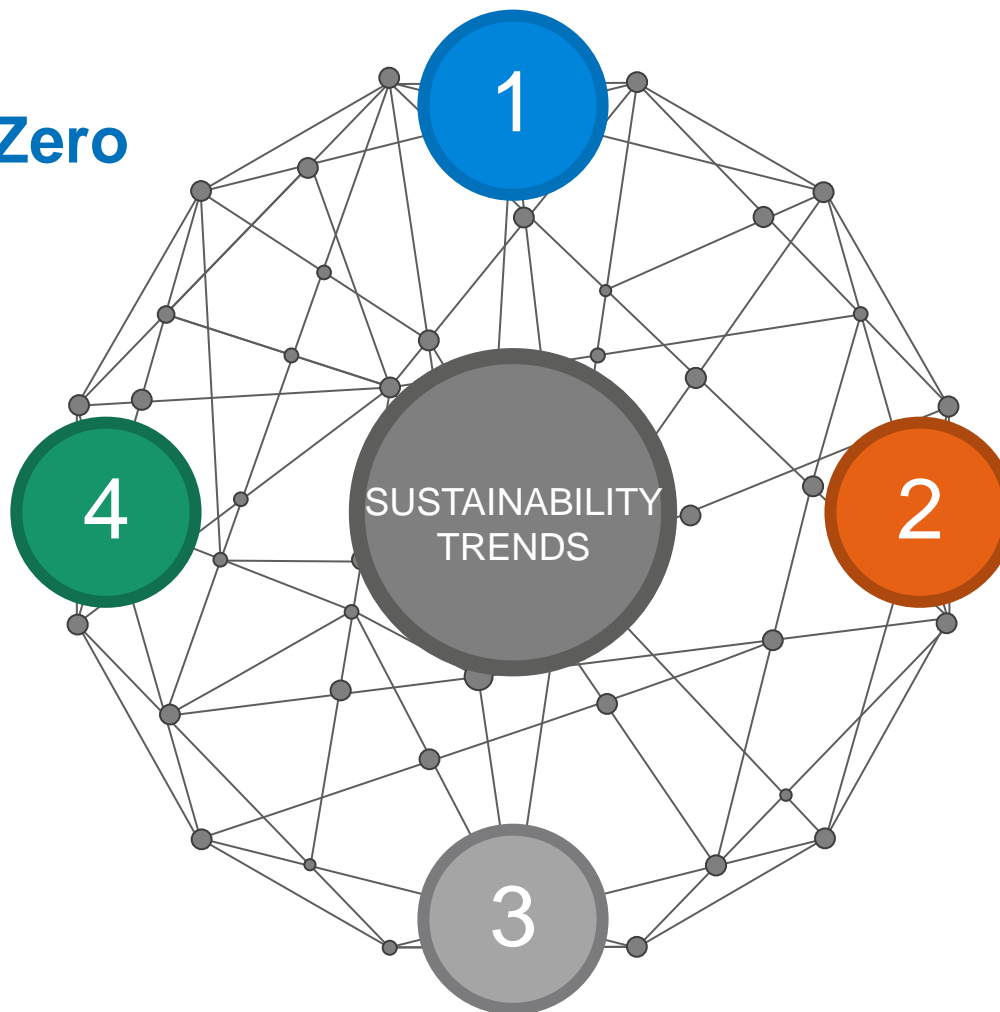
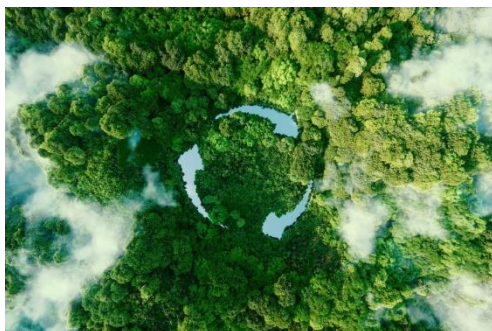
June 2022

There are many sustainability trends/challenges at play. To name a few ...

Climate Change & Net Zero



Circular Economy

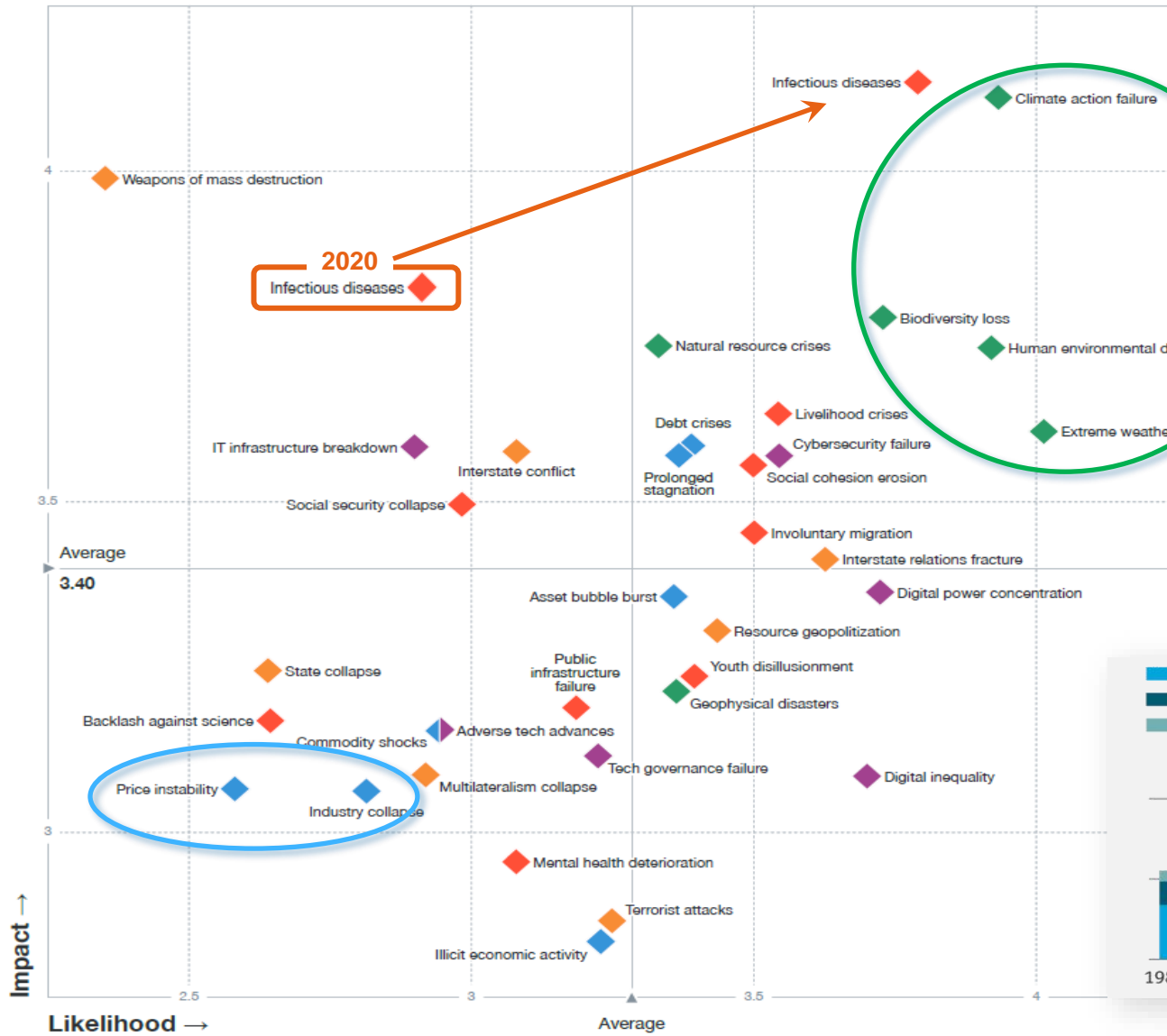


ESG Regulation



Nutrition

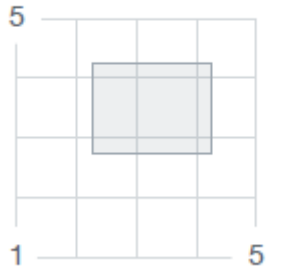




Risk categories

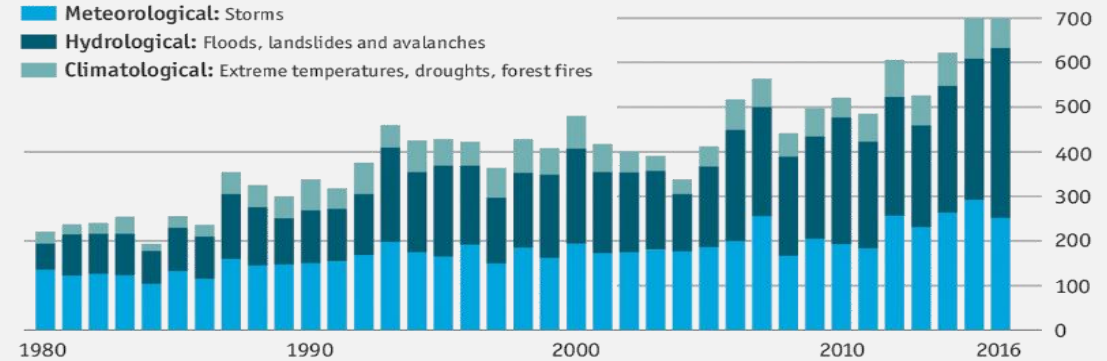
- ◆ Economic
- ◆ Environmental
- ◆ Geopolitical
- ◆ Societal
- ◆ Technological

Visible area



Extreme Weather Events are Increasing

Number of Climate Events by Cause, 1980-2016





1

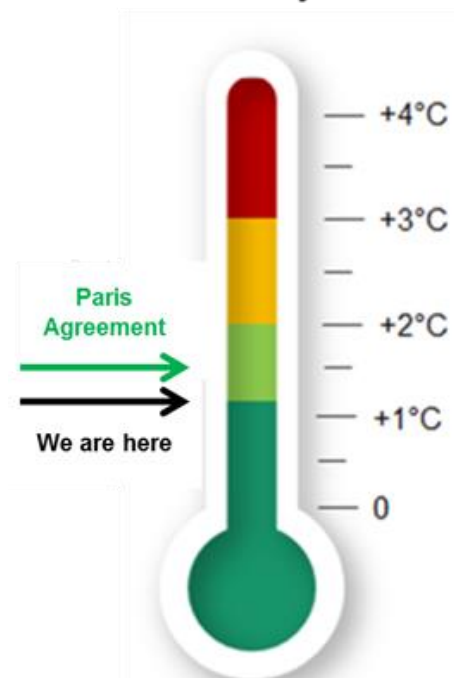
CLIMATE CHANGE AND THE RACE TO NET ZERO

The race to « Net Zero »: what does it mean?



Global warming is already having a **significant and costly impact** on our climate, economy, society and broader ecosystem.

Global temperature increase by 2100*



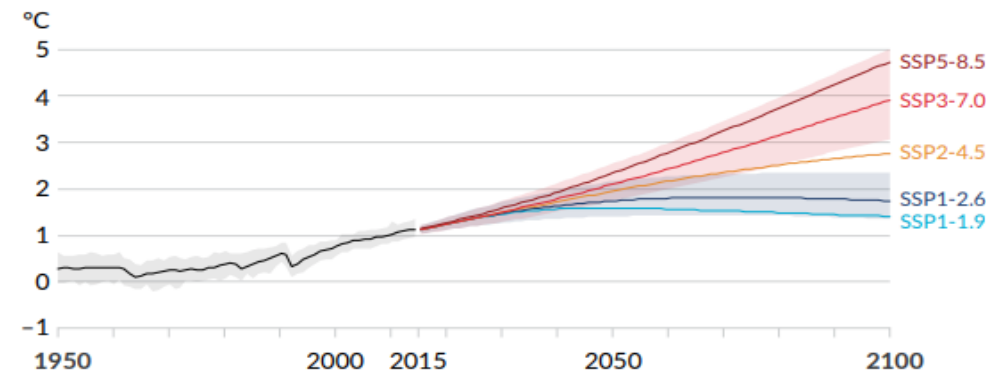
The Paris agreement and IPCC* reports have underlined the **urgency** of intensifying global mitigation and adaption efforts.

*Intergovernmental Panel on Climate Change

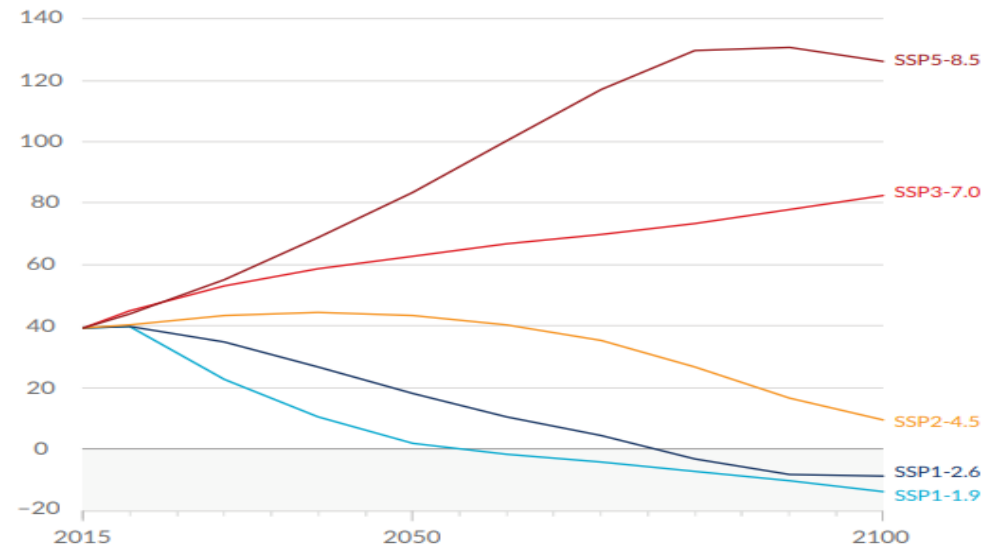
Climate: towards a net zero carbon world

Global Average Temperatures are rising and will keep on doing

(a) Global surface temperature change relative to 1850–1900



Carbon dioxide (GtCO₂/yr)

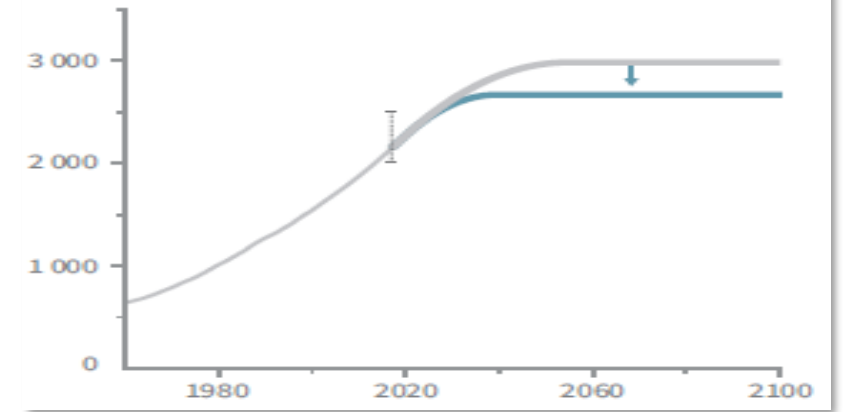


To remain to 1.5°C:

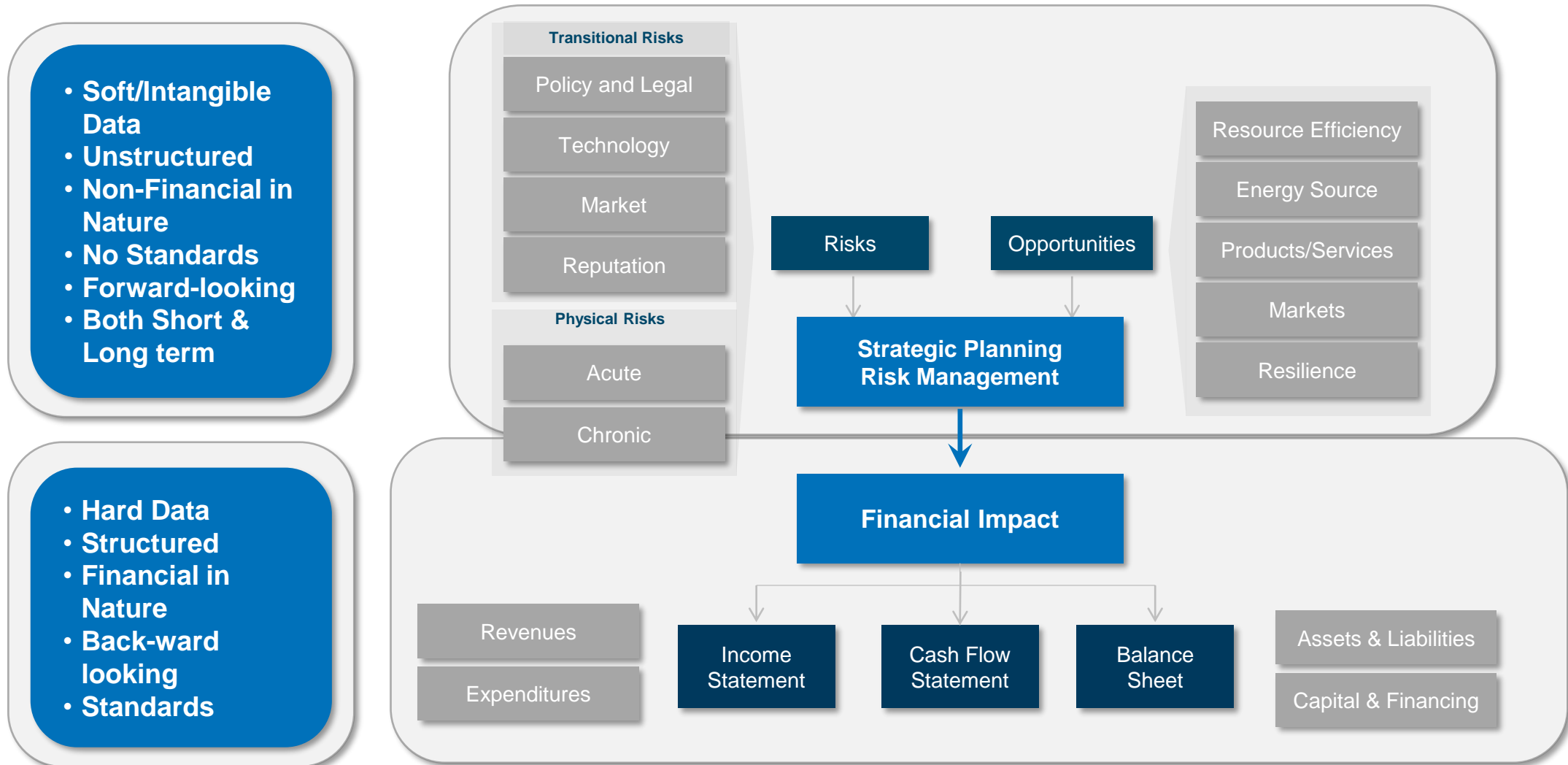
- Our remaining carbon emissions budget is around 350-400Gt CO₂e

- At 40 to 50Gt CO₂e per year, that gives our world 7 to 10 years before overshooting our carbon budget

Billion tonnes CO₂ (GtCO₂)



Sustainability trends have a Material Financial Impact

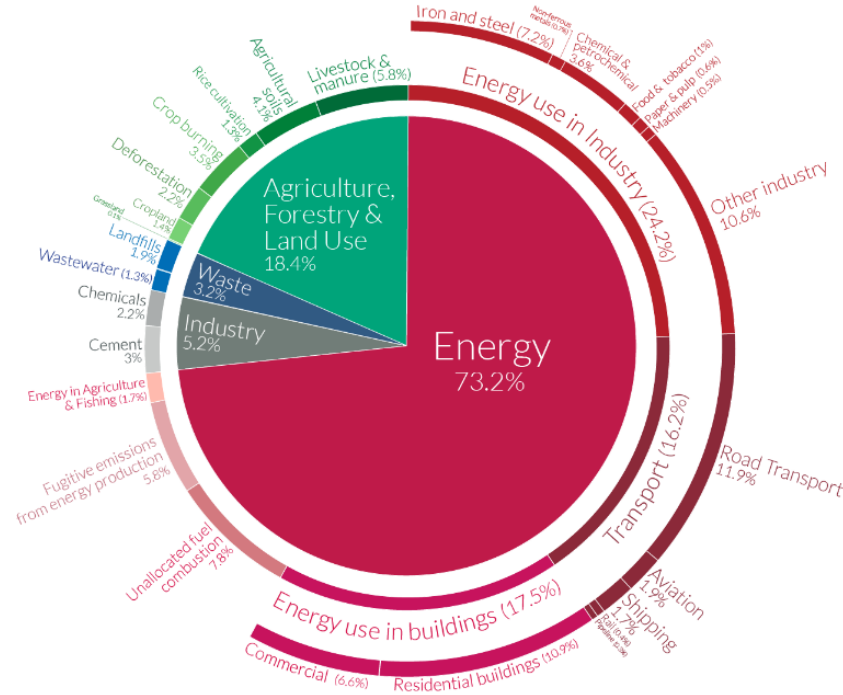


Source: Candriam, Final Report, Task Force on Climate-related Financial Disclosures, 2018

Decarbonizing the global economy by increasing efforts on various domains

Global greenhouse gas emissions by sector

This is shown for the year 2016 – global greenhouse gas emissions were 49.4 billion tonnes CO₂eq.



OurWorldinData.org – Research and data to make progress against the world's largest problems. Source: Climate Watch, the World Resources Institute (2020). Licensed under CC-BY by the author Hannah Ritchie (2020).

AVOID CARBON EMISSIONS BY



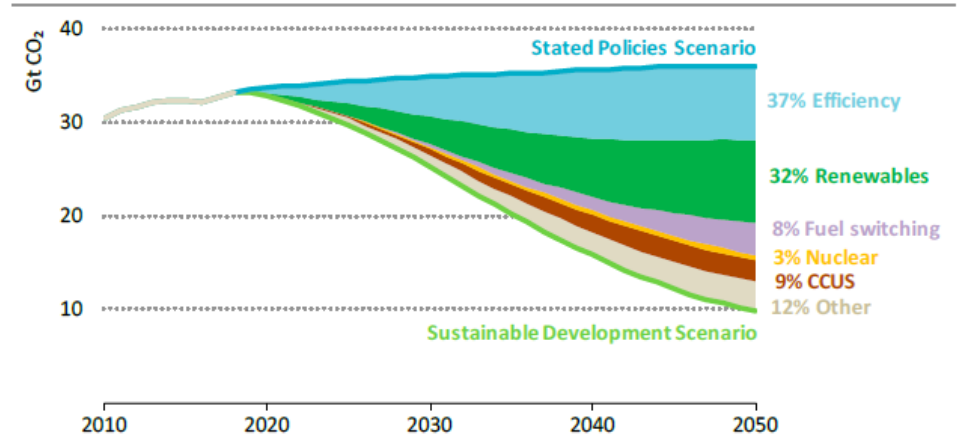
Improving Energy Efficiency



Transition towards Renewable Energy

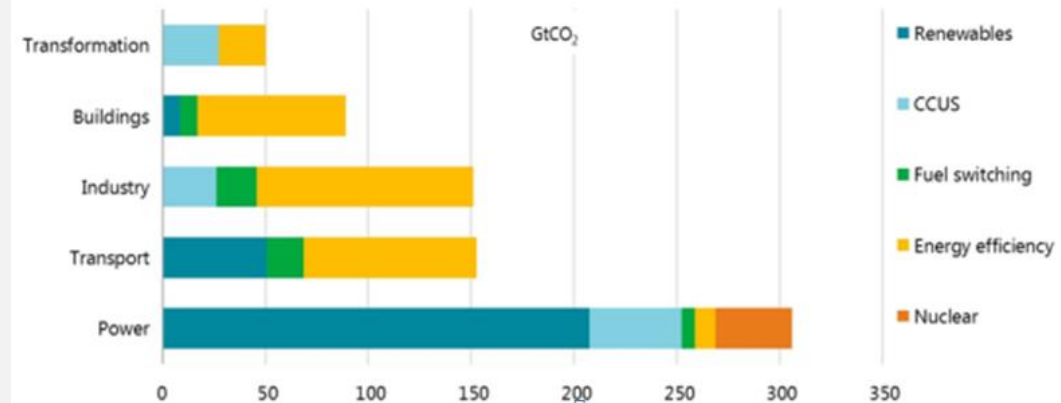


Low-Carbon Transport Solutions



All clean energy technologies are needed in the Sustainable Development Scenario; energy efficiency is the main contributor to emissions savings to 2050

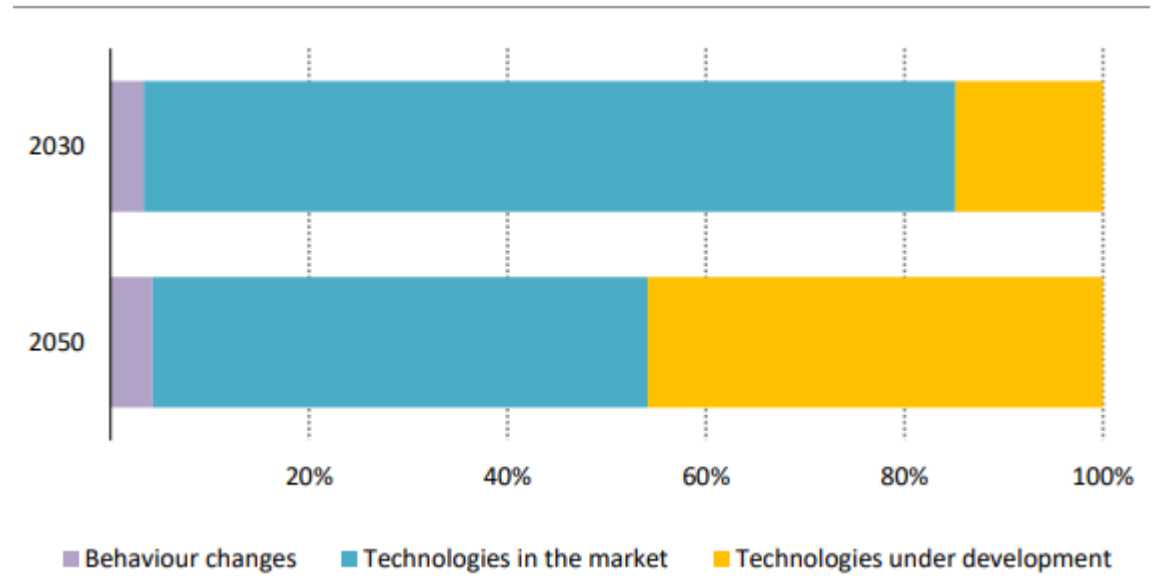
Notes: CCUS = carbon capture, utilisation and storage. Reduced thermal losses in power generation account for 15% of efficiency improvements.



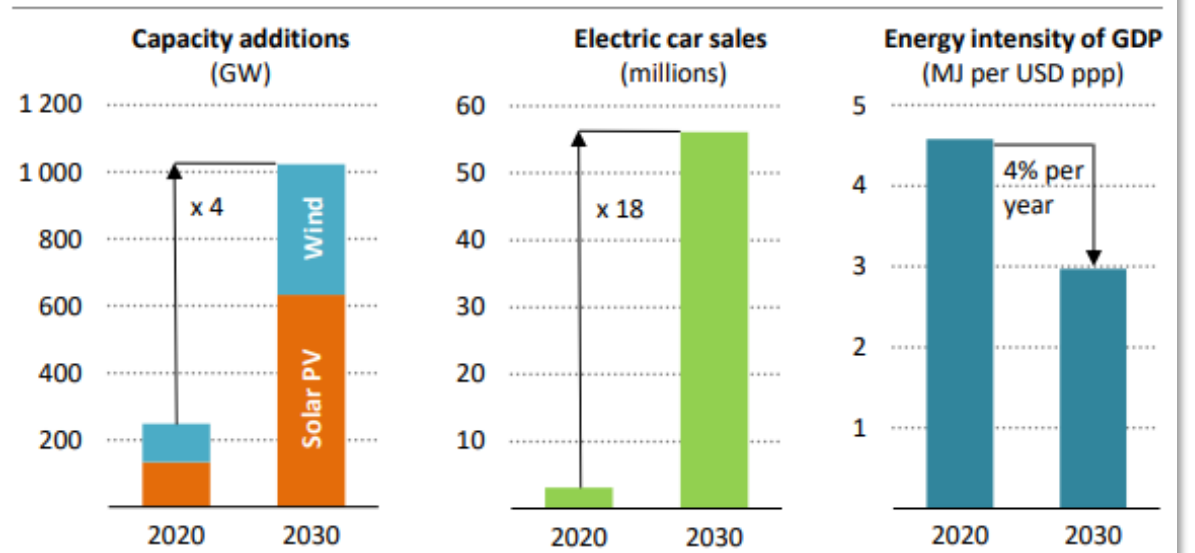
Sources: Energy-related CO₂ emissions and reductions by source in the Sustainable Development Scenario compared with the Stated Policies Scenario (IEA, 2019). <https://www.iea.org/reports/the-role-of-co2-storage>

All the technologies needed to achieve the necessary deep cuts in global emissions by 2030 already exist...

Annual CO₂ emissions savings in the net zero pathway, relative to 2020

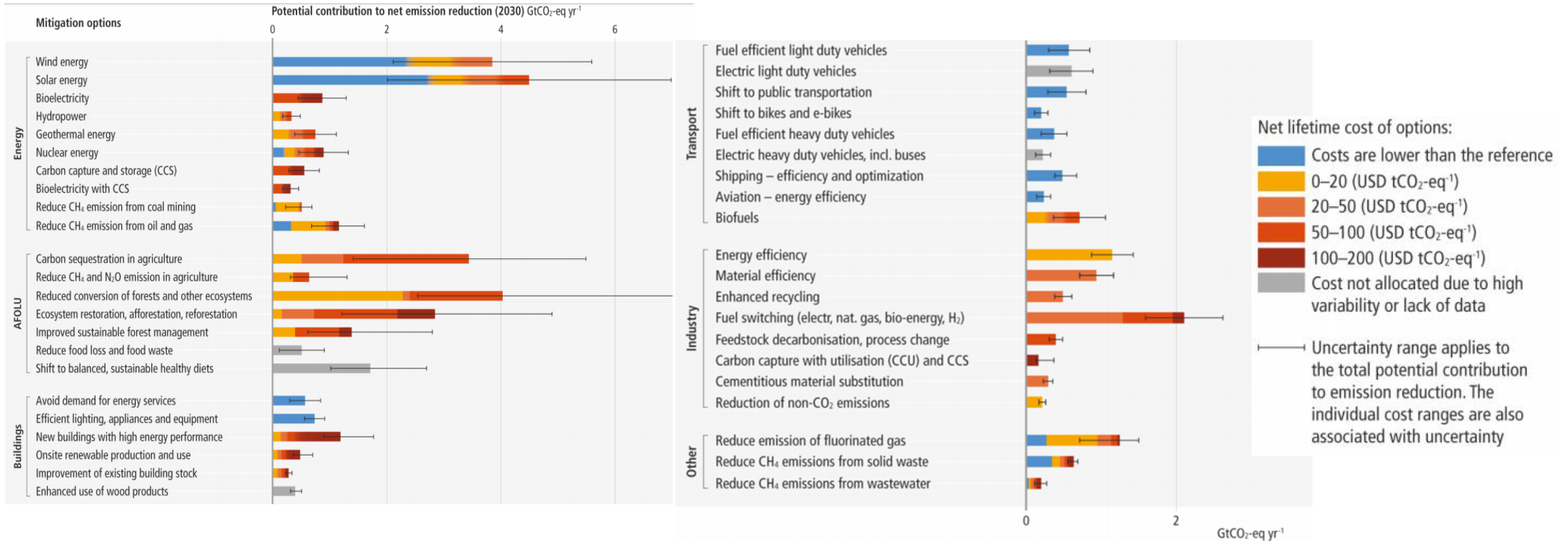


Key clean technologies ramp up by 2030 in the net zero pathway



Note: MJ = megajoules; GDP = gross domestic product in purchasing power parity.

... And many are already economically viable!

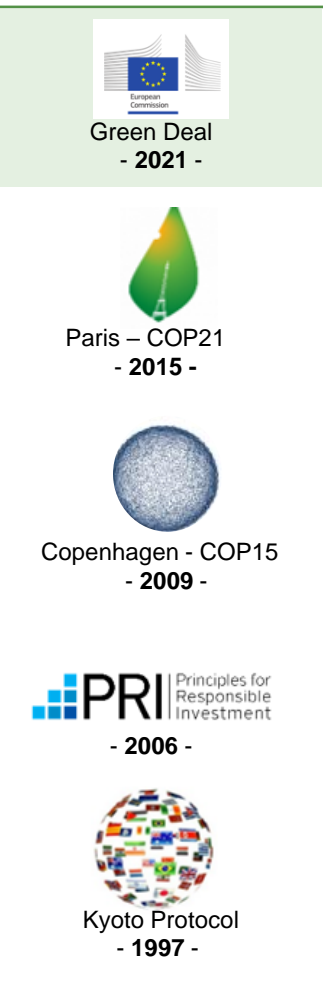




2

ESG REGULATORY LANDSCAPE


A Tsunami of new Regulations & Standards




Green Deal
- 2021 -

Paris – COP21
- 2015 -

Copenhagen - COP15
- 2009 -

 **PRI** Principles for Responsible Investment
- 2006 -


Kyoto Protocol
- 1997 -

Three ambitious climate and energy targets for 2030 in line with the Paris Agreement

Min 55% cut in GhG emissions vs 1990 levels

Min 32% share of renewables in final energy consumption

Min 32,5% energy savings versus business-as-usual scenario

€ 185 - € 290 bn of yearly investments is needed to reach these targets

Private & Public Money

Action Plan on Financing Sustainable Growth

One strategy | Three objectives

Reorienting capital flows towards sustainable investment

Mainstreaming Sustainability into Risk Management

Fostering Transparency and Long-Termism

Interconnected Regulations


 Action plan
 on
 sustainable
 finance

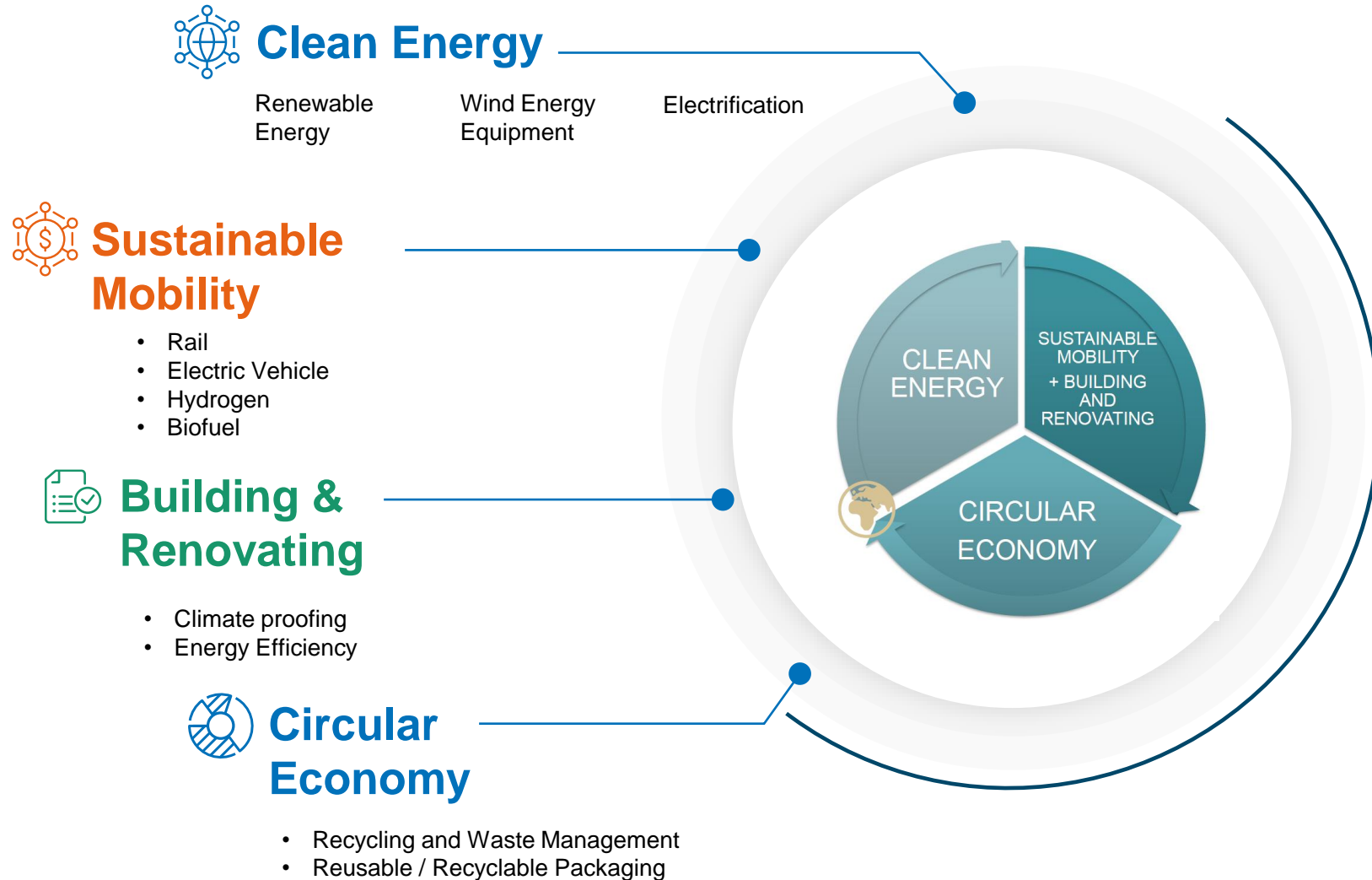


Local initiatives*



Regulations advance at different speeds with possible mis-match in implementation dates

Green Deal



At least
€1 Trillion
of budget



BUILDING A EUROPEAN GREEN DEAL BASKET

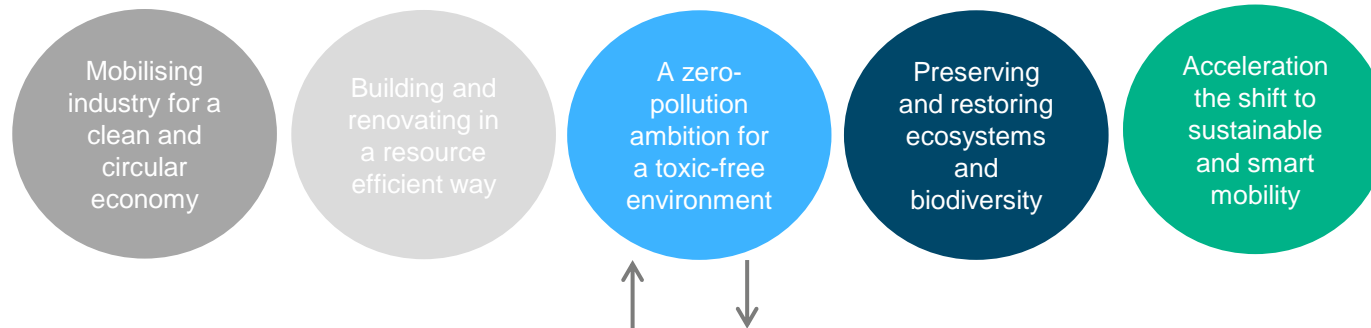
A Clean, Circular Economy as part of the EU Green Deal

ENERGY AND CLIMATE SYNERGY



CORE TENETS OF THE EU GREEN DEAL

DIRECTLY RELATED TO THE CIRCULAR ECONOMY ACTION PLAN 2020



CIRCULAR ECONOMY ACTION PLAN 2020

Make sustainable products the norm in the EU

Empower consumers

Focus on the lifetime of products through a sectoral lens

Ensure less waste



3

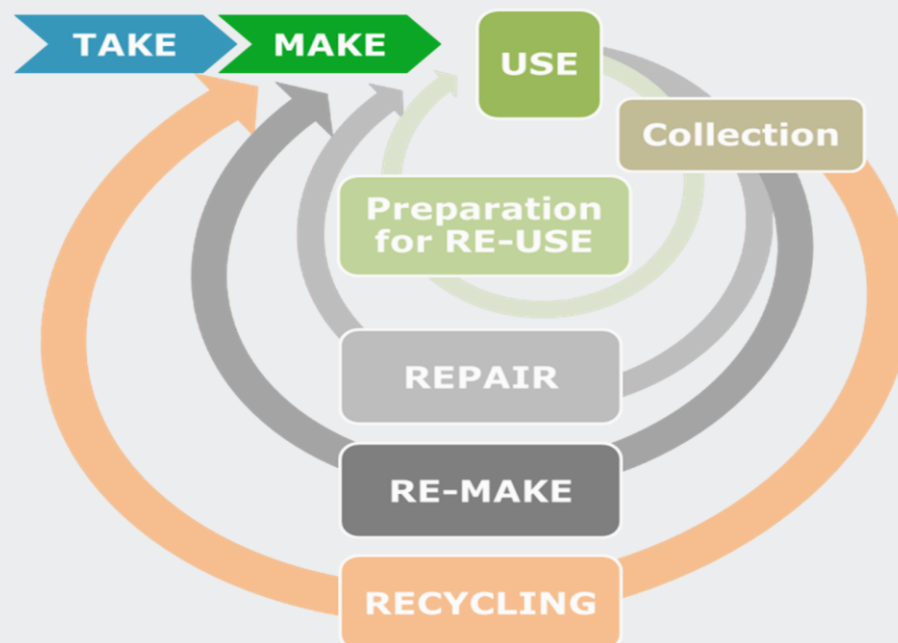
CIRCULAR ECONOMY

Linear & Circular economy

Linear Economy

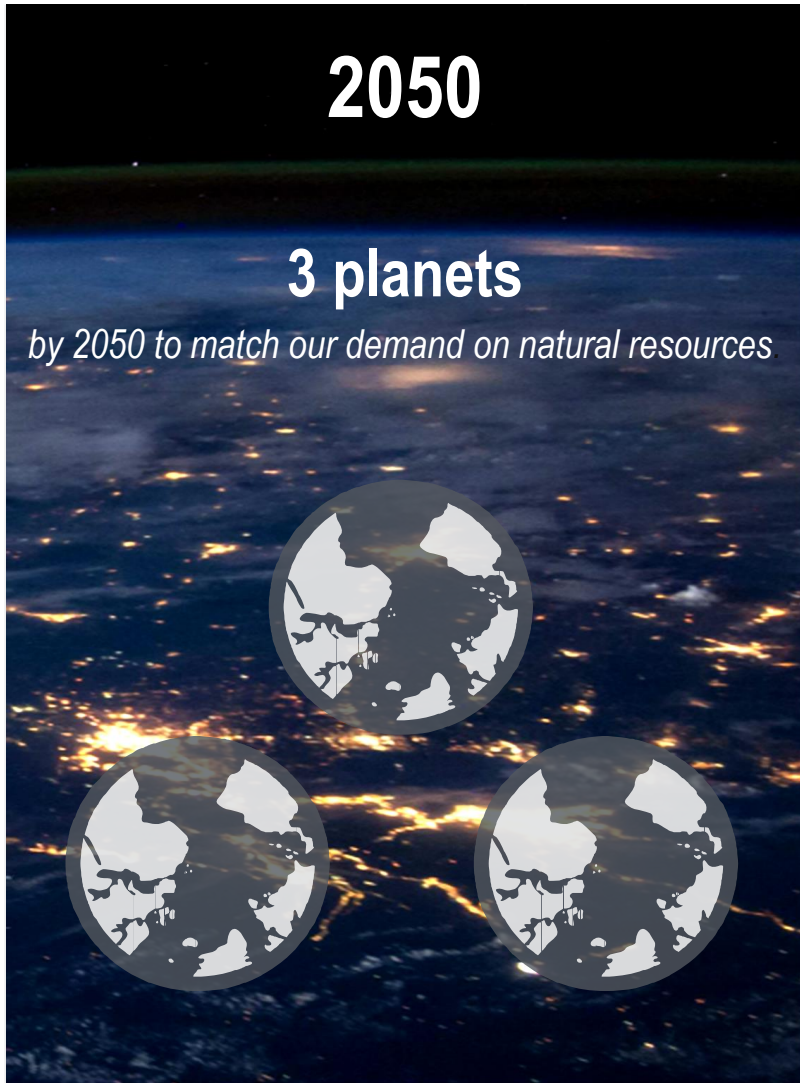


Circular Economy



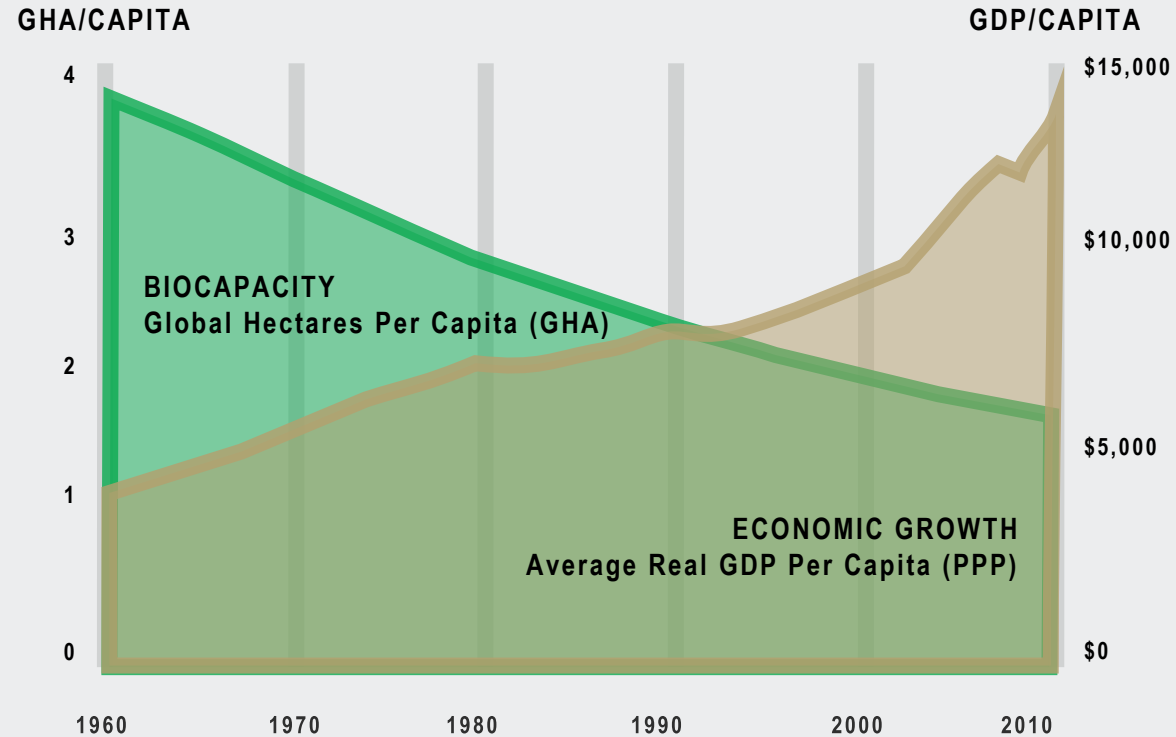
Minimizing waste

Earth is now in overshoot



ECONOMIC GROWTH FINANCED BY SPENDING OUR NATURAL WEALTH

BIOCAPACITY AND ECONOMIC GROWTH (1960 – 2010)



WASTE GENERATED



+70%
2050

EMISSIONS GENERATED



+100%
2050

Sources: Madison Project Database (2018) - National Footprint Accounts (2018)

Example of plastic packaging



13 million tonnes of plastic leak into the ocean each year



About 2/3 of all fish we eat now contains plastic in it

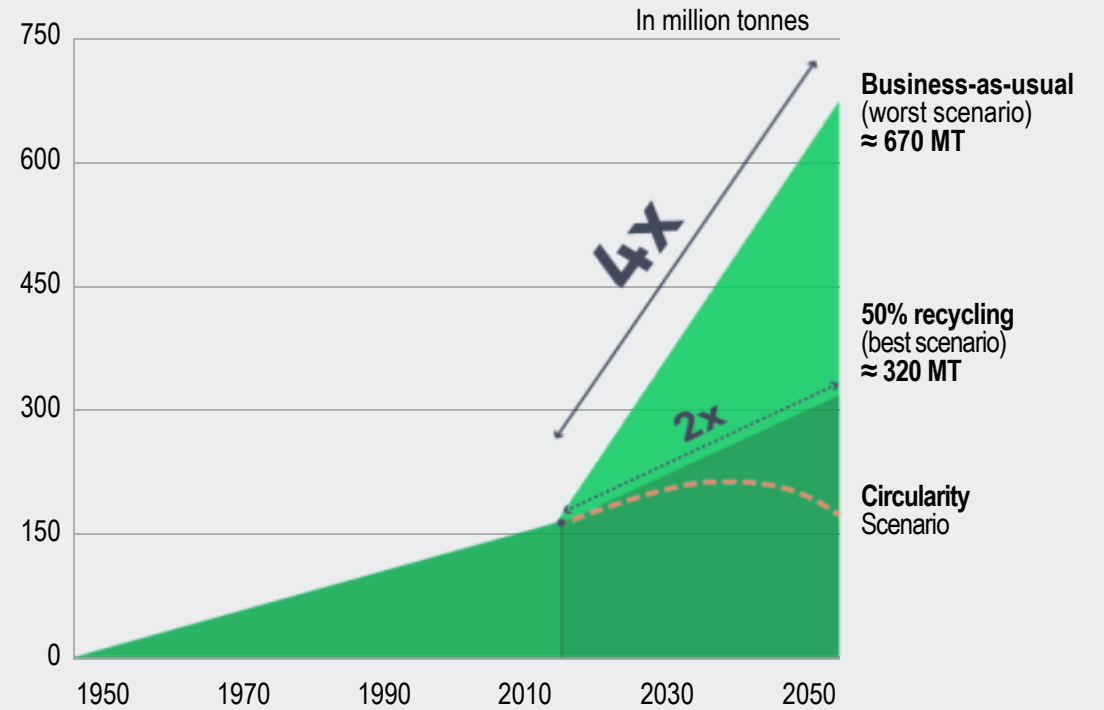


450 years for plastic bottle to be completely degraded



Global plastic packaging to quadruple by 2050

Global Plastic Packaging Production 1950–2050




Sources: UNEP, Euromonitor, EPA and WEF (2019), PlasticsEurope's Statistics (2019); Material Economics (2018); Conversio's Reports (2018); Geyer, R., Jambeck, J. R., & Law, K. L. (2017).

The world is 8,6% circular

IN 2020

THE WORLD IS
8,6%
CIRCULAR

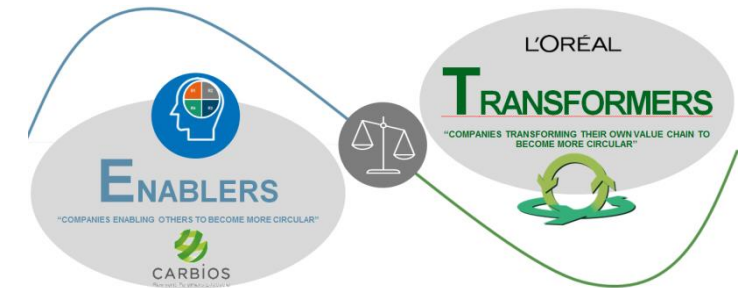
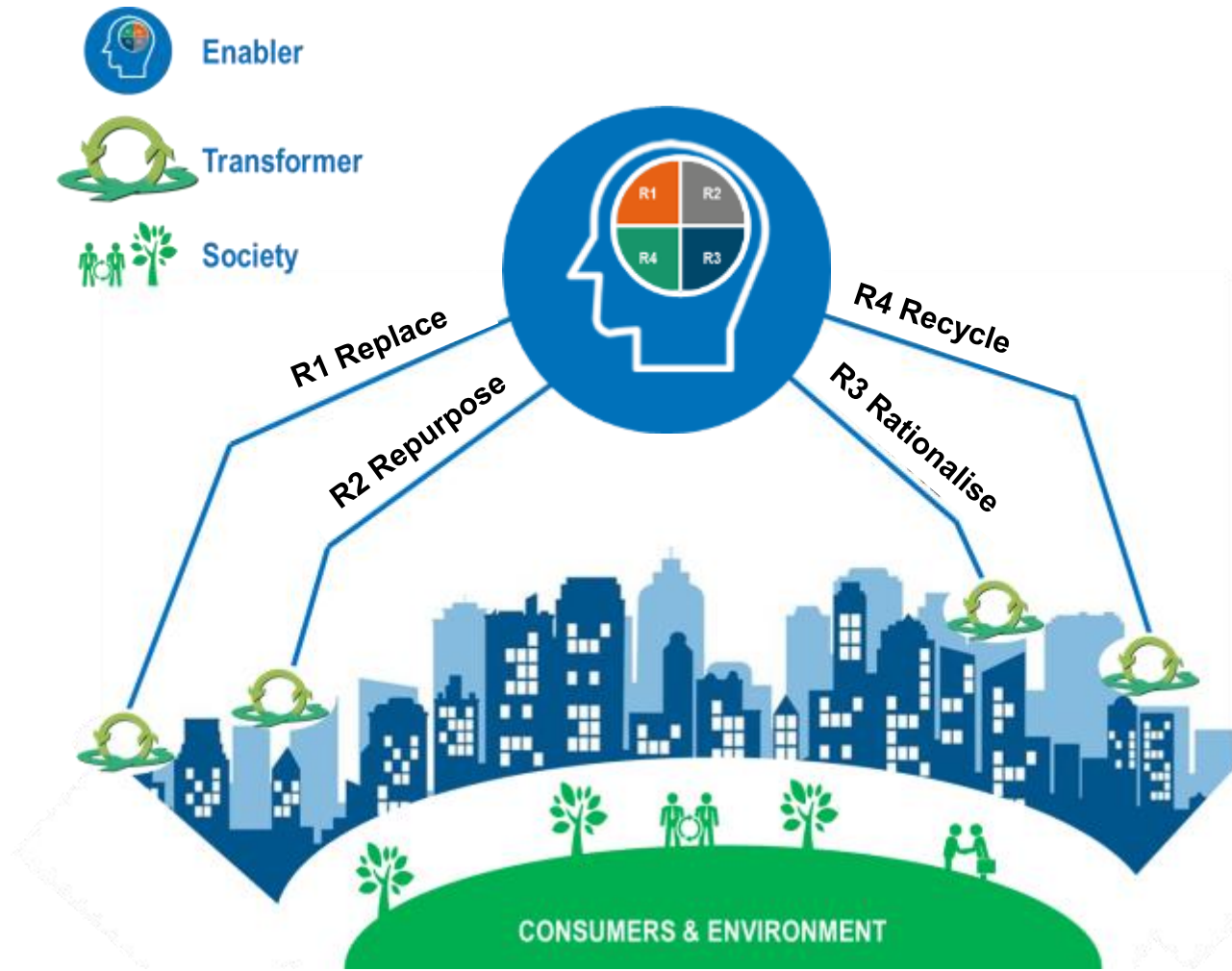


THE
91,4%
OPPORTUNITY



Sources: Circular Gap report 2020, Haas et al. (2015) and PACF (2019).

Interactions between Enablers & Transformers



With Carbios's Technology all waste PET plastic can be up-cycled



L'Oréal Implements Carbios' Technology

By 2030, 100% of plastics used in their packaging will either be of recycled origin or bio-sourced.



4

NUTRITION

A sustainable path to efficiently produced and healthier food



Population growth, middle-class development and changes in dietary patterns are driving global food demand



14% of produced food is lost, between harvest and retail.



40% of all food produced for human consumption goes uneaten



Human health should be placed at the center of a redesigned food system, also helping to ensure **planetary health**



40% of population are either overweight or underweight
FAO, WHO (2021)

Megatrends & challenges

GLOBAL NUTRITION MEGATRENDS 2050



GLOBAL NUTRITION CHALLENGES 2050



1
PRODUCE SUFFICIENT FOOD with LESS FOOTPRINT
 Efficient Food with Less Waste and Lower Impact



2
BETTER FOOD
 Better Food with Healthier Alternatives

Global nutrition challenges: **less waste and lower impacts**

1 2 ZERO HUNGER 11 SUSTAINABLE CITIES AND COMMUNITIES 12 RESPONSIBLE CONSUMPTION AND PRODUCTION **EFFICIENT FOOD** 13 CLIMATE ACTION 14 LIFE BELOW WATER 15 LIFE ON LAND

MISSION ZERO WASTE
Food wasted could end world hunger twice



Efficient production of sufficient food, with significant reduction of GHG emissions and waste

An estimated **14-gigaton GHG mitigation gap** between expected food emissions in 2050 and the target level needed to hold global warming below 2°C and avoid the worst climate impacts.

INCREASE CROP YIELDS TRANSITION TO DIGITAL FARMING & AGRICULTURE 4.0

Agricultural technologies can increase global crop yields by 67% and cut food prices in half by 2050

Source: Food Security in a World of Natural Resource Scarcity., IFPRI (2014)

MITIGATE FOOD EMISSIONS TRANSITION TO LOW-CARBON FOOD SYSTEMS

Regenerative and low-carbon farming practices can lower global greenhouse emissions by 5% to 20%.

Source: Climate Change Sixth Assessment Report, IPCC (2021)

ELIMINATE FOOD WASTE TRANSITION TO CIRCULAR- BASED FOOD SYSTEMS

Optimized and flexible packaging alternatives can reduce food waste by up to 75%.

Source: Food Packaging Sustainability, Ecoplus & OFI (2020).

REDUCE RESOURCE WASTE TRANSITION TO RESOURCE- SMART FOOD SYSTEMS

Smart farming technologies can reduce the use of pesticides by 80%, water by 50%, and fuel by 40%.

Source: A Case for Rural Broadband, USDA (2019)

EXPAND ALTERNATIVE FARMING TRANSITION TO URBAN & VERTICAL AGRICULTURE

Urban agriculture can potentially produce about 10% of the global output of all vegetable supply.

Source: Clinton et al. Estimate of Urban Agriculture, Earth's Future (2018).

Global nutrition challenges: **better food with healthier options**

2



HEALTHIER FOOD

MISSION ZERO DISEASE

Unhealthy diet is world's leading mortality cause



Provide better and healthy food without nutrient loss and environmental impact

The growth of population combined with the overconsumption of protein¹ is set to create an estimated **100% protein gap** between the protein available and the expected demand in 2050.

PROVIDE ORGANIC FOODS TRANSITION TO ORGANIC NATURAL FOODS

Organic fruits, vegetables, and cereals provide **40% more antioxidants** than conventionally grown ones.

Source: Higher Antioxidant (...) in Organically Grown Crops.

SUPPLY ALTERNATIVE PROTEINS TRANSITION TO SUSTAINABLE & ORGANIC SEAFOOD

Alternative proteins could account for **22% of the global protein market by 2035 vs 2% in 2020.**

Source: Food for Thought: The Protein Transformation. BCG & Blue Horizon (2021)

EXPAND NUTRITIONAL SUPPLEMENTS TRANSITION TO HEALTHY FUNCTIONAL FOODS

Omega-3 supplementation reduces the risk of dying from cardiovascular diseases by 50%.

Source: VITamin D & OmegA-3 Trial (VITAL). Harvard Medical School (2018)

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