

Creating a Sustainable Future

Overcoming barriers and
seizing the opportunities

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The Perfect Storm

Current global population 7.8bn

UN Central Projections:

- 8.5bn by 2030
- 9.7bn by 2050
- 10.9bn by 2100

Source: UN DESA "World Population Prospects: The 2019 Revision"

UK 2018-2043 9% increase to 72.4 million



Population growth fuels consumption & puts pressure on our climate and natural systems

- Food
- Energy
- Water
- Materials
- Infrastructure
- ...etc

Life Expectancy

An Ethiopian born 1990-1995 had a life expectancy of 48yrs – for someone born today it is 68yrs

In Zambia the increase has been from 46 years to 65yrs

In UK – 76yrs to 81yrs

Sustainability is....

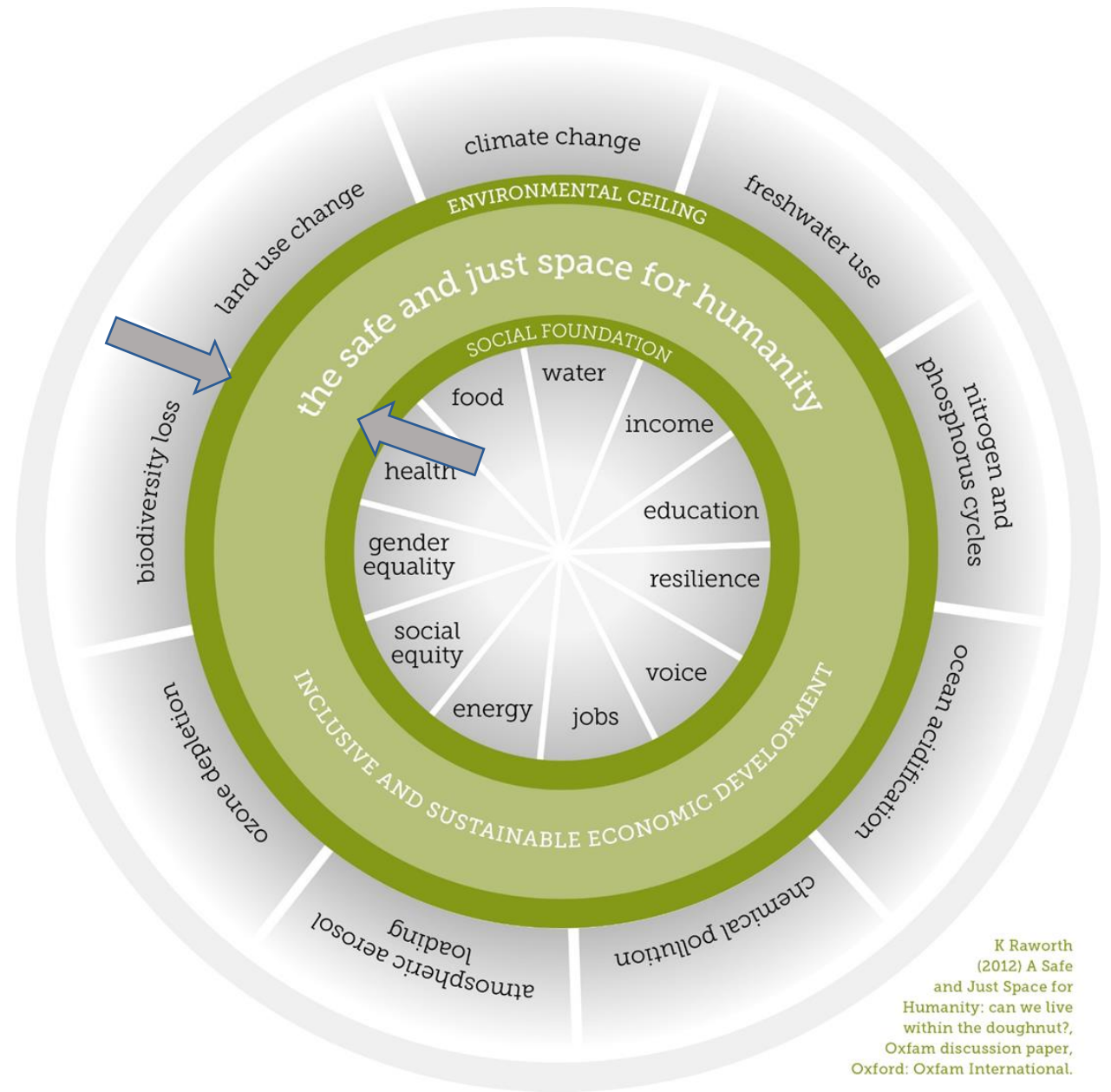
Environmental Limits

Social foundations

Efficiency

Equity

Moving from trade-offs to 'win wins'

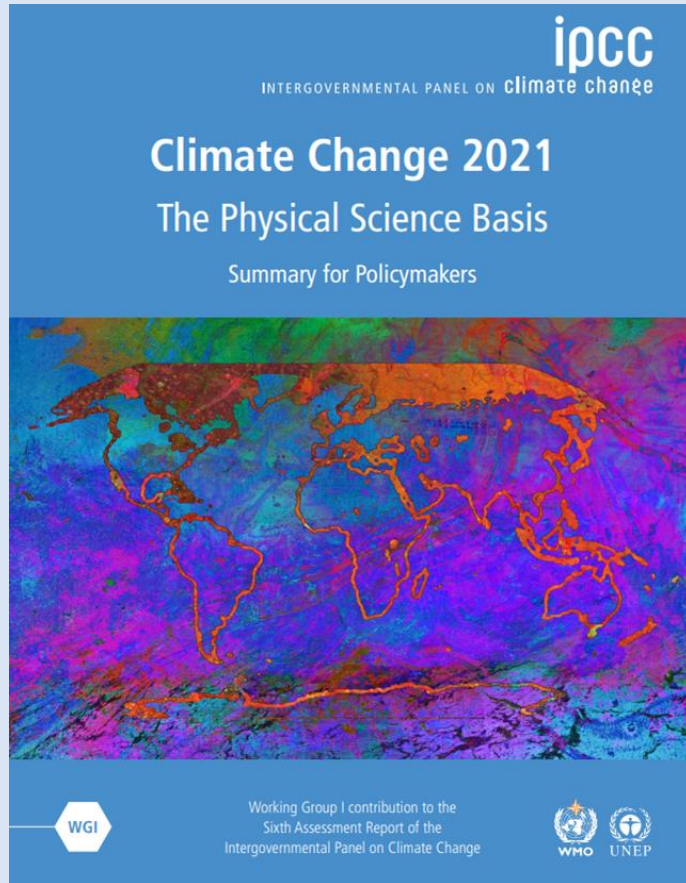


K Raworth
(2012) A Safe
and Just Space for
Humanity: can we live
within the doughnut?,
Oxfam discussion paper,
Oxford: Oxfam International.

Climate Change and Biodiversity Loss



Climate Change

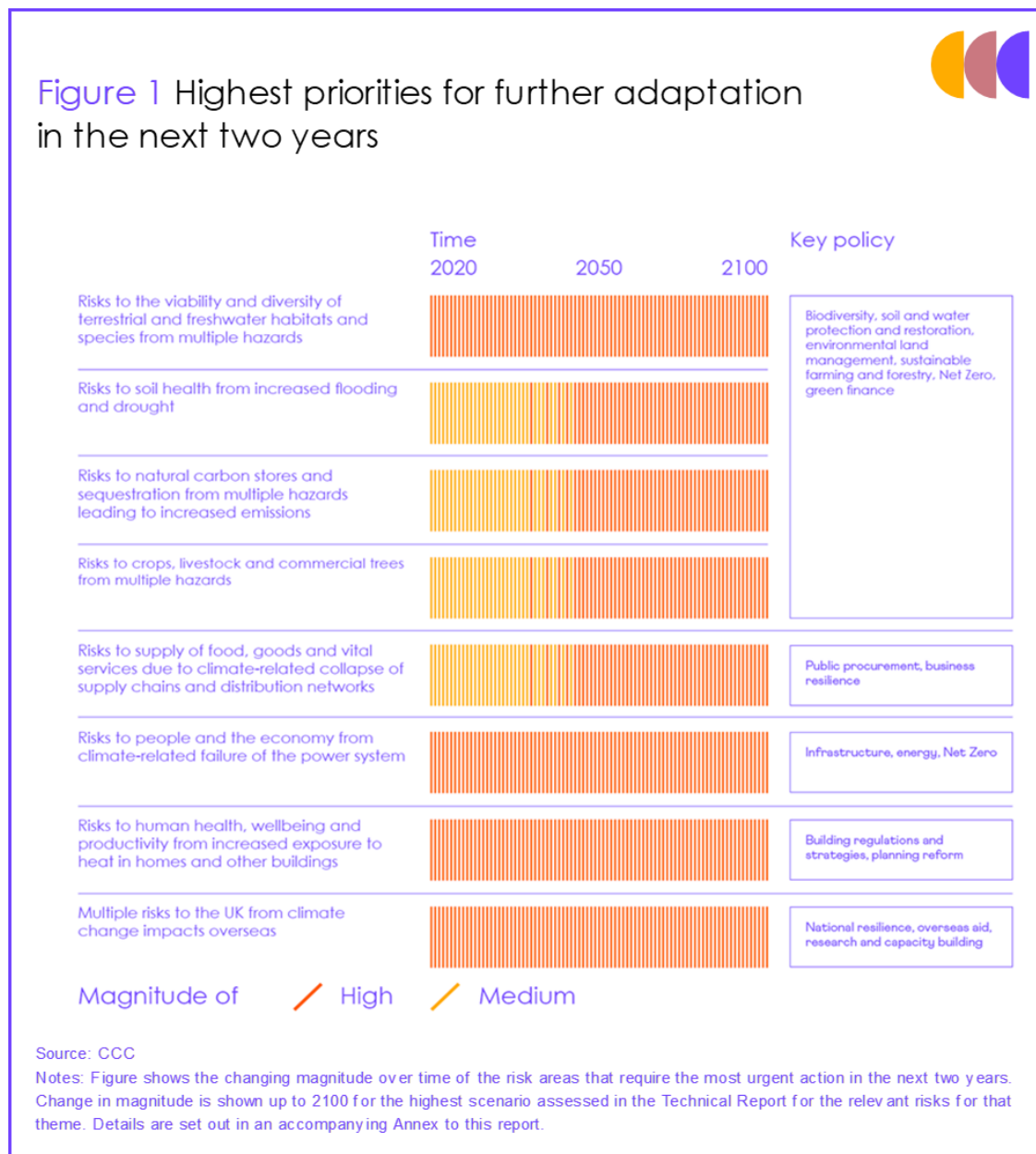


6th Assessment Report – Key Messages

1. It is unequivocal that human influence has warmed the atmosphere, ocean and land.
2. The scale of recent changes across the climate system as a whole and the present state of many aspects of the climate system are unprecedented.
3. Human-induced climate change is already affecting many weather and climate extremes in every region across the globe.
4. Evidence of observed changes in extremes such as heatwaves, heavy precipitation, droughts, and tropical cyclones, and in particular, their attribution to human influence, has strengthened since the Fifth Assessment Report (AR5).
5. Global surface temperature will continue to increase until at least the mid-century under all emissions scenarios considered. Global warming of 1.5°C and 2°C will be exceeded during the 21st century unless deep reductions in carbon dioxide (CO₂) and other greenhouse gas emissions occur in the coming decades.

“...the gap between the level of risk we face and the level of adaptation underway has widened. Adaptation action has failed to keep pace with the worsening reality of climate risk.”

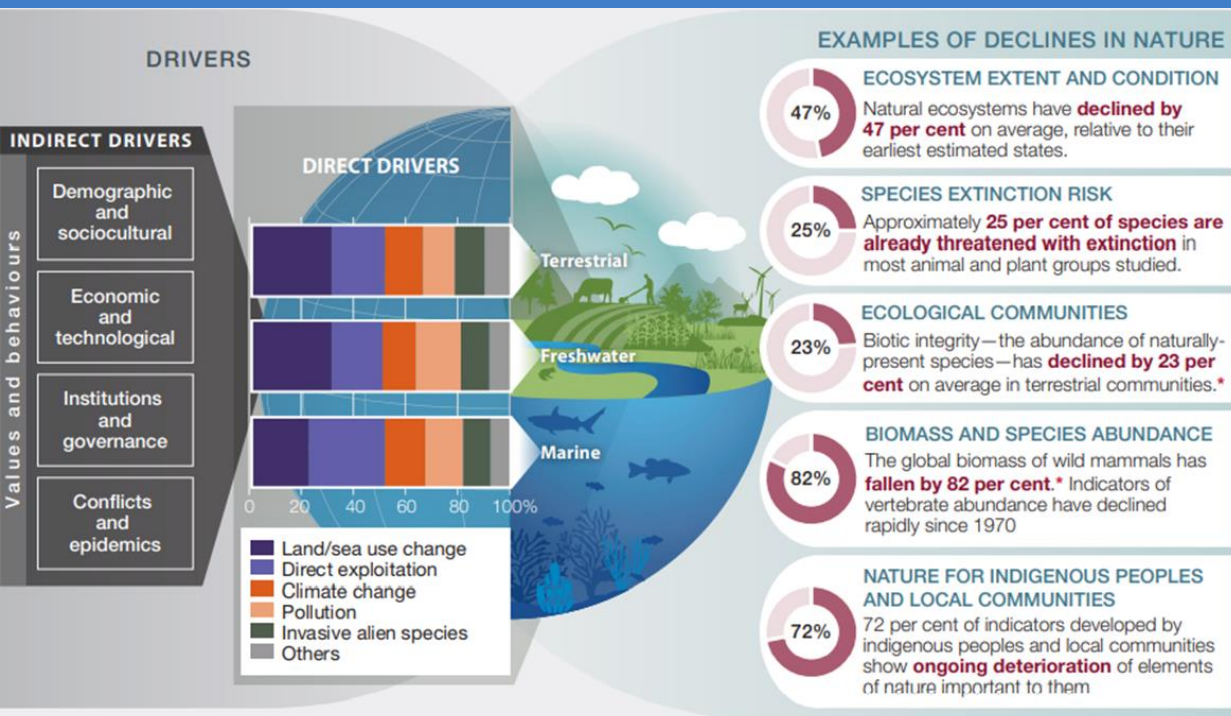
[Independent Assessment of UK Climate Risk - Climate Change Committee \(theccc.org.uk\)](https://theccc.org.uk)



Biodiversity in Crisis

“The health of ecosystems on which we and all other species depend is deteriorating more rapidly than ever. We are eroding the very foundations of our economies, livelihoods, food security, health and quality of life worldwide.”

Sir Robert Watson

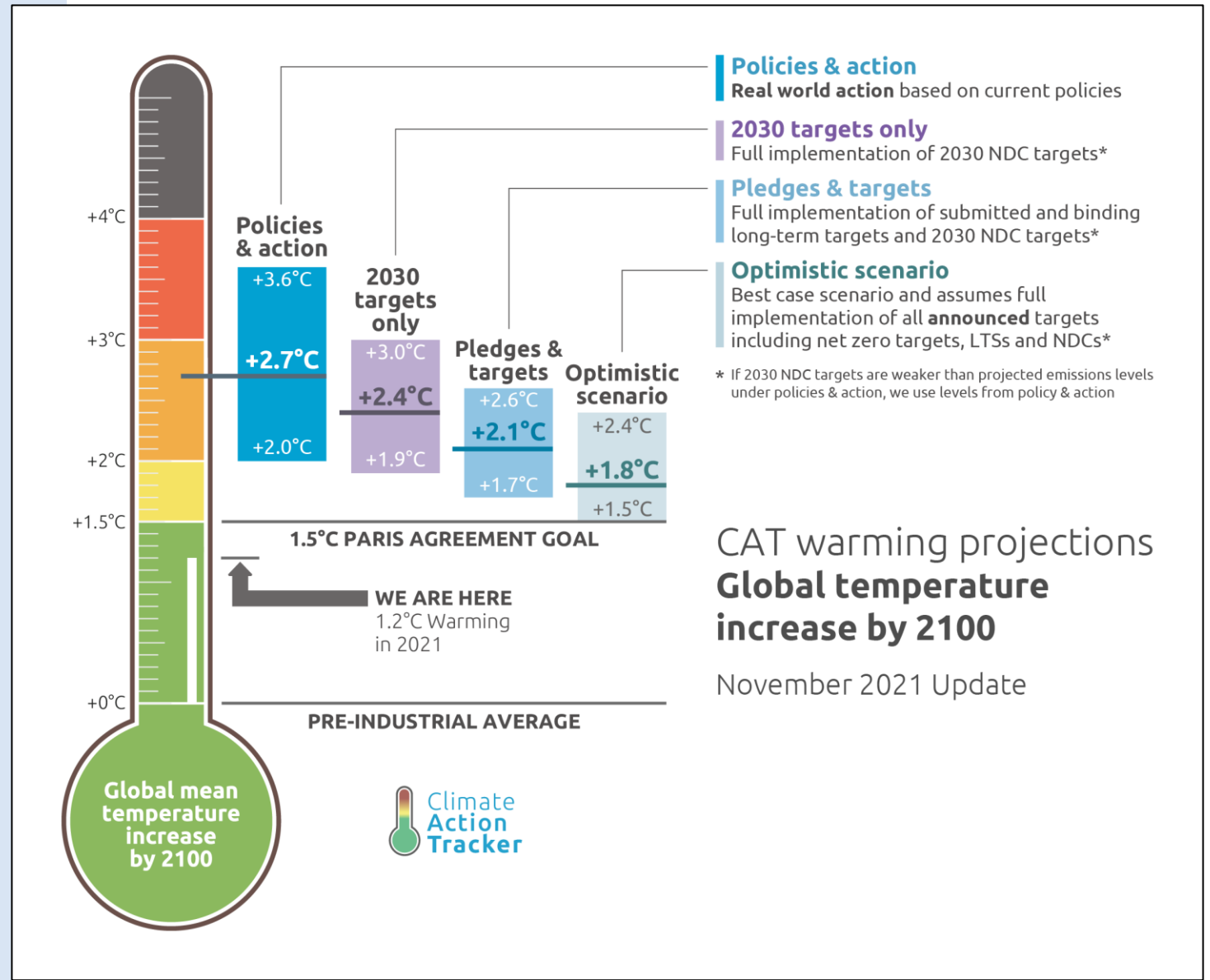


Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. (2019).

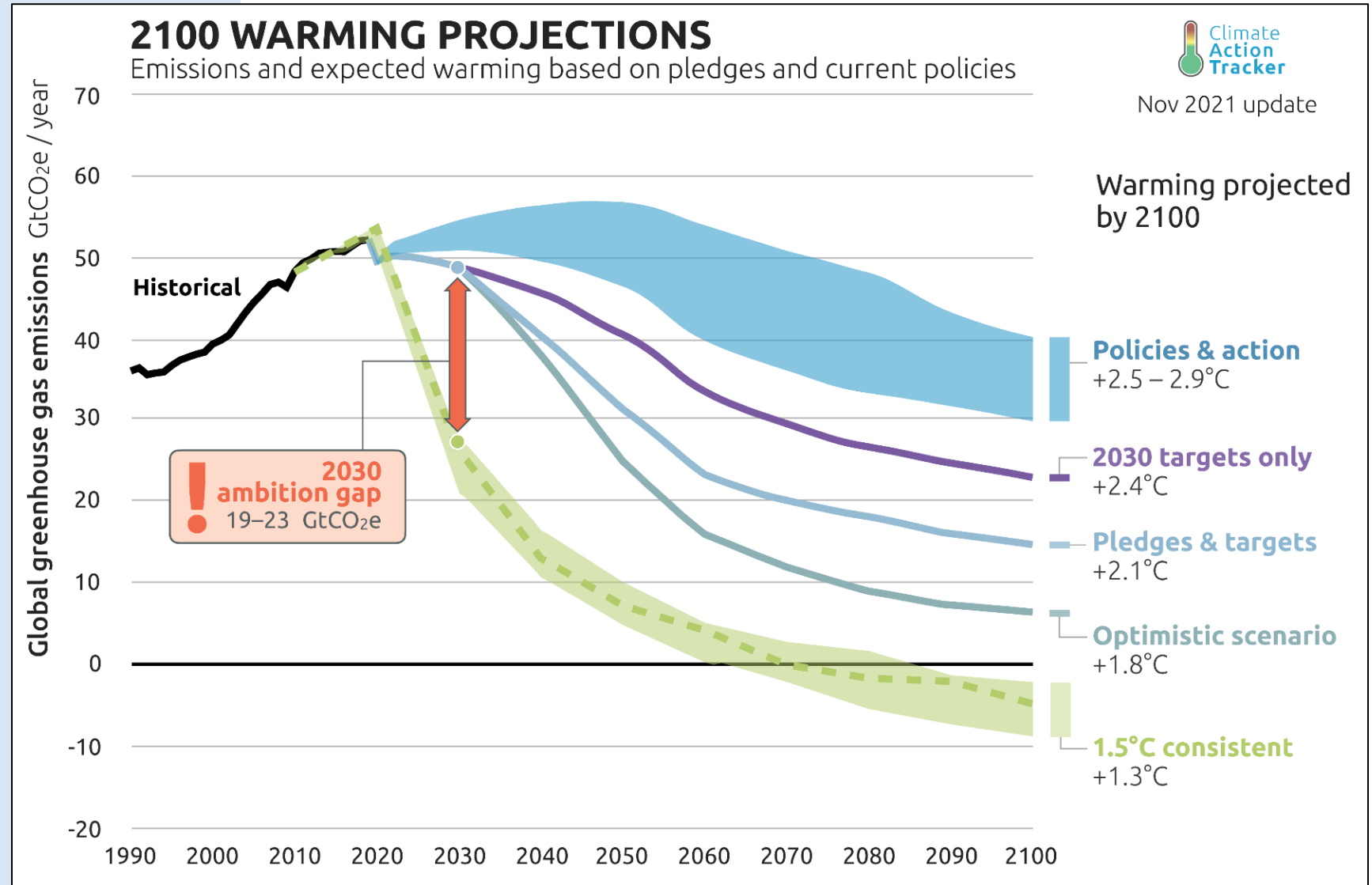
Summary for policymakers of the global assessment report on biodiversity and ecosystem services (summary for policy makers). IPBES Plenary at its seventh session (IPBES 7, Paris, 2019).

<https://doi.org/10.5281/zenodo.3553579>

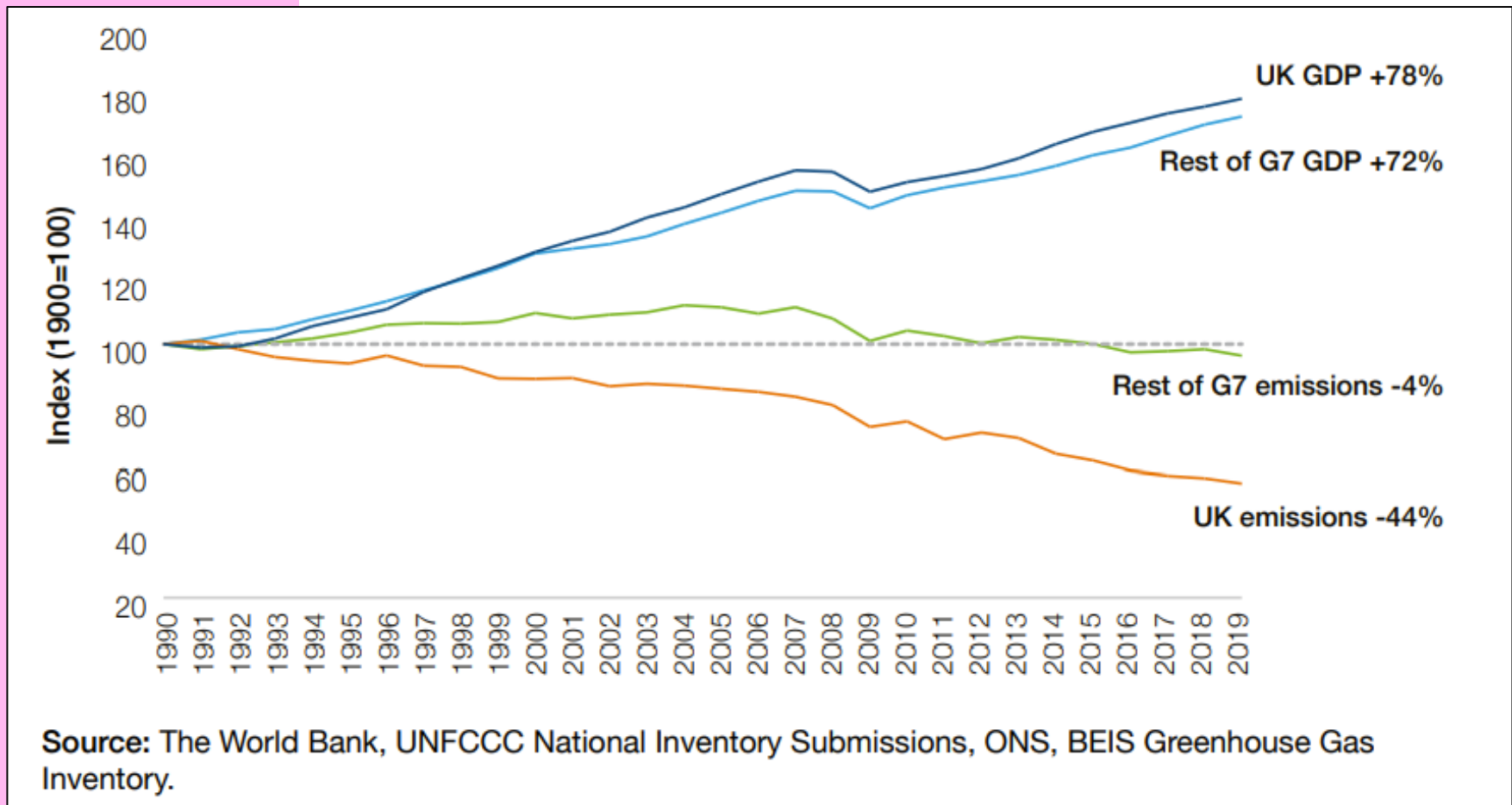
A summary of where we are

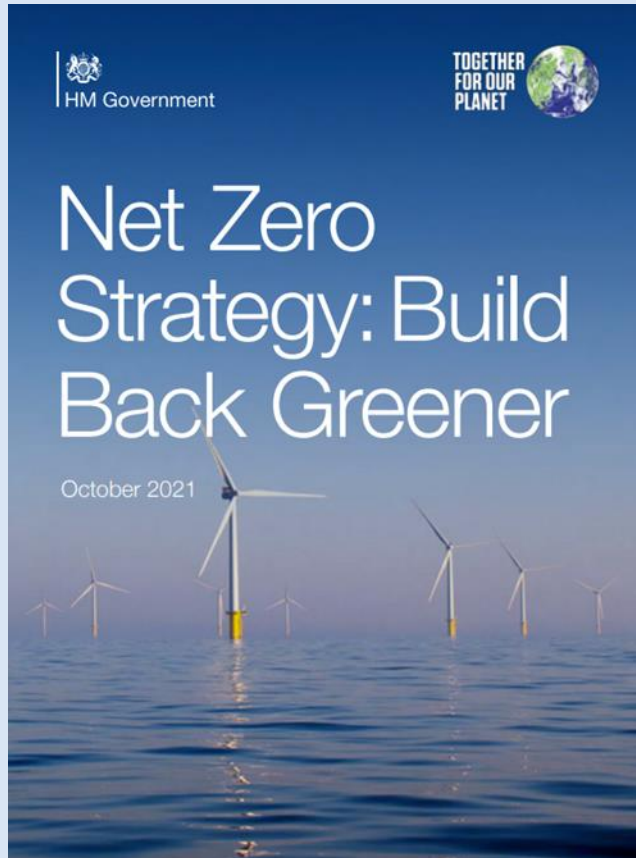


Urgency! The Need for Action this Decade



Growing our economy while reducing carbon emissions





Reducing emissions across the whole economy

1. Power
2. Fuel supply and hydrogen
3. Industry
4. Heat and buildings
5. Transport
6. Natural resources, waste and F-gases
7. Greenhouse gas removals

Disruptive Innovation – threat or opportunity?



Bloomberg New Energy Finance

Electric Vehicle Outlook 2021 Executive Summary

“Passenger EV sales are set to increase sharply in the next few years, rising from 3.1 million in 2020 to 14 million in 2025.”

“Lithium-ion battery pack prices fell 89% from 2010 to 2020”

39% of all new buses sold are electric vehicles

From exhausts, spark plugs and catalytic converters...



...to electric vehicle charging points and fewer moving parts

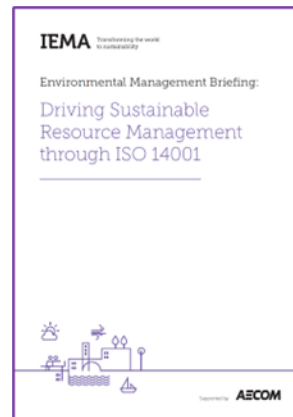
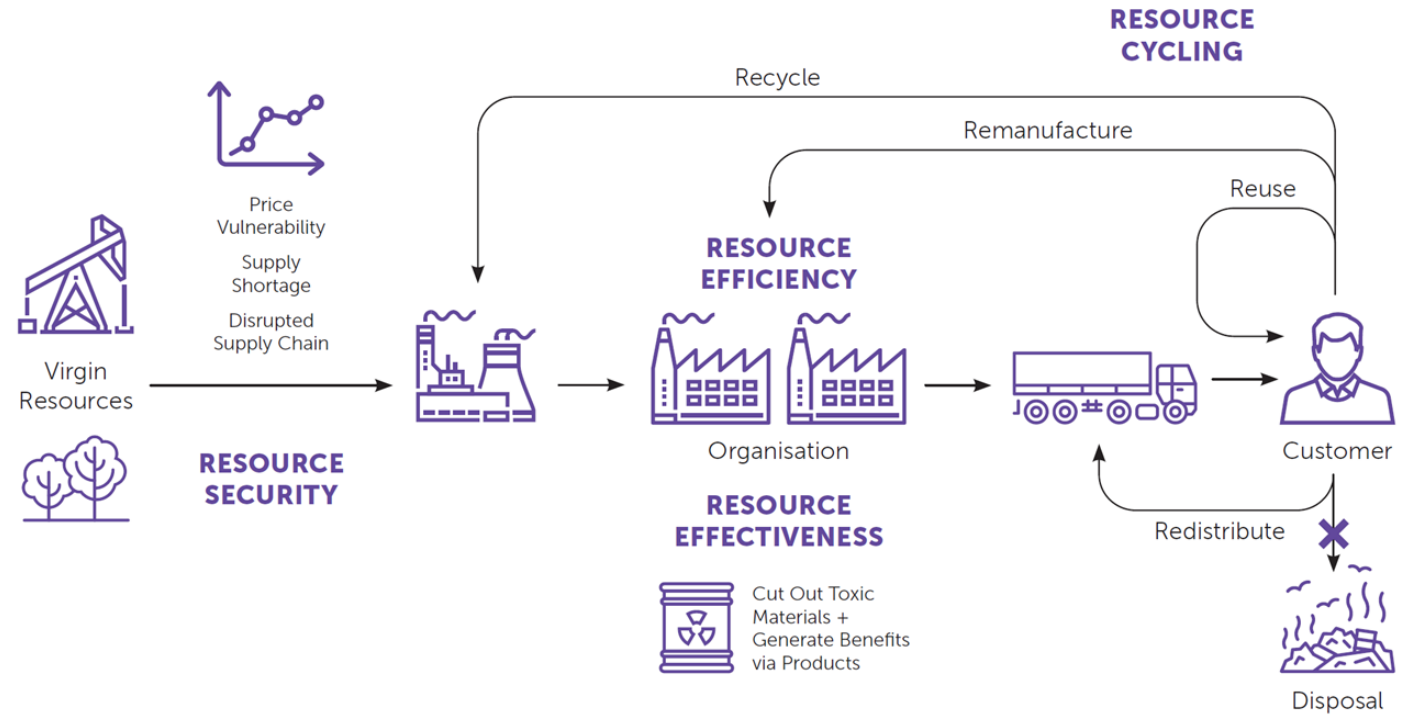


Circular Economy & Resource Productivity



circular economy (ISO 14009)

“systemic approach
to the design of
business models,
enabling the
sustainable
management of
resources in products
and services”



Underpinning Circular Economy Principles

From BS 8001

What are the six principles of the circular economy?



Circular Economy – Four key areas for business action



Resource Efficiency

Making the most of material resources while minimising the production of waste



Resource Effectiveness

Optimizing resource efficiency to avoid environmental harm and drive societal benefits



Resource Security

Responsibly sourcing a reliable and affordable supply of materials



Resource Cycling

Ensuring unused and end of life materials are returned to productive use – including remanufacturing & repurposing

Environment Act 2021 introduced significant new powers to tackle waste and drive material circularity

- Extended producer responsibility (£1.7bn net cost)
- Charges for single use items
- Deposit return schemes
- Separate collection of industrial/commercial waste cross different material types (plastic, paper/card, glass, metals, food, & garden)
- Powers to prohibit/restrict transfrontier shipments of waste
- Extended powers on hazardous waste
- Electronic waste tracking
- Resource efficiency

Resource Efficiency and Waste

Power to regulate information to customers and requirements on manufacturers relating to:

1. expected life of the product;
2. aspects of the product's design which affect its expected life;
3. the availability or cost of component parts, tools, or anything else required to repair or maintain the product;
4. whether the product can be upgraded, and the availability or cost of upgrades;
5. any other matter relevant to repairing, maintaining, remanufacturing or otherwise prolonging the expected life of, the product;
6. the ways in which the product can be disposed of at the end of its life (including whether and to what extent it can be recycled, and whether materials used in it can be extracted and reused or recycled).

Resource Efficiency – Manufacturers

Power to regulate manufacturers in relation to the following:



Materials

Materials from which the product is manufactured



Techniques

Techniques used in its manufacture



Resource Consumption

Resources consumed during its production or use



Pollutants

Pollutants (inc. GHGs) released or emitted at any stage of production, use or disposal

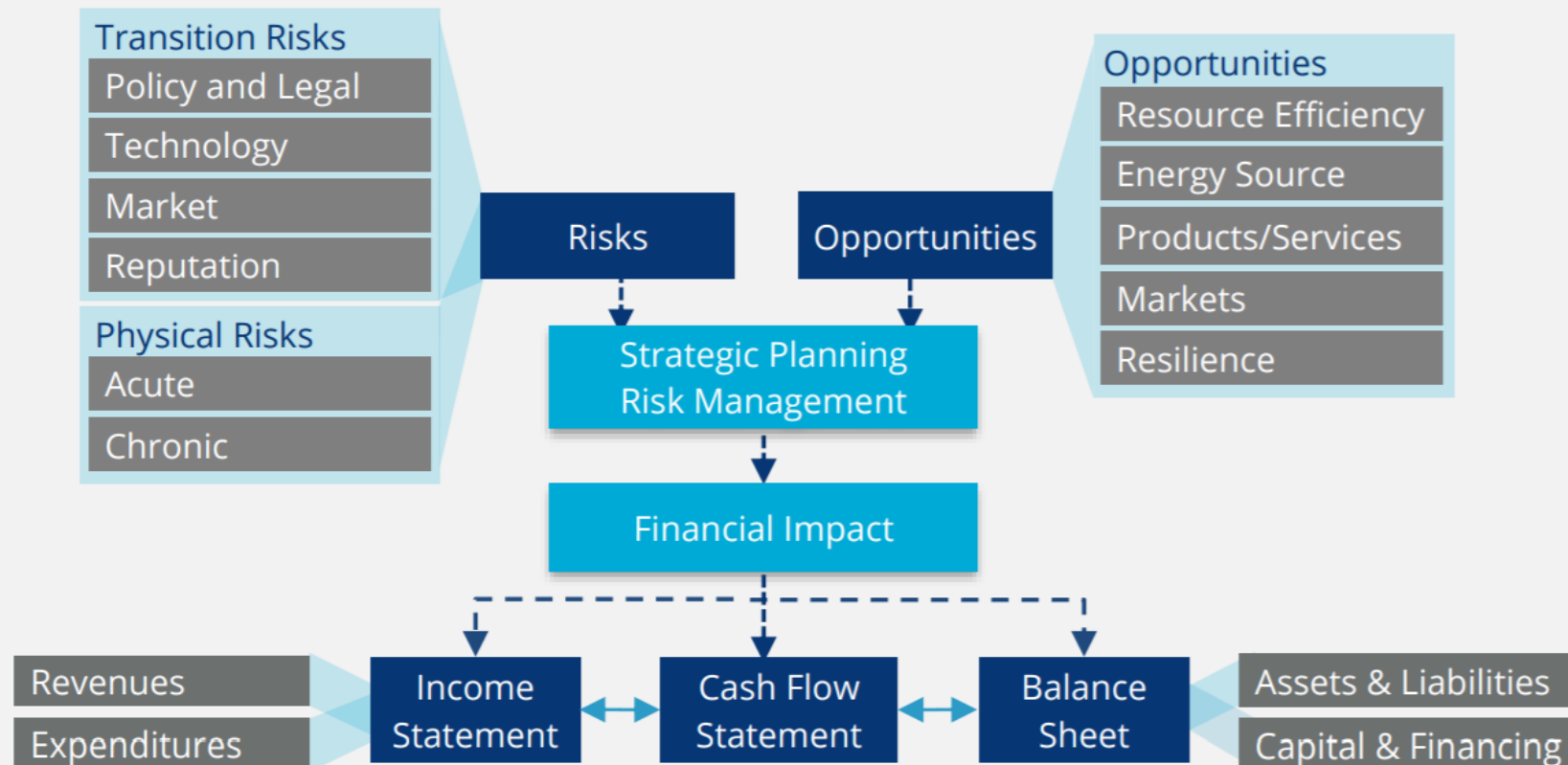
New Sustainability Disclosure Requirements across the finance system

1. Corporate disclosures
2. Asset manager and asset owner disclosure
3. Investment product disclosure

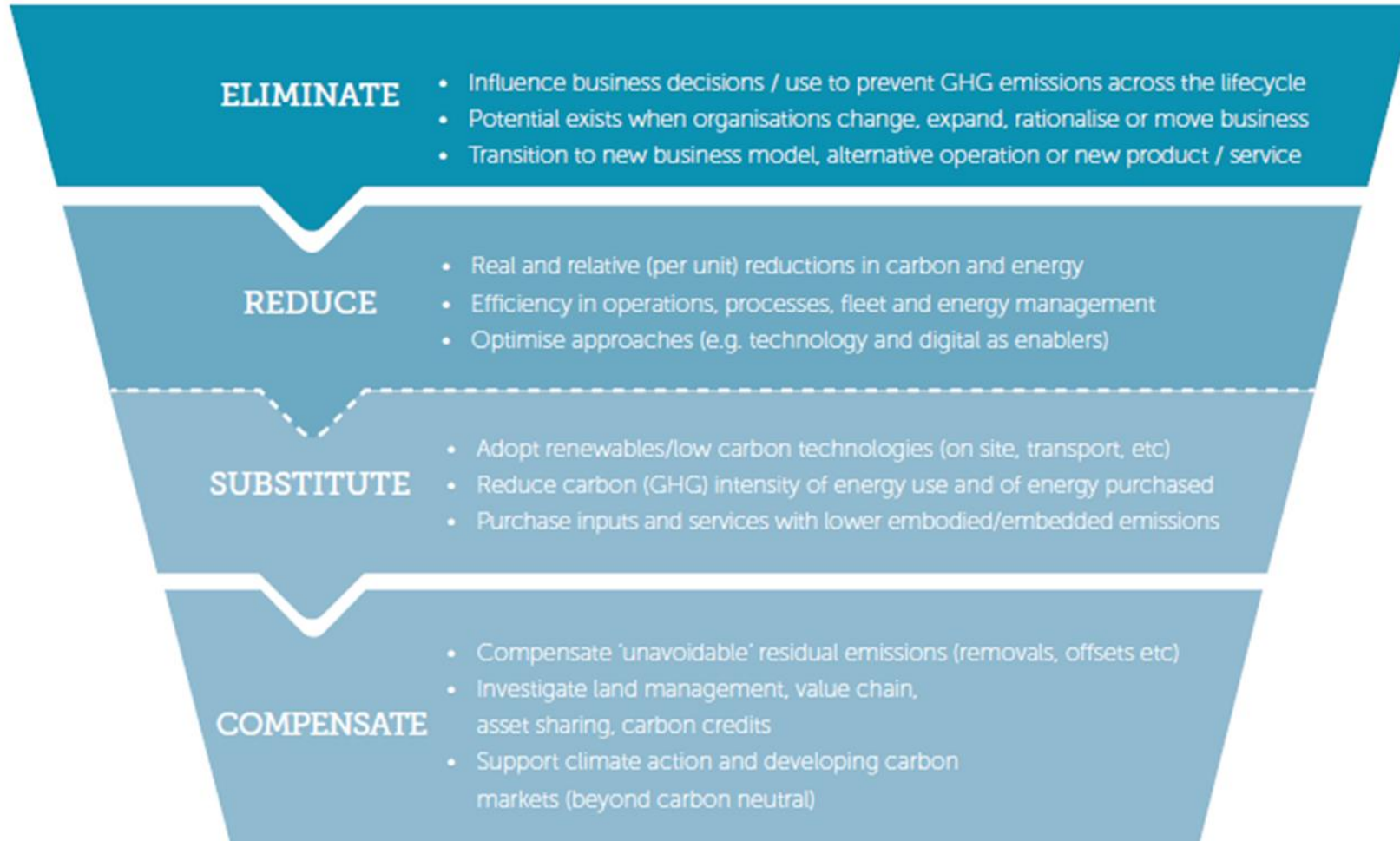


Task Force on Climate Related Financial Disclosure (TCFD)

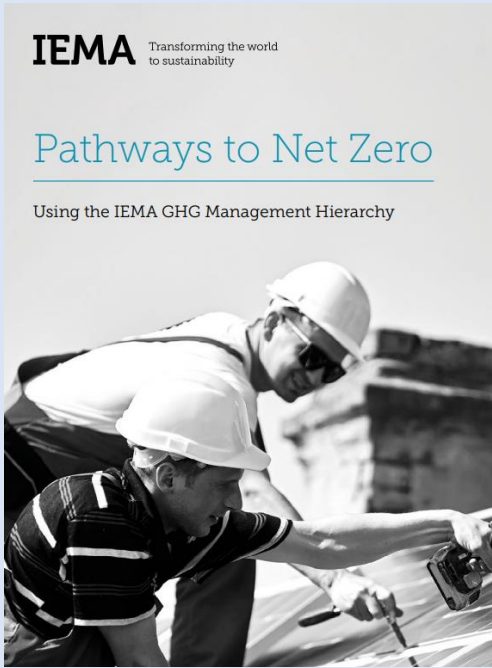
Climate-Related Risks, Opportunities, and Financial Impact



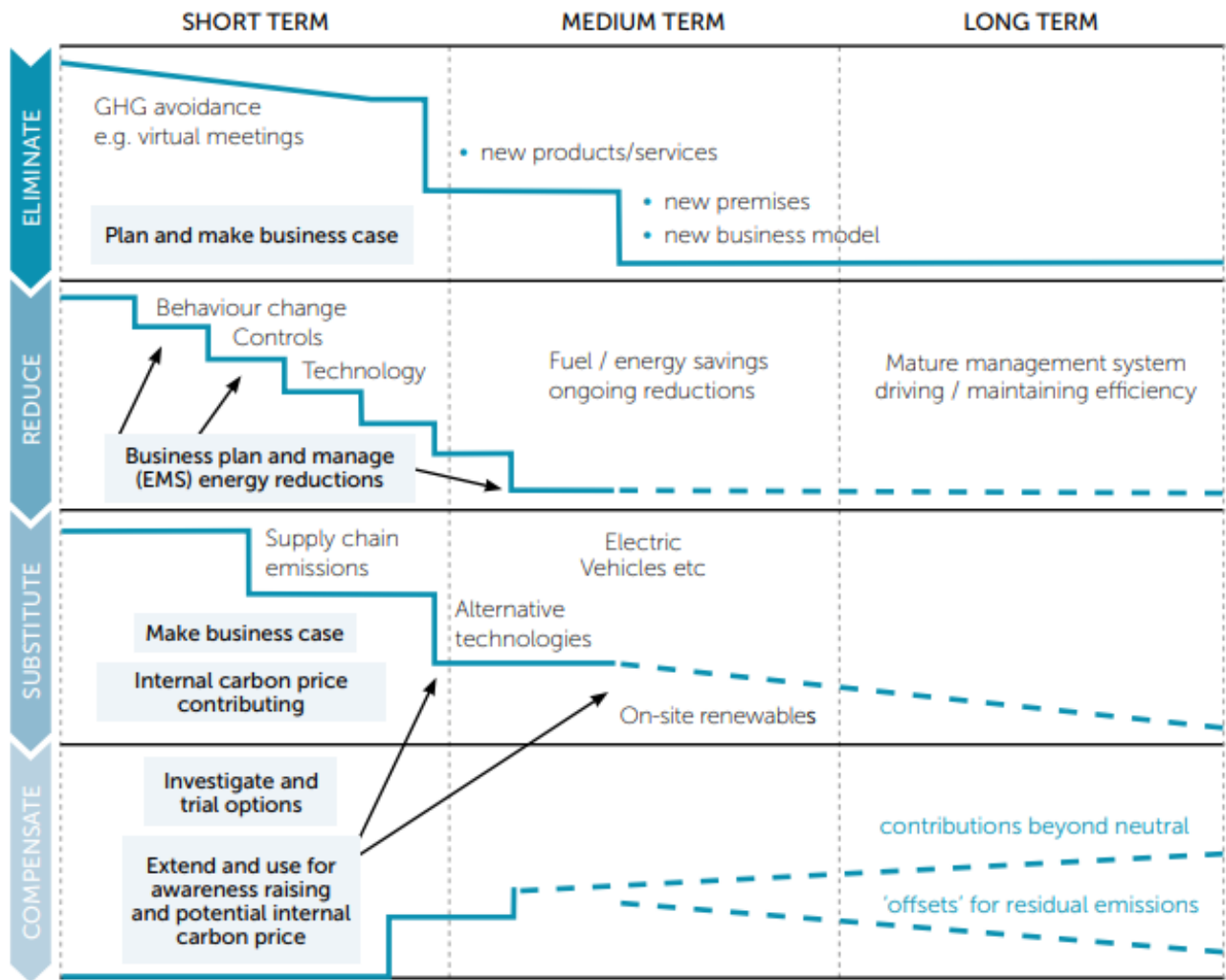
IEMA GHG Management Hierarchy



Pathways to Net Zero



TRANSITION PLANNING USING THE IEMA GREENHOUSE GAS MANAGEMENT HIERARCHY



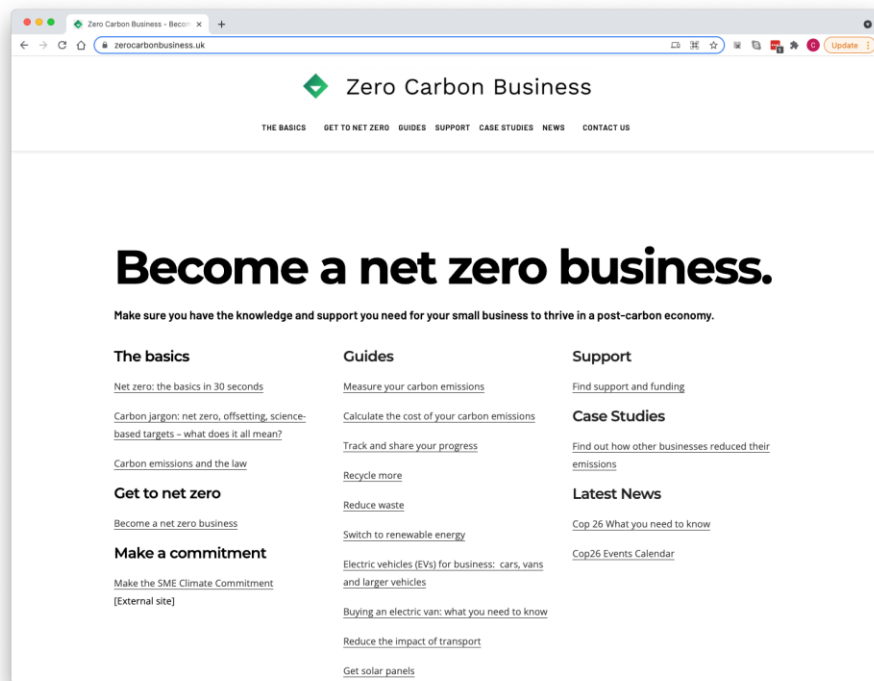
Are you ready for net-zero?



Photo: Terry Mooney/RNLI

1. Do you know what trajectory your firm's emissions reductions need to follow?
2. Do you know where the risks are in terms of direct additional costs, supply chain costs/disruption?
3. Does your organisation understand the potential impacts (+ve and -ve) on your products and services?
4. Are net-zero considerations built into decision-making on all future design and investment decisions?
5. Do you have an action plan in place to get your organisation into shape?

Time to take action: zerocarbonbusiness.uk



- New net zero advice platform
- Built by business for business
- Quick primers on the basics
- High quality tailored guides for your sector
- Inspiring case studies
- Links to support near you



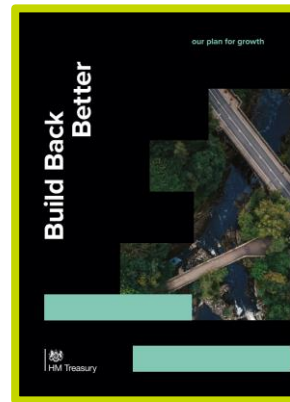
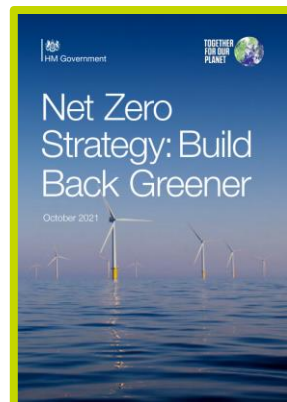
Why are green skills and jobs important?

Without green skills and jobs we will not meet our net zero and wider environmental goals

The UK has committed to Net Zero by 2050

Some industries have expressed concerns about the availability of green skills and appropriate talent to support businesses in their transition towards a green economy

Green skills and jobs will increasingly play a crucial role in shaping how organisations transform and unlock growth opportunities in a green economy



Green Jobs Delivery Group

To support the delivery of 480,000+ skilled green jobs by 2030



An indication of “green jobs” needed for the UK transition

Target skills and jobs support by sector, as indicated in the Gov Net Zero Strategy

The policies and proposals for decarbonising the UK economy will result in an estimated 190,000 jobs by 2025 and 440,000 by 2030

Power

Includes: Impact to power networks, offshore wind, onshore wind, solar, and storage and demand side flexibility

Jobs supported:

- By 2024: 59,000
- By 2030: 120,000

Investment necessary: £150-270 billion by 2037

Regions significantly impacted: North Wales; South East England; West England; coasts of England, Wales, and Scotland

Heat and buildings

Includes: Impact of heating decarbonisation and total public and private spending on energy efficiency measures

Upskilling required: Qualified heat pump installers will need to increase from around 3,000 to 35,000 within the next 7 years

Jobs supported:

- By 2025: 100,000
- By 2030: 175,000
- By 2035: 240,000

Investment necessary: £200 billion by 2037

Fuel supply and hydrogen

Includes: Impact to sustainable aviation fuels and a UK hydrogen economy

Jobs supported:

- By 2030: 10,000
- By 2035: 19,000

Upskilling necessary: 40,000 impacted across fuel supply chain

Investment necessary: £20-30 billion by 2037

Regions significantly impacted: North Sea, Scotland, North England, West England

Natural resources, waste and fluorinated gases

Includes: Impact to forestry sector

Excludes: indirect jobs, wider forestry supply chain, local farming, peat restoration, sustainable agriculture, waste recycling

Jobs supported:

- By 2024: 1,900
- By 2030: 2,000

Investment necessary: £30 billion by 2037

Industry

Includes: carbon capture utilisation and storage

Jobs supported:

- By 2030: 54,000

Investment necessary: £14 billion by 2037

Regions significantly impacted: North West England, Teesside, the Humber, Merseyside, North Wales, North East Scotland

Mobility

Includes: Impact of automotive transformation, rail decarbonisation and anticipated walking and cycling

Upskilling required: Transformation to electric vehicles will require 50,000 laborers in manufacturing industry to upskill by 2025

Jobs supported:

- By 2024: 22,000
- By 2030: 74,000
- By 2050: 71,000

Investment necessary: £220 billion by 2037

Regions significantly impacted: Wales, Midlands, North East England, Scotland, Northern Ireland

Source: HM Government, Net Zero Strategy: Build Back Greener - www.gov.uk/government/publications/net-zero-strategy

Tools to activate green skills and catalyse change

- Organisational readiness to address green challenges
- Internal capability assessment
- “Model-organisation” blueprint

www.iema.net/all-jobs-greener



A graphic consisting of two adjacent rectangular blocks. The left block is a lighter shade of purple, and the right block is a darker shade of purple. The IEMA logo and tagline are positioned on the right block.

IEMA

Transforming the world
to sustainability

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