



Climate Change: an asset manager perspective

Yasmine Svan, Sustainability Analyst

Legal & General Group: looking after our clients' financial security for over 180 years

LGIM is the investment management arm of Legal & General Group, which provides:



Strong and stable business



Looking after our clients



² 1. Source: LGIM internal data as at 30 June 2019. 2. Thomson Reuters Eikon ~ S&P Long-term Issuer Rating as at June 2019. 3. Legal & General 2018 full year results report. 4. Source: LGIM internal data as at 30 June 19. The AUM disclosed aggregates the assets managed by LGIM in the UK, LGIMA in the US and LGIM Asia in Hong Kong. The AUM includes the value of securities and derivatives positions. May not total due to rounding. 5. LGIM internal data, www.legalandgeneral.com/about/us Help over 10 million people globally with saving, investing, building retirement and insuring. 6. Legal & General as at 30 June 2019.



This concentration of CO2 is already having real effects

Past 5 years hottest on record, July 2019 hottest month in Earth's history

North Atlantic hurricanes cost insurers \$14 billion: Munich Re

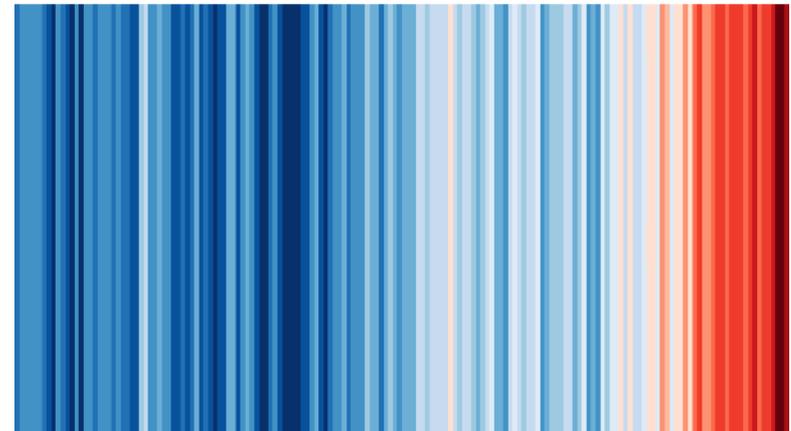
Why These Australia Fires Are Like Nothing We've Seen Before

The New York Times

Fires in Amazon forest rose 30% in 2019

REUTERS

Annual global temperatures from 1850-2017



Overshooting 2°C

Extreme weather events



Countries become uninhabitable

Due to sea level rise or exposure to extreme heat

Rising economic costs



15% reduction in global GDP

Resulting from climate damages in 2050, analysis by IRENA

Sea-level rise is already locked in

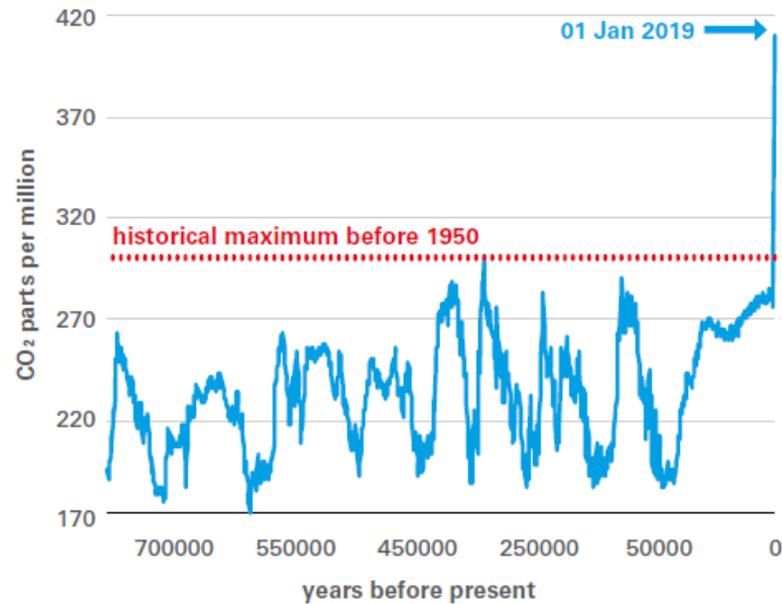


Approx. 10%

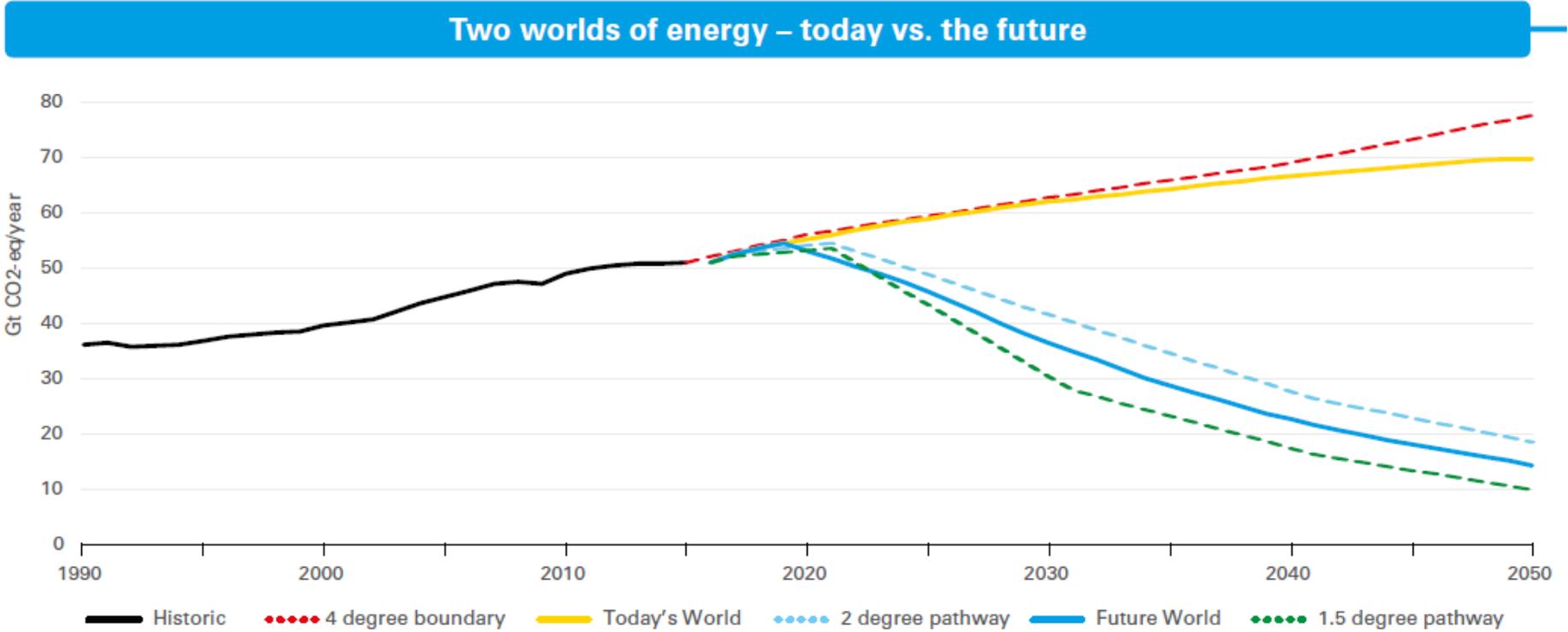
more rainfall in the UK by end of century

Why does climate change matter to investors?

Carbon dioxide levels in the atmosphere are unprecedented...



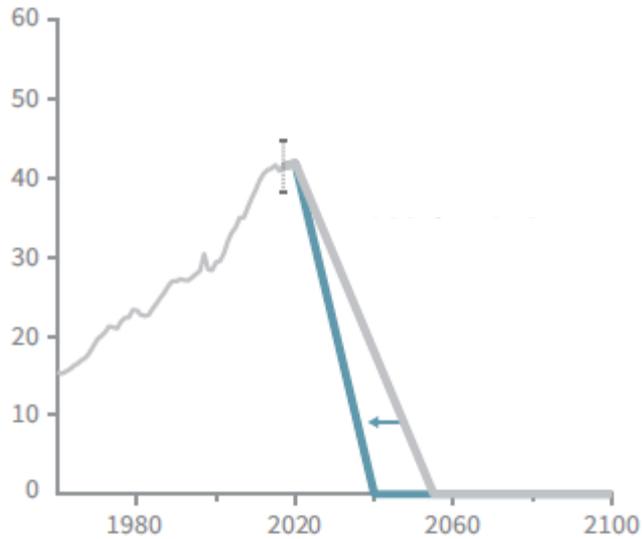
The emissions path we're on today



Getting to well-below 2°C

- Meeting the Paris Agreement target implies a wholesale change of the energy system and drastic shift in consumption patterns.

Stylized net global CO2 emission pathways
Billion tonnes CO2 per year (GtCO2/yr)



Levers

Energy

Land Use

A wholesale transformation of the energy system

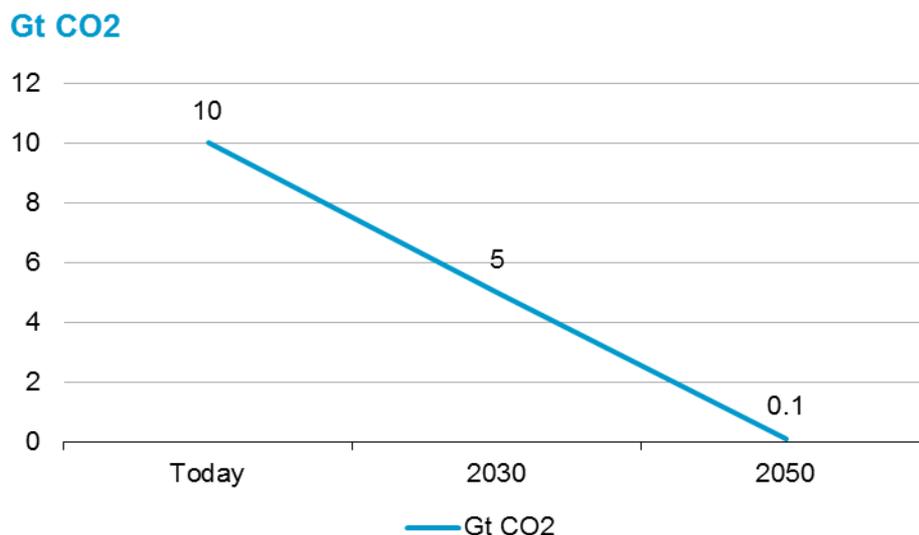
Up to 3x the historical “normal” pace of change



Combined with a dramatic decline in coal-fired power generation

Retiring at least one coal plant/week

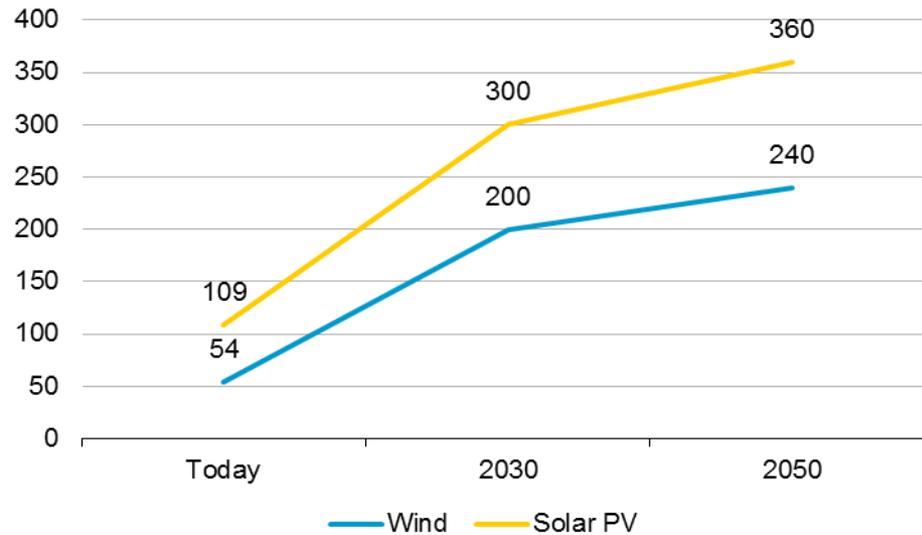
Annual CO2 emissions from coal-fired power plants, 2019-2020 under the IEA's Sustainable Development Scenario



A rapid ramp up of renewable energy...

\$1.2trn of investments in renewables, networks & battery storage by 2050

Yearly additions of installed capacity, GW



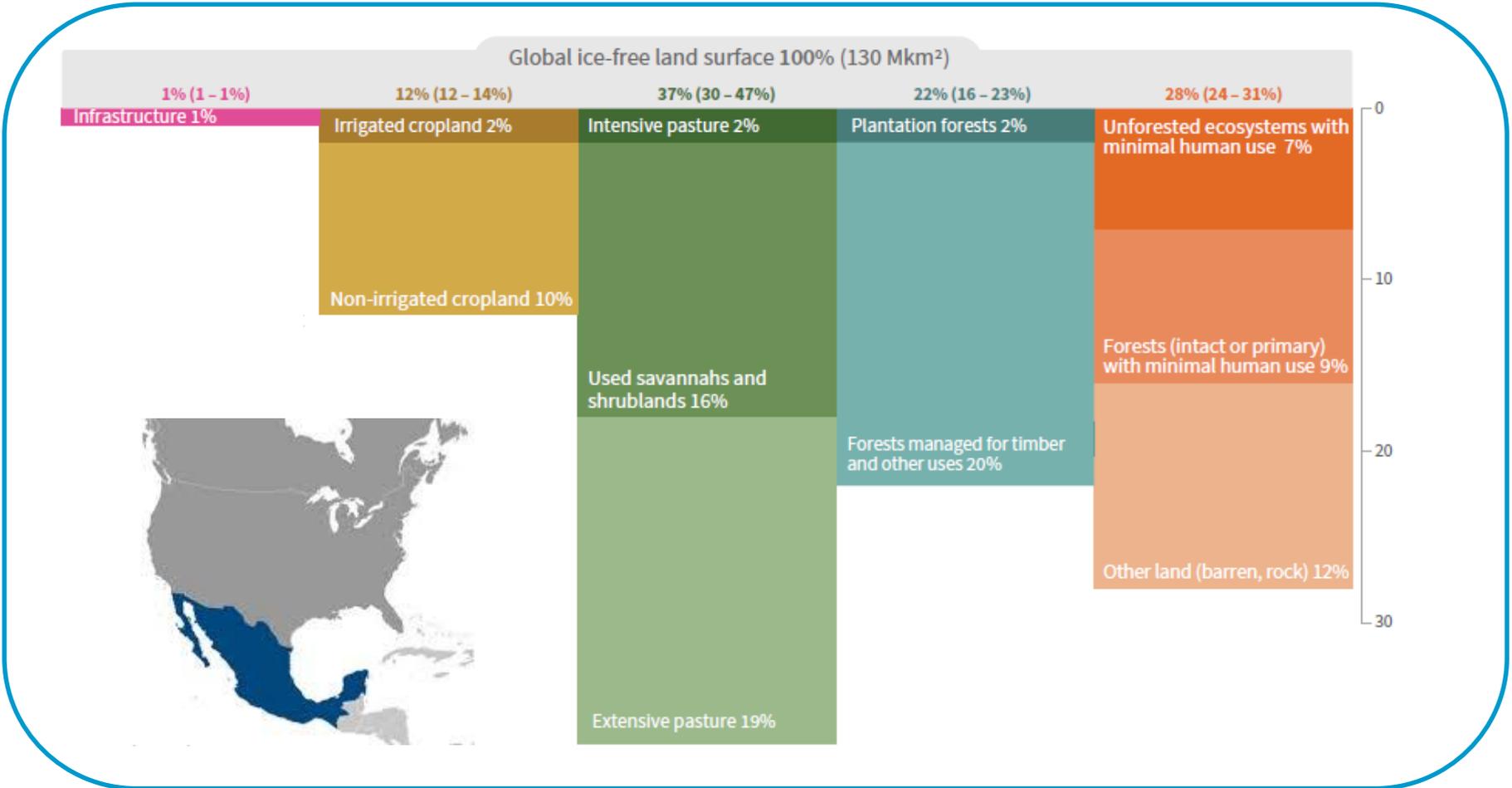
Emissions models assume land use GHG come down to zero

Implying a drastic departure from BAU for the global food system



A wholesale transformation of global food & agriculture

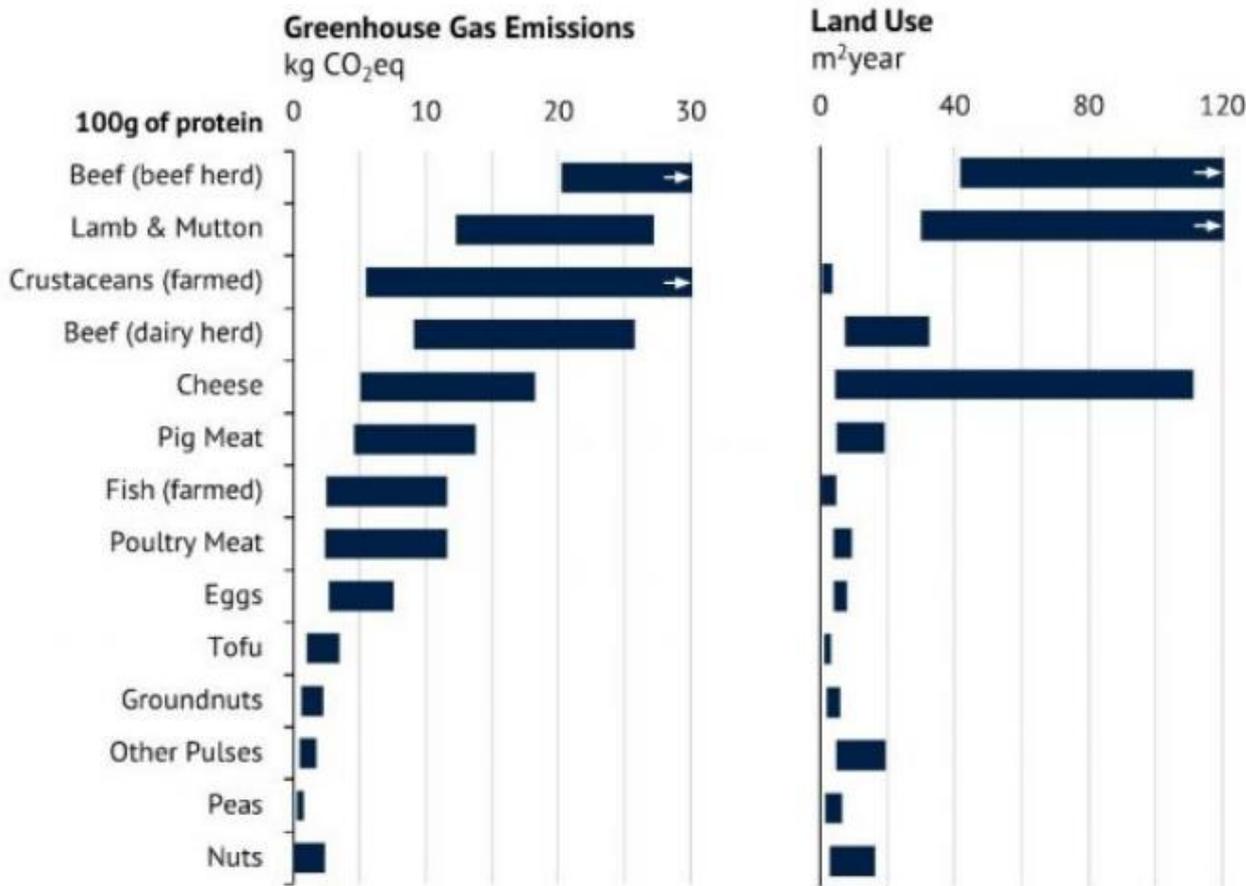
In order to reduce emissions to net-zero by mid-century



Sources: IPCC Climate Change and Land Use, 2019

The link between consumption patterns and climate change

➤ Reduction in livestock production necessary to meet Paris target



2.6 x

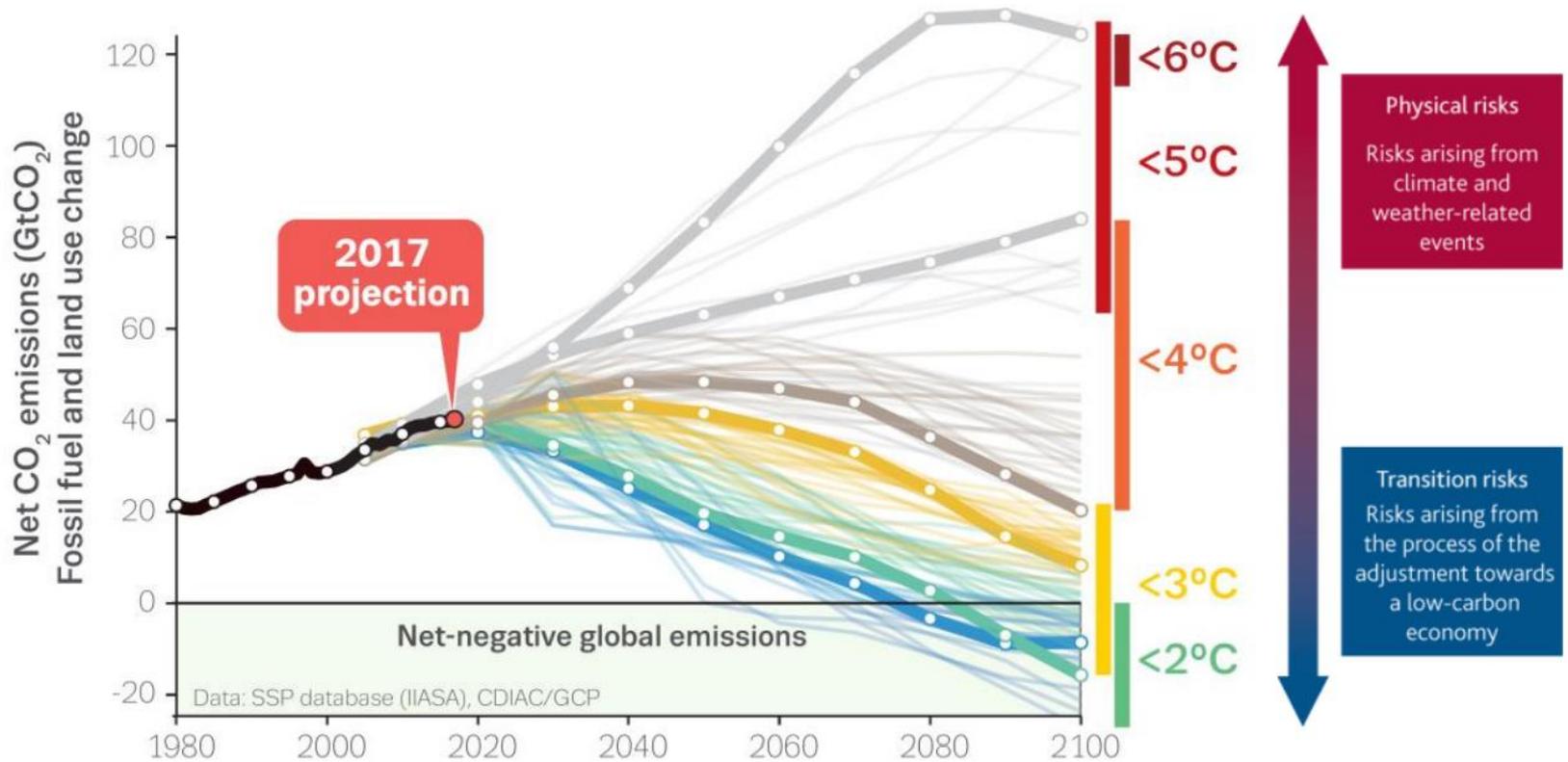
per capita projected total meat consumption in developed markets compared to developing **by 2028**.

3 x

Developed markets are on track **eat three times** as much beef as developing ones by the end of this decade.

Transitional and physical risk

➤ Investors must try to plan for and mitigate both, and the opportunities



Integrating climate change into product development

Market changes

Innovation in ESG data and analytics

Regulatory pressures

Shift from ethics to financial materiality

Increasing client demand

Improved ESG client reporting

Looking after beneficiaries' interests

Future World

Index

Multi-asset

Real assets

Active equity

Global fixed income

Active opportunities



Investing for a better tomorrow

Future World Funds exclusions



Coal Mining

Coal use and extraction is responsible for significant levels of planet-warming greenhouse gas emissions. The inability of 'pure' coal companies to diversify puts this business model at risk from increasing regulatory pressure to limit GHG emissions globally and technological advances such as renewables.



LGIM's Climate Impact Pledge

A targeted engagement process with those companies we have identified as critical to meeting the aims of the Paris Agreement to limit climate change. We may divest from companies that do not meet minimum standards after a period of engagement



Controversial Weapons

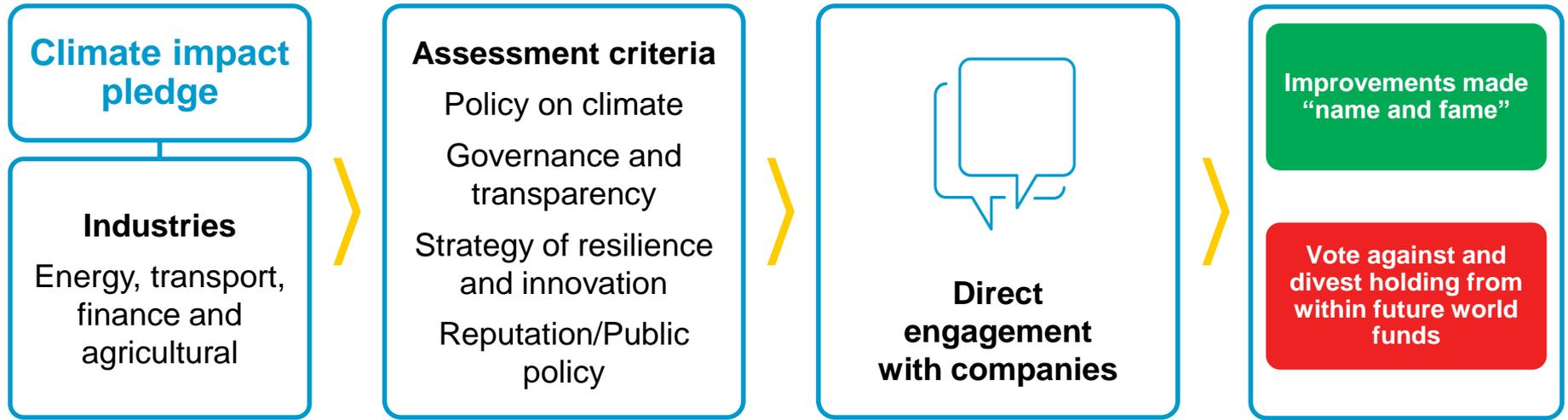
Controversial weapons are those that have an indiscriminate and disproportional humanitarian impact, in many jurisdictions their use is illegal. Companies involved in the manufacturing and production of cluster munitions, antipersonnel landmines, and biological and chemical weapons will be excluded from all active credit and equity funds, as well as certain specific index funds and client mandates.



United Nations Global Compact

The UNGC's principles set globally accepted standards on human rights, labour, environment and corruption. Companies who have violated these principles consistently for three years or longer will not be held within the Future World funds

Climate Impact Pledge: A targeted engagement framework

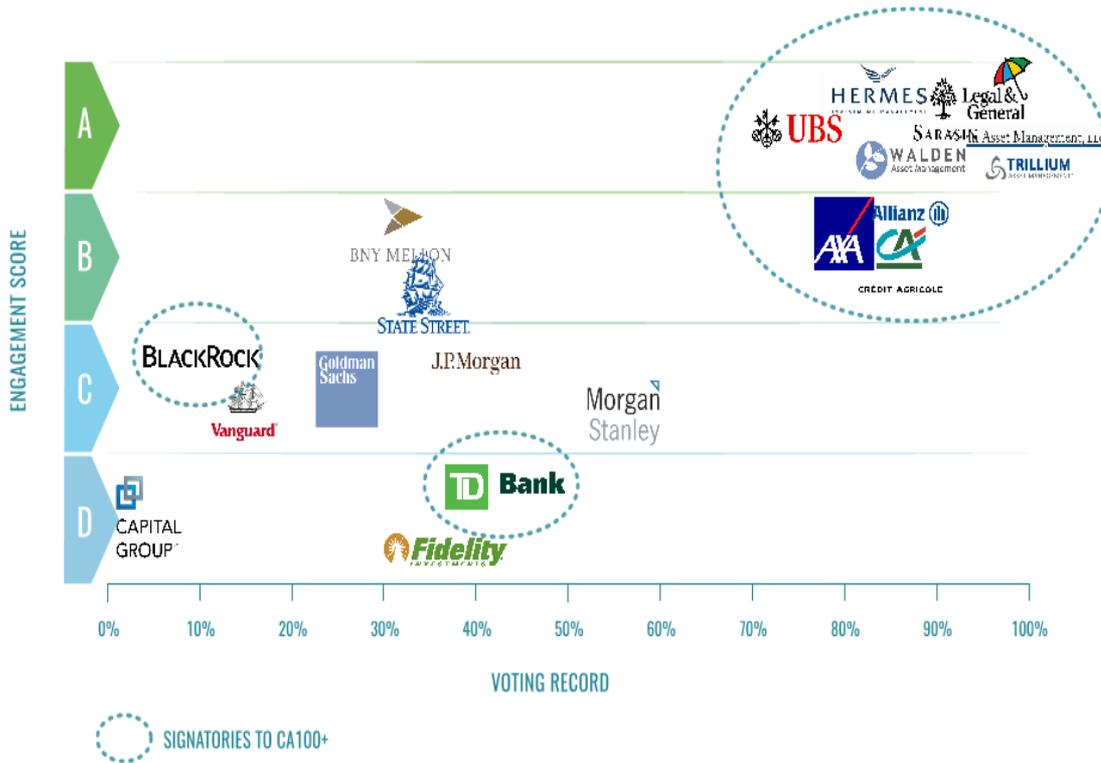


LGIM boots firms from index over climate change risk  **ADVISER**

Investor LGIM seeks removal of eight company chairs over climate change inaction  **REUTERS**

How the asset management industry is taking action

“ Legal and General exhibited best practice [...] through its Climate Impact Pledge”
 – InfluenceMap



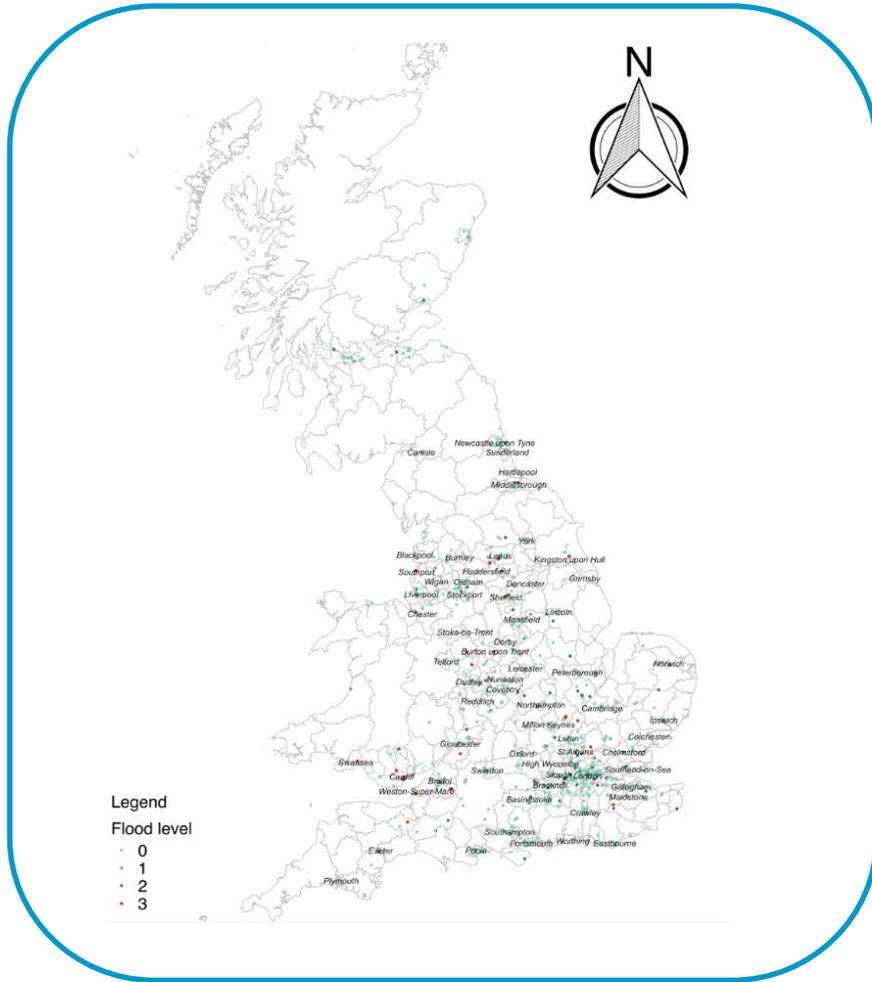
one of the most outspoken fund managers over the climate crisis”
 – The Guardian, 22 Nov 2019

LGIM[’s] stance is much tougher than across the rest of the industry”
 – Financial Times, 12 Dec 2019

More votes in favour of 2019 climate resolutions than any of the world’s 20 largest asset managers

Modelling climate impacts

➤ Scenario analysis next frontier for asset owners and managers



Legal & General unit reveals new model for energy transition risk

Insurance
BUSINESS UK

Climate Change Pushes Investors to Take Their Temperature

The New York Times

Legal & General Investment Management

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