

Climate Change and Investment

U3A Internet Online Group

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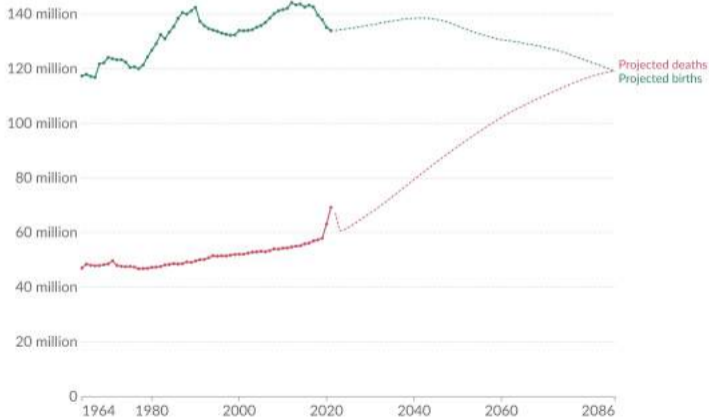
23rd Feb 2024



Births and deaths data over 60 years (OurWorldinData)

Births and deaths per year, World

Historic estimates with future projections based on the UN medium-fertility scenario¹.

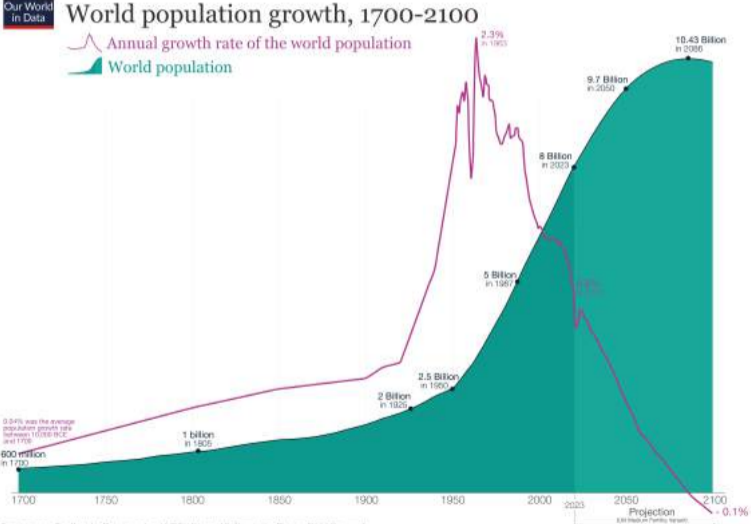


Data source: United Nations, World Population Prospects (2022)

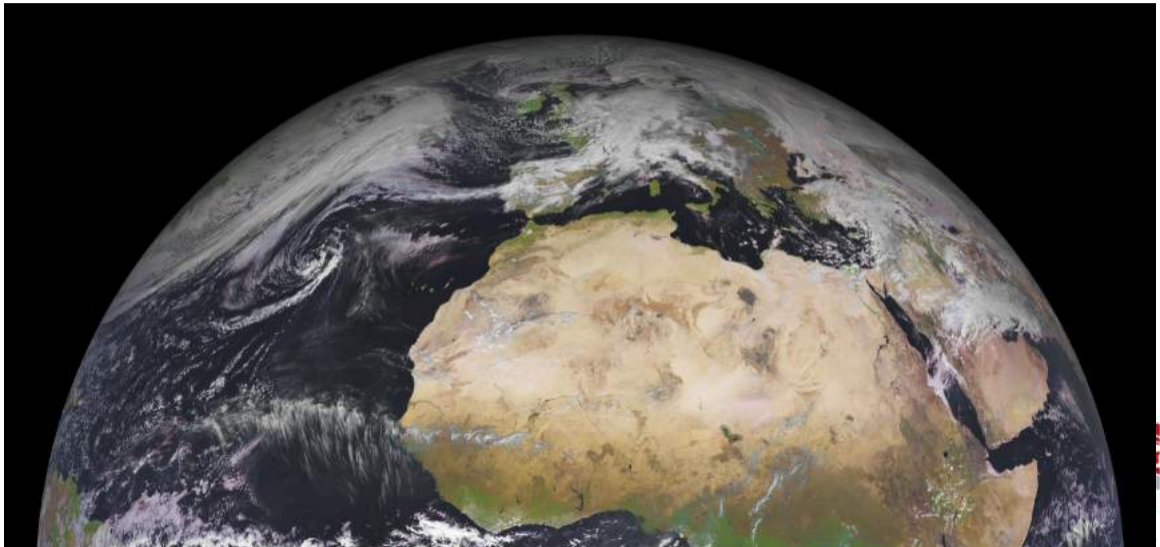
OurWorldinData.org/population-growth | CC BY



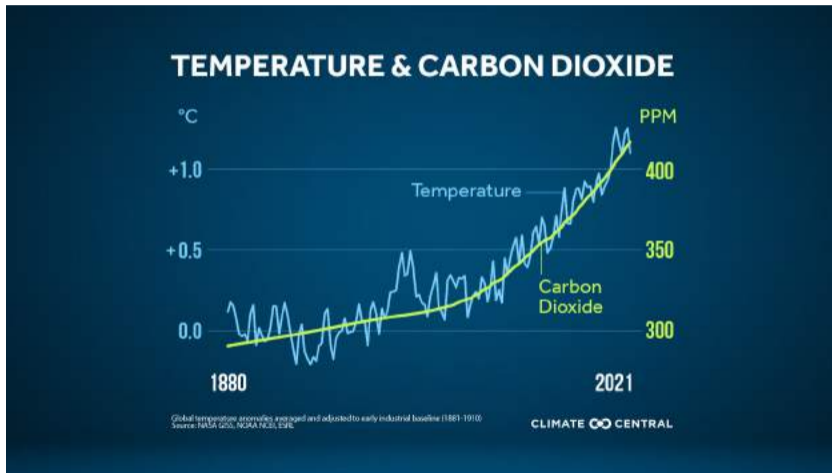
Global population (OurWorldinData)



Absorption/reflection of Sun's rays \rightarrow global $^{\circ}\text{C}$ temp (ESA)

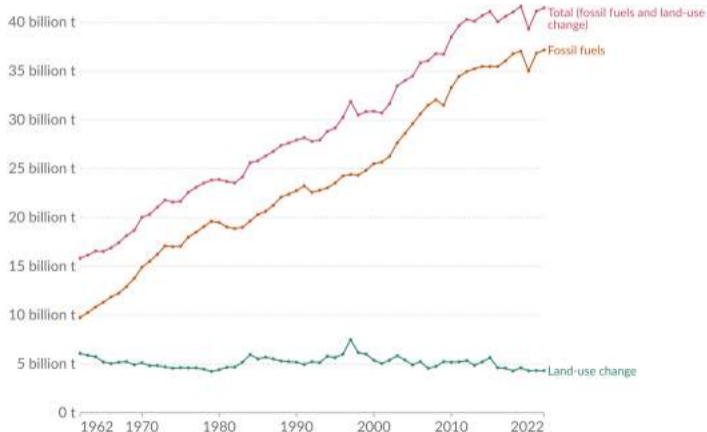


Absorption and °C from parts per million ppm CO₂ (ClimateCentral)



Emissions data over 60 years (OurWorldinData)

CO₂ emissions from fossil fuels and land-use change, World



Data source: Global Carbon Budget (2023)

OurWorldInData.org/co2-and-greenhouse-gas-emissions | CC BY



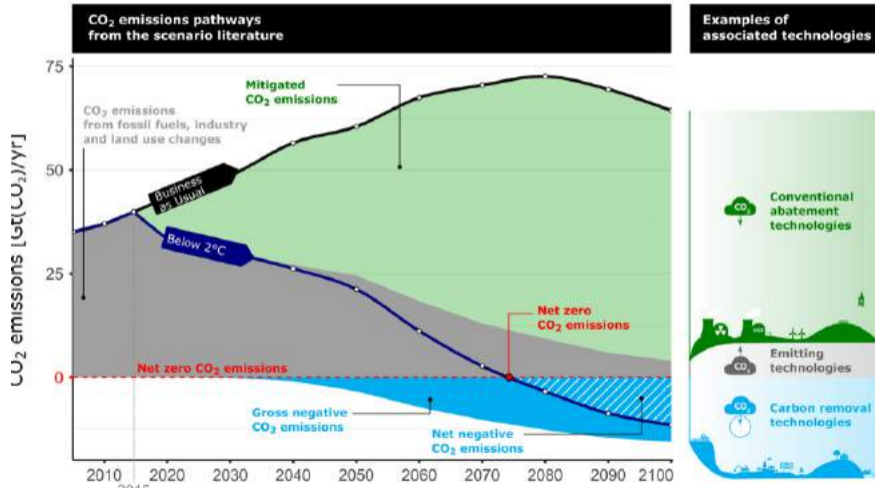
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SLO: Social Licence to Operate: 7, 12, 13 (UN)



The emissions “tap”, carbon “level” & net zero (UNEP)

33 billion tons CO₂ annual emissions **lifts ppm by 3 each year** (0.03 °C)



Emissions pledges, (UNEP)

Sources: Climate Action Tracker 2022b, Climate Watch 2023, Net Zero Tracker 2023.

Countries	Source	Target year	Covers all sectors and gases	Transparent information on carbon removal	Published plan	Review process	Annual reporting
High-income G20 members							
 Australia	law	2050	✓	⚠	inconclusive	⚠	✓
 Canada	law	2050	✓	⚠	⚠	✓	✓
 European Union	law	2050	✓	✓	✓	✓	✓
 France	law	2050	✓	⚠	✓	✓	✓
 Germany	law	2045	✓	⚠	inconclusive	✓	✓
 Italy	policy	2050	✓	⚠	⚠	not evaluated	✓
 Japan	law	2050	✓	✗	inconclusive	✓	✓
 Republic of Korea	law	2050	?	✓	inconclusive	⚠	✓
 Saudi Arabia	announcement	2060	?	✗	✗	?	✗
 United Kingdom	law	2050	✓	✓	✓	✓	✓
 United States of America	policy	2050	✓	✓	⚠	⚠	✓
Lower- and upper-middle income G20 members							
 Argentina	policy	2050	✓	✗	✗	?	✗
 Brazil	policy	2050	?	✗	✗	?	✗
 China	policy	2060	?	✗	⚠	⚠	✗
 India	policy	2070	?	✗	✗	?	✗



Greenhouse gas **emissions**: Scope 2, 1 & 3 (WBCSD/Semtrio)

2 Indirect: Purchased, acquired energy (elec., steam, heating, cooling) consumed by company.

1 Direct: Emissions from operations owned or controlled by the reporting company.

3 Indirect: All other emissions in company's value chain up & down stream (embodied).

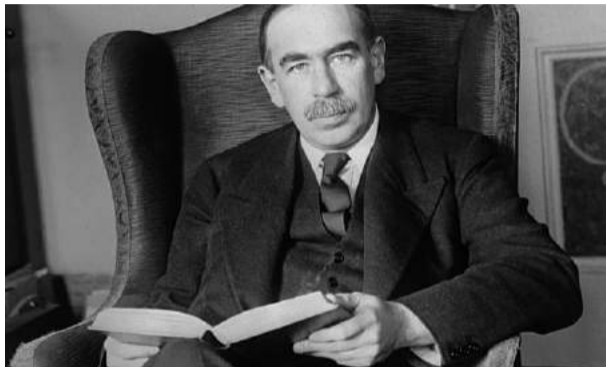


The greening of finance

- Pollutants are felt by all; it is difficult to tax CO2 globally
- Moved from Friedman (fiduciary) to Freeman (stakeholder) view
- Finance & Accounting activities enhance “social licence” & trust e.g.
- Insurance firms are declining to cover some climate risks
- Responses vary: risk as financial (limit/trade) or risk as an opportunity?
- **Engagement:** If investors actively lobby a firm, its policies may change
- **Divestment:** If investors sell, a firm’s funding cost rises, but it survives



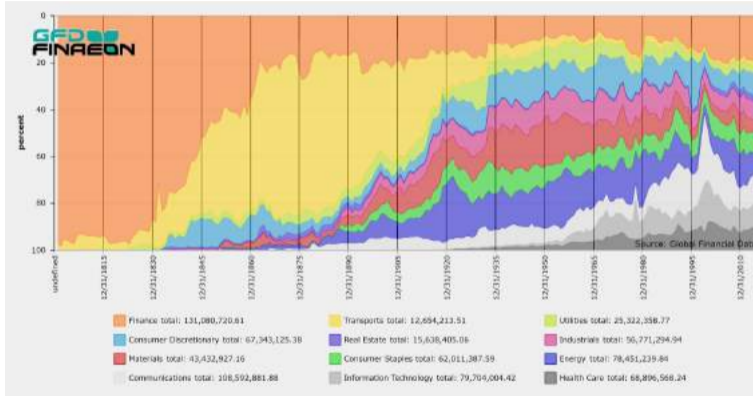
JM Keynes, on stock markets adapted for **greenest** (1936, NYTimes)



“It is not a case of choosing those [firms] that, to the best of one’s judgment, are really the **greenest**, nor even those that average opinion genuinely thinks the **greenest**. We have reached the third degree where we devote our intelligences to anticipating what average opinion expects the average opinion to be.” General Theory of Employment, Interest & Money.



US Stock Market sector composition over 200 years (GFD)



Markets have winning & losing segments but are **resilient**
Capital returns, preferences change, **oil and gas** are falling, brown businesses **consolidating**
Energy sectors such as **solar power & green hydrogen** emerging



Schumpeter: Capitalism, Socialism & Democracy (1942, WashPost)



“This process of **creative destruction** is the essential fact about capitalism. It is what capitalism consists of and what every capitalist concern has to live with.”



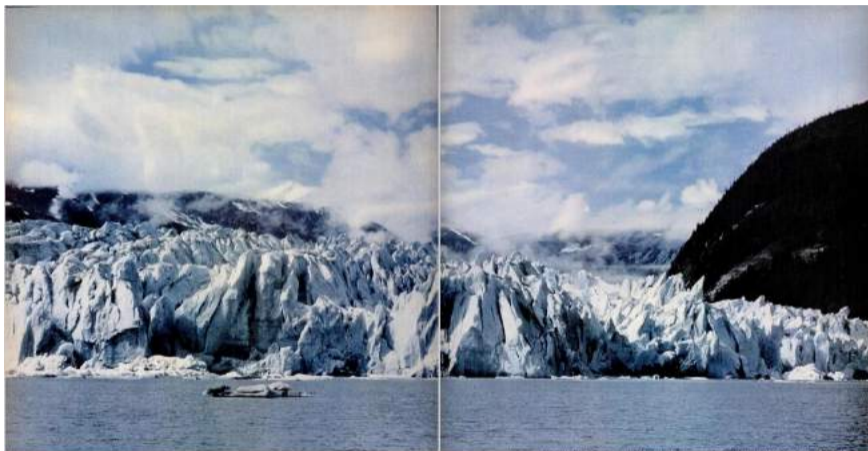
Does Financing change the world? (Yale/Beinecke)



“Bearer” bond (transferrable) issued by Dutch Water Board to finance dike improvements
“1,000 Carolus Guilders of 20 Stuivers a piece” paying 5% interest (reduced to 2.5%)
It has no end date (perpetual) and has been serviced since 1648.



Advertising in 1962! (Humble Oil/Life Magazine/Google Books)



EACH DAY HUMBLE SUPPLIES ENOUGH ENERGY TO MELT 7 MILLION TONS OF GLACIER!

This giant glacier has remained unmelted for centuries. Yet, the petroleum energy Humble supplies—*it* converted into heat—could melt it at the rate of 80 tons each second! To meet the nation's growing needs for energy, Humble has applied science to nature's resources to become America's Leading Energy Company. Working wonders with oil through research, Humble provides energy in many forms—to help heat our homes, power our transportation, and to furnish industry with a great variety of versatile chemicals. Stop at a Humble

HUMBLE
OIL & REFINING COMPANY



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Investors now consider climate change (SSGA/Gomez)

Like investment advice, recommendations won't converge but **sustainable investment** is becoming consensus for pensions. **Investors are negotiating what forms of green are beautiful.**

- Do you think Finance and Investment has the power to change the world?
- Do you think Sustainable Investments will give good returns?



- 3 Our World in Data
- 4 Our World in Data
- 5 Earth from Space: European Space Agency
- 6 CO2 and °C: Climate Central
- 7 Our World in Data
- 8 UN Sustainability Development Goals
- 9 Emissions Gap Report: UNEP
- 10 Climate Action Tracker: UNEP
- 11 WBCSD Emission Scopes: Semtrio
- 12 Offshore wind turbines: WindEurope
- 13 John Maynard Keynes: New York Times
- 14 US Stock Market Composition over 200 years: Global Financial Data
- 15 Joseph Schumpeter: Washington Post
- 16 Yale: Beinecke Museum
- 17 Humble Oil, Enco brand: Life Magazine, Google Books
- 18 Fearless Girl, Kristen Visbal (SSGA), 2017: Steven Gomez, Wikimedia Commons.

