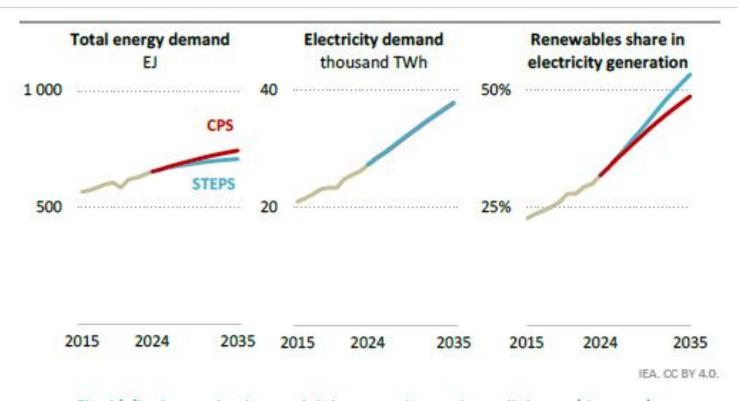


# **Background:**

- Climate change real
  - but water muddied by vested interests
- Fossil fuels still required
  - but investment incentives are skewed
- EVs have arrived
  - but will take ages to displace oil
  - Driverless cars the wildcard

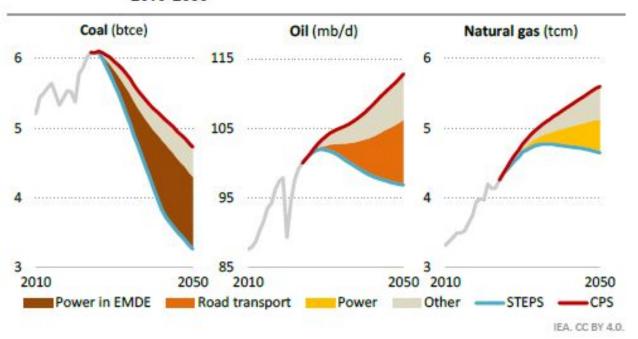
# **Geopolitical:**

- Russia / Ukraine
  - Resolution = flooded with oil (+ extra gas)
  - Drone tech improvements = short of oil
  - Sanctions = short of oil
- China
  - Self sufficiency
  - +ve: Coal -ve: gas, oil
  - Wind, solar, EVs
- Europe
  - -ve: gas, +ve: wind, solar
  - o EVs?
- US
  - Trump
  - +ve: gas -ve: coal, wind, solar, EVs



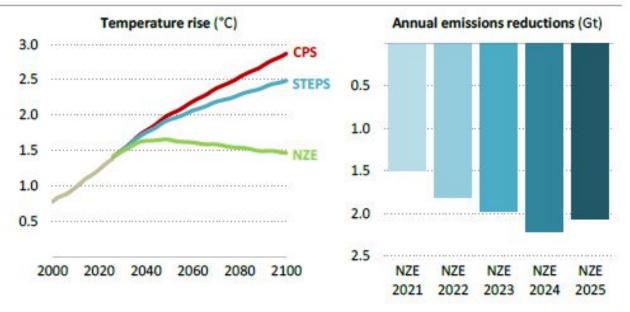
Electricity demand outpaces total energy demand growth by a wide margin; renewables account for an increasing share of surging electricity demand

Figure 1.2 Demand for coal, oil and gas by major driver and scenario, 2010-2050



Coal and oil demand peak by 2030 in the STEPS; growth is higher in the CPS due to slower uptake of technologies such as renewables and EVs

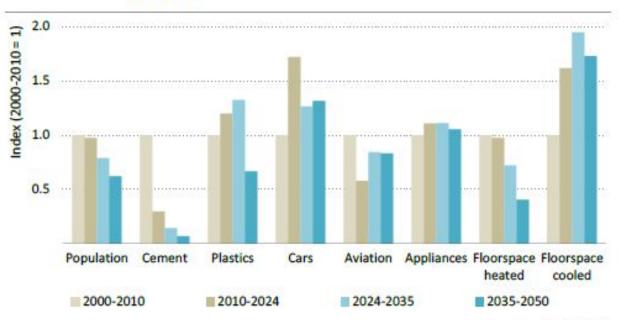
Figure 1.5 
Global average temperature rise, and annual emissions reductions from peak to 2035 in past NZE Scenario editions



IEA. CC BY 4.0.

The average temperature rise reaches 2.9 °C in 2100 in the CPS, 2.5 °C in the STEPS, and in the NZE Scenario it peaks at around 1.65 °C in 2050 and falls below 1.5 °C in 2100

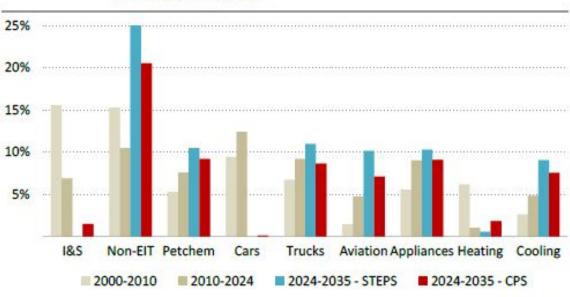
Figure 1.8 ► Annual growth of selected demand drivers by time period, 2000-2050



IEA, CC BY 4.0.

Growth in conventional energy demand drivers is set to slow significantly in the coming years, though cooling needs accelerates

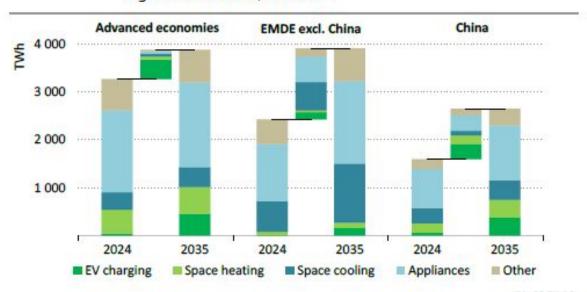
Figure 1.9 Average annual net growth in total final consumption in selected end-uses, 2000-2035



IEA, CC BY 4.0.

Growth in energy consumption is shifting from traditional industries and cars to non-energy-intensive industries and cooling

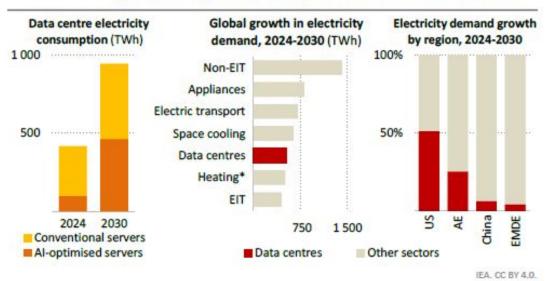
Figure 1.13 ➤ Total household electricity consumption by end-use in selected regions in the STEPS, 2024-2035



IEA. CC BY 4.0.

EVs, space heating, cooling and appliances drive growth in household electricity consumption

Figure 1.16 ► Electricity consumption in data centres by server type, and global and regional electricity demand in the STEPS, 2024-2030

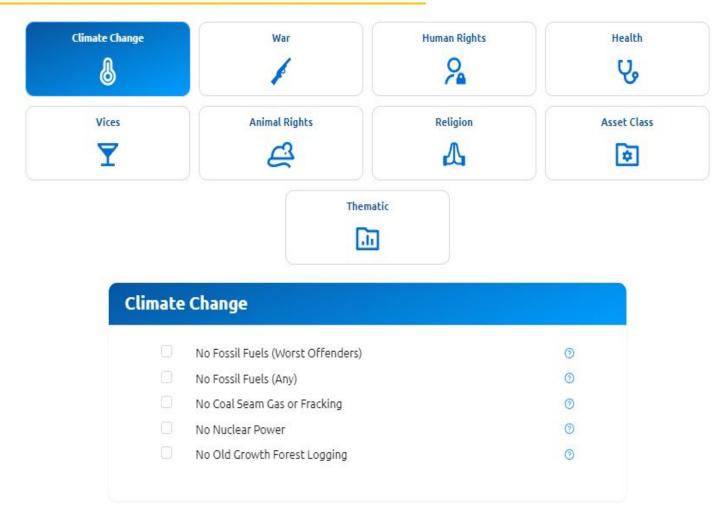


Even as electricity consumption from Al-optimised servers surges, data centres remain just one of the many sources of electricity demand growth in most economies

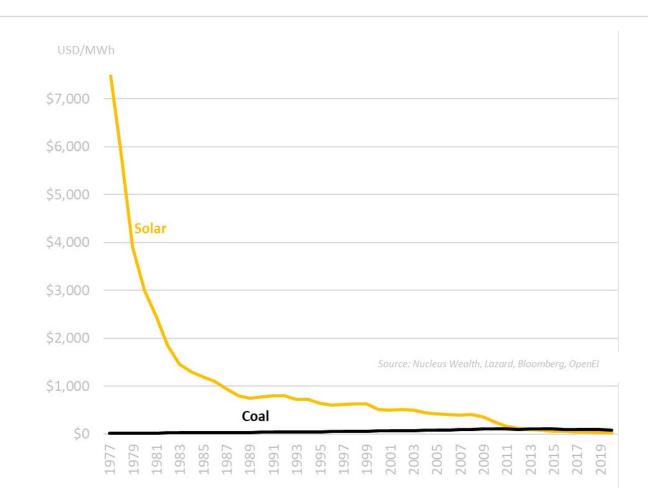
Note: TWh = terawatt-hour; AI = artificial intelligence; EIT = energy-intensive industry; US = United States; AE = advanced economies; EMDE = emerging market and developing economies.

<sup>\*</sup>Space and water heating in buildings.

### Choose themes to screen from your portfolio away from (i.e. remove stocks)



### Costs:



### Costs:

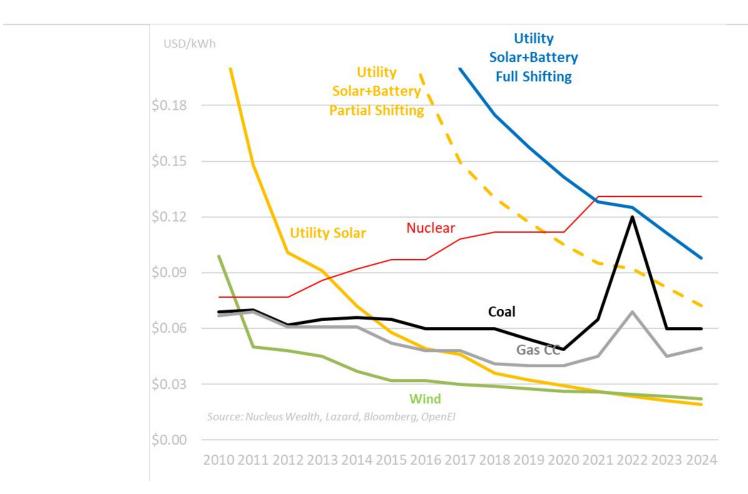
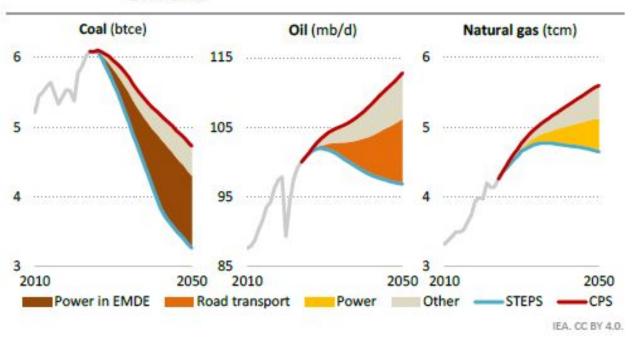


Figure 1.2 Demand for coal, oil and gas by major driver and scenario, 2010-2050



Coal and oil demand peak by 2030 in the STEPS; growth is higher in the CPS due to slower uptake of technologies such as renewables and EVs

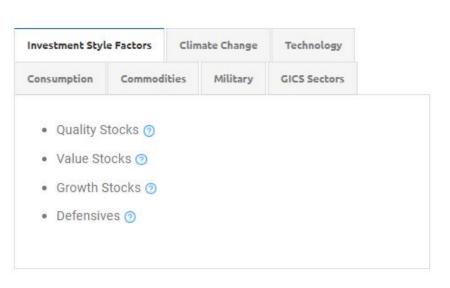
#### Personalise Your Portfolio

Screens Tilts

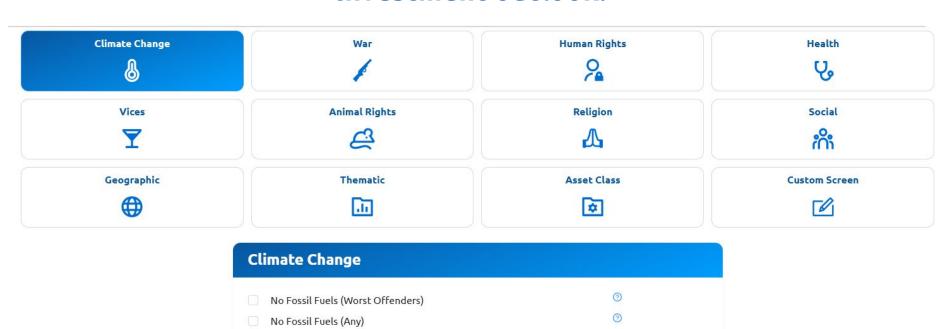
You can <u>exclude</u> the below to customise your portfolio

You can add the below to customise your portfolio

Climate Change	War	Human Rights	Health	Vices
Animal Rights	Religion	Asset Class	Thematic	
No Fossil F	Fuels (Wo	rst Offenders) (		
<ul> <li>No Fossil I</li> </ul>	Fuels (Any	)		
<ul> <li>No Coal Se</li> </ul>	eam Gas o	r Fracking 🕖		
No Coal Se     No Nuclea		~		



### Investment outlook:

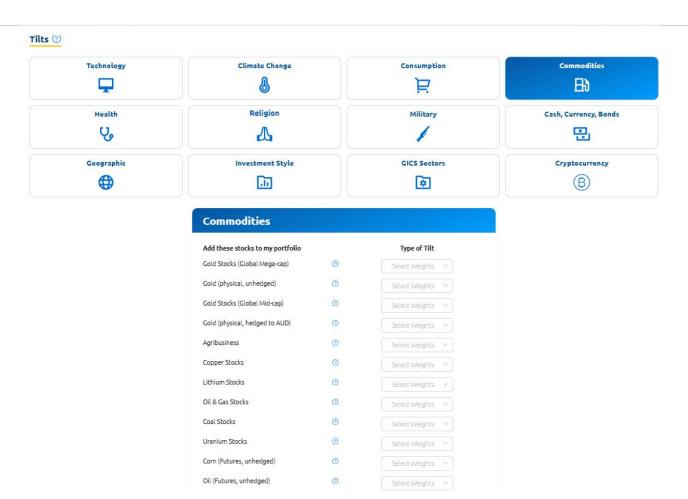


No Coal Seam Gas or Fracking

No Old Growth Forest Logging

No Nuclear Power

### Investment outlook:



### Investment outlook:

- Coal- invest at low prices, sell on disruption
- Gas US optionality. Short term increases. Gaps in long term
- Oil hugely geopolitical. But Russia the key rather than ME

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