



University  
of Exeter

Global Systems  
Institute



# Positive tipping points

Tim Lenton

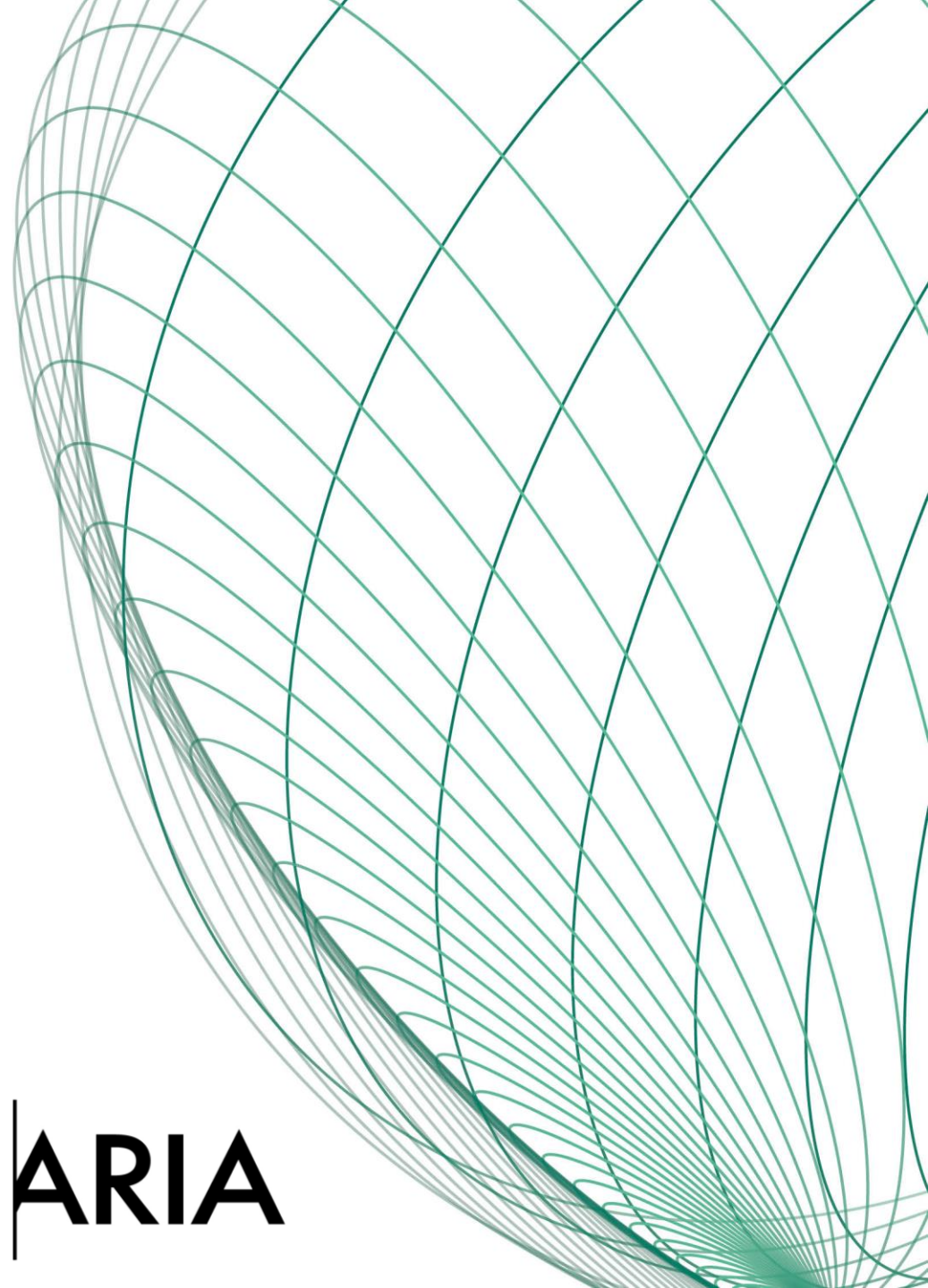
[t.m.lenton@exeter.ac.uk](mailto:t.m.lenton@exeter.ac.uk)

[exeter.ac.uk/gsi](https://exeter.ac.uk/gsi)

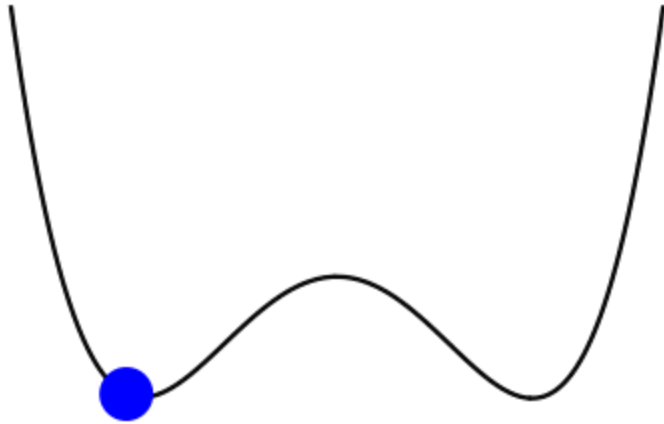
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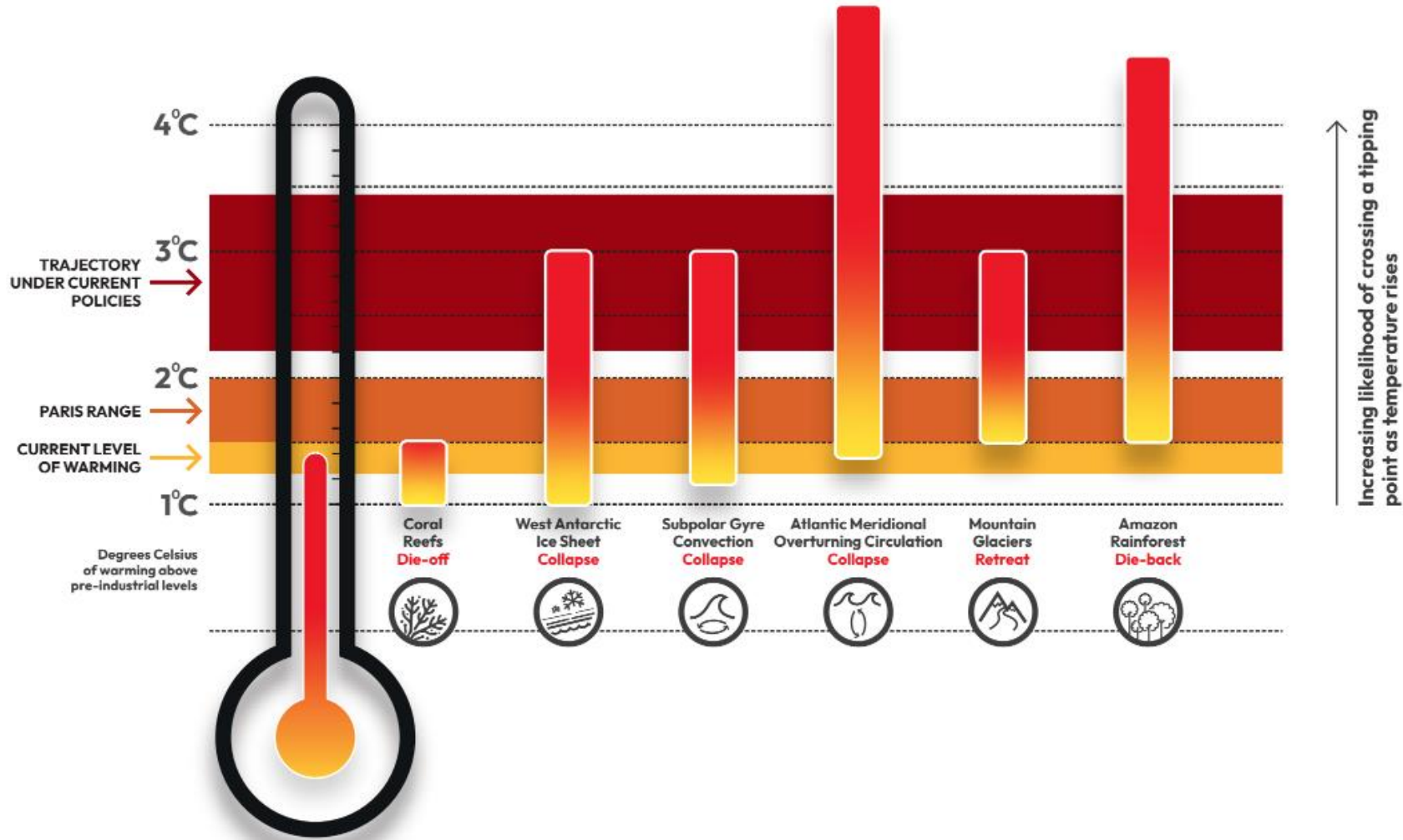


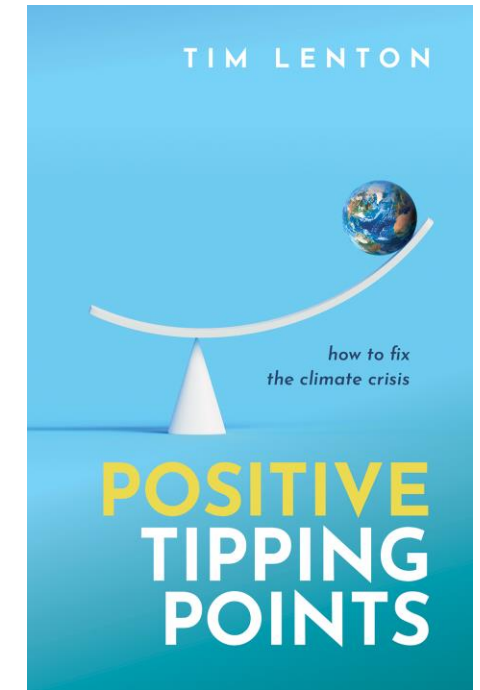
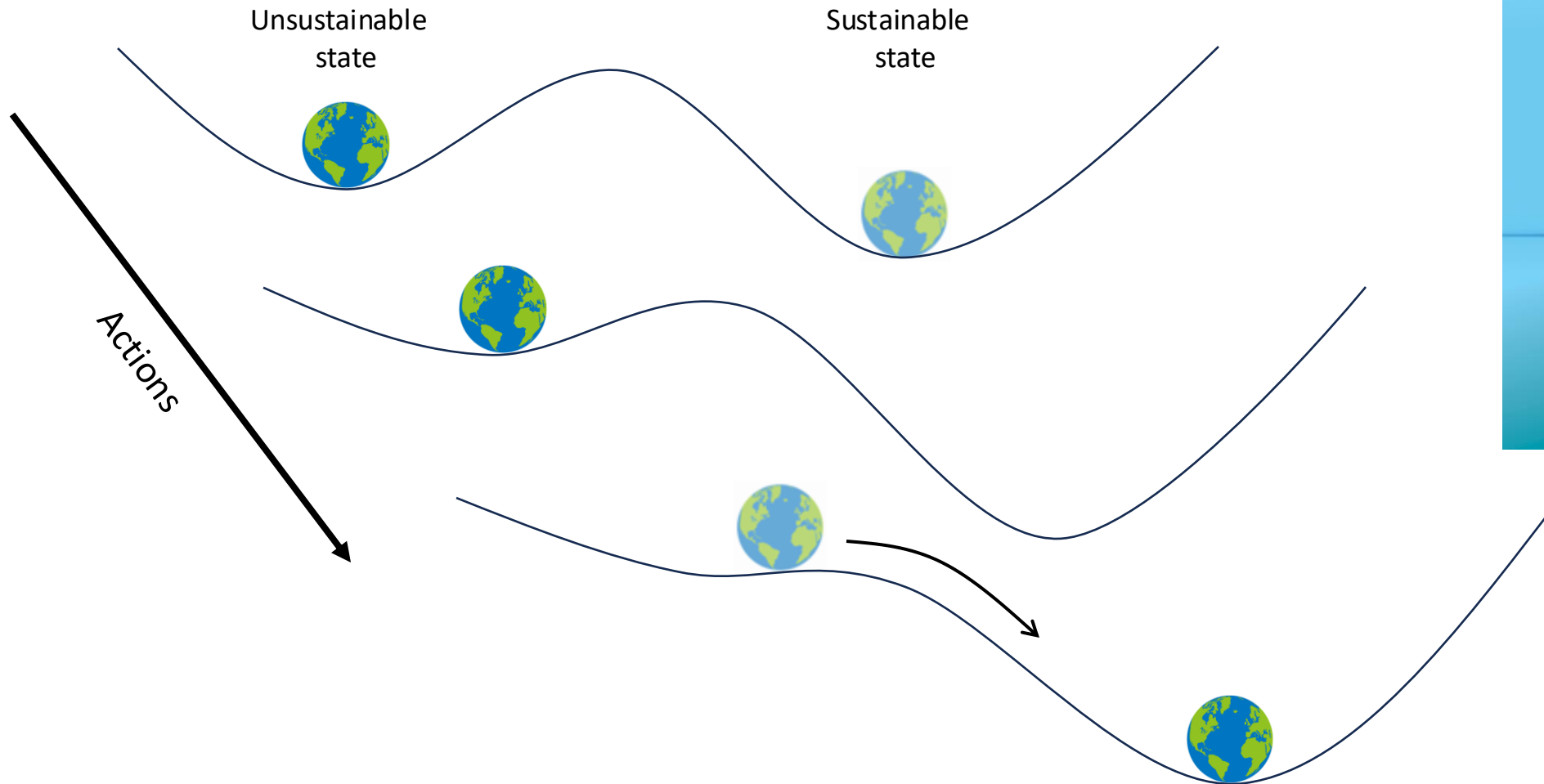
# Passing a tipping point



CC BY 4.0 - Chris A. Boulton (UoE, UK)

# Tipping point risks increase with warming

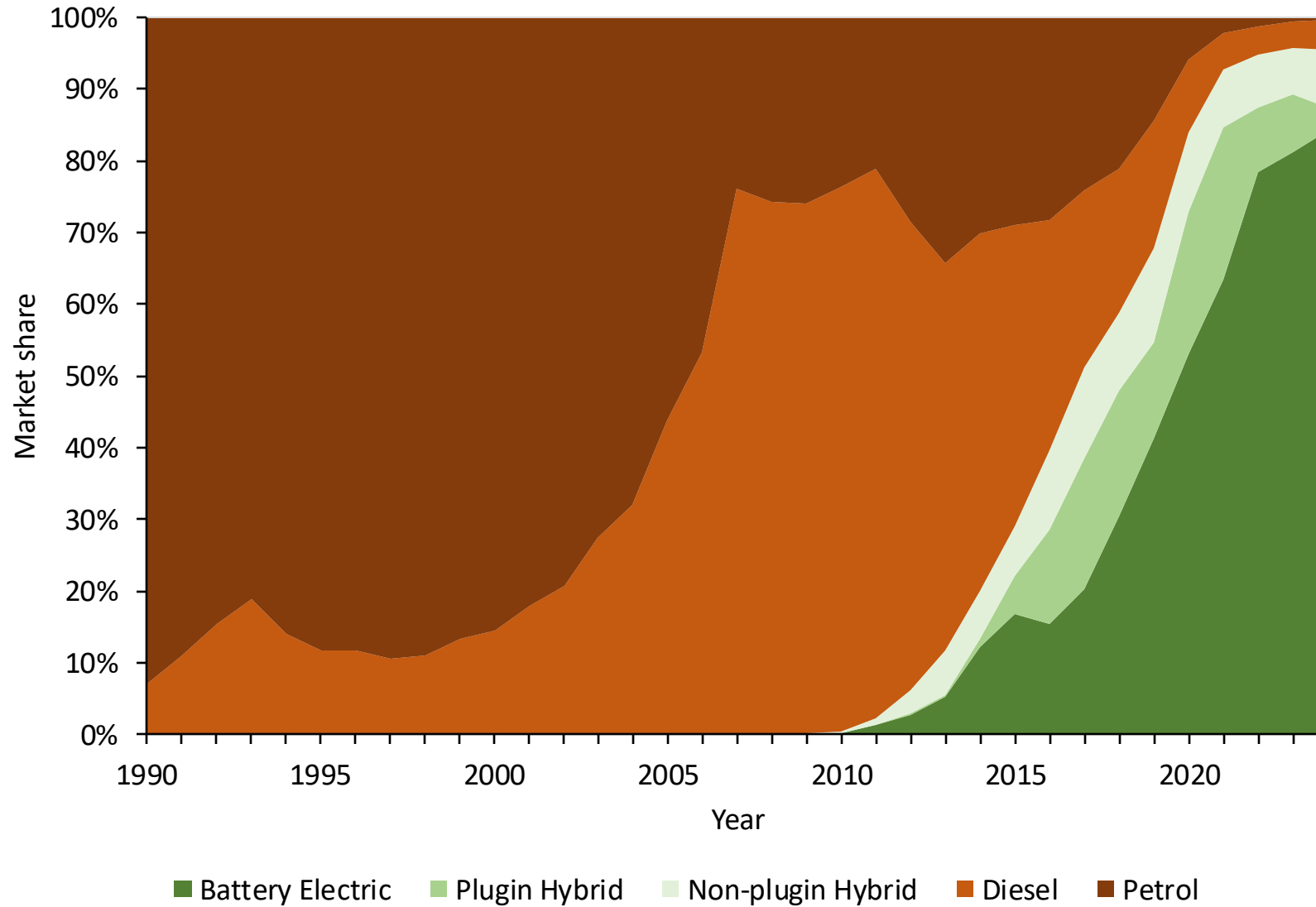






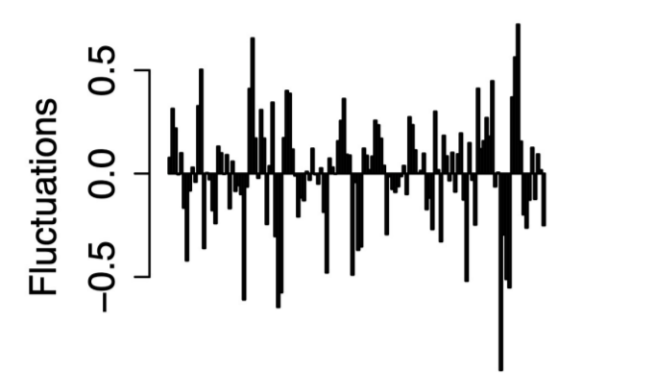
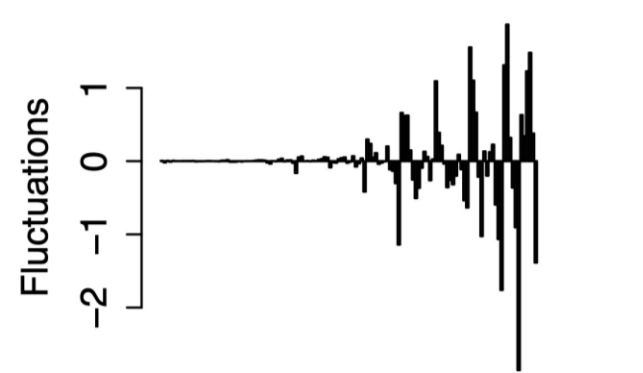
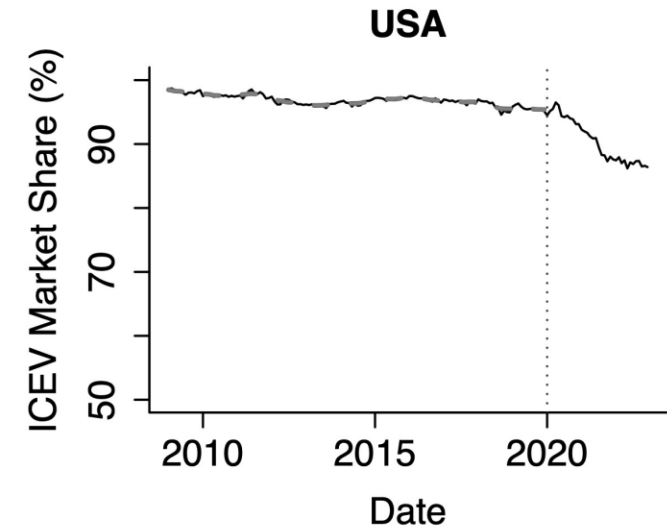
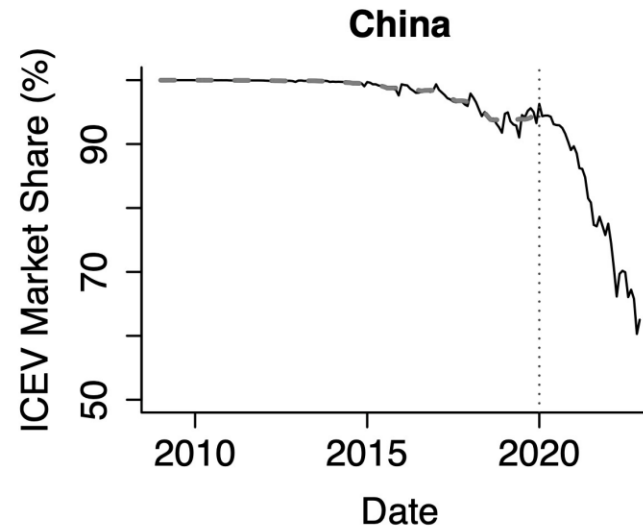
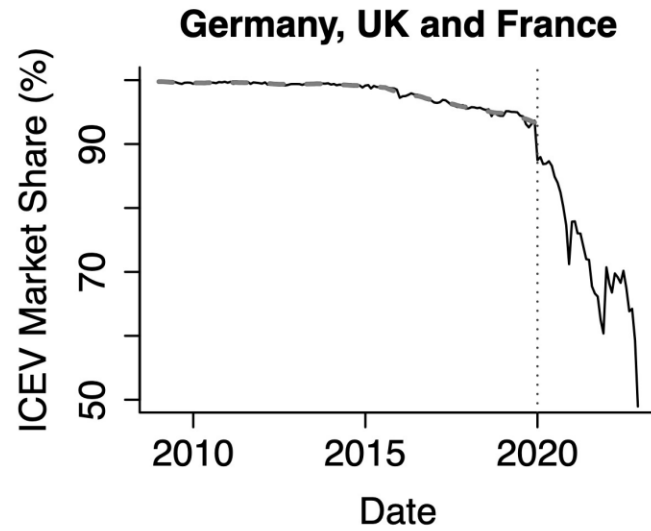


## Norwegian car sales



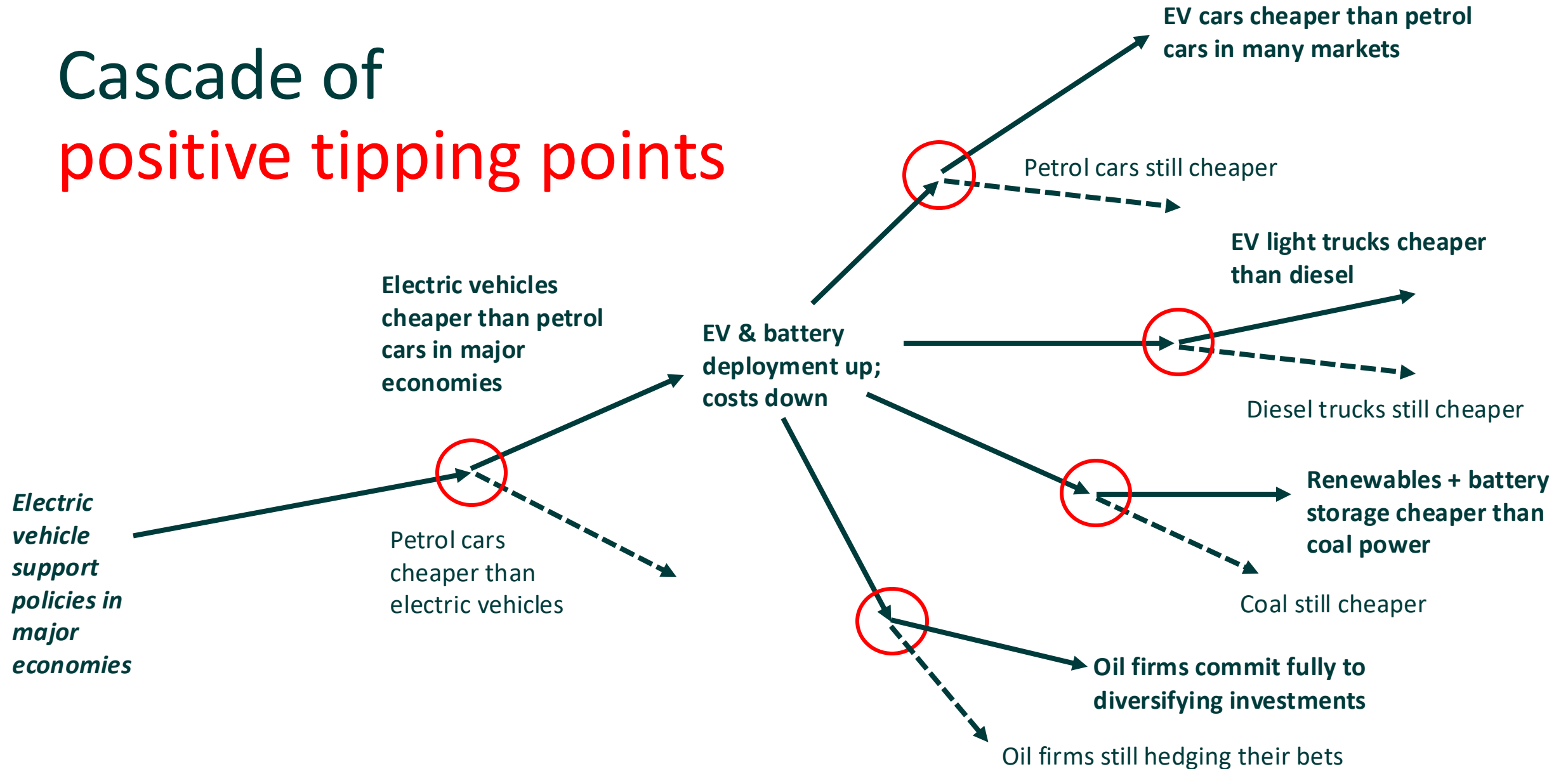


# Early opportunity signals prior to tipping

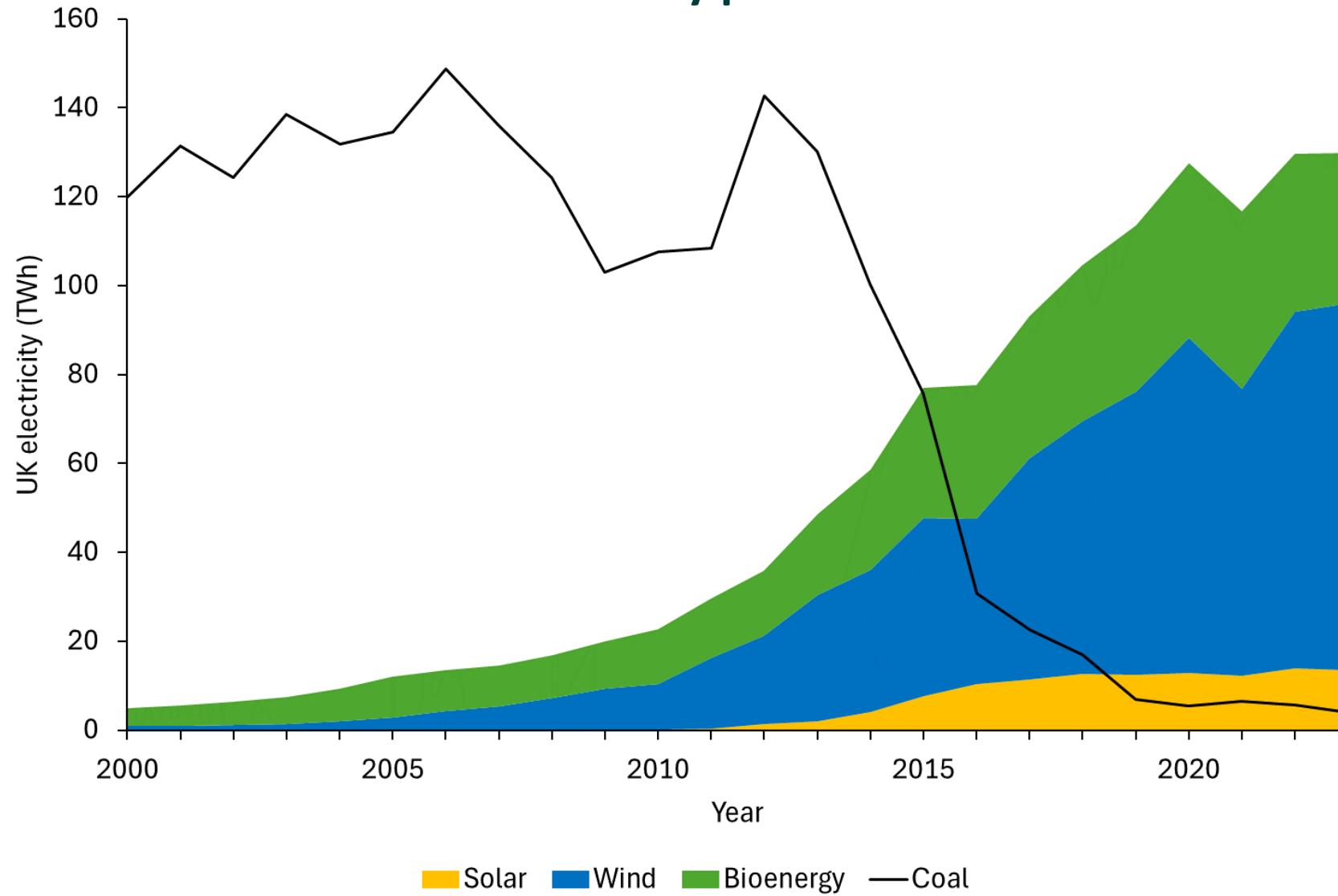


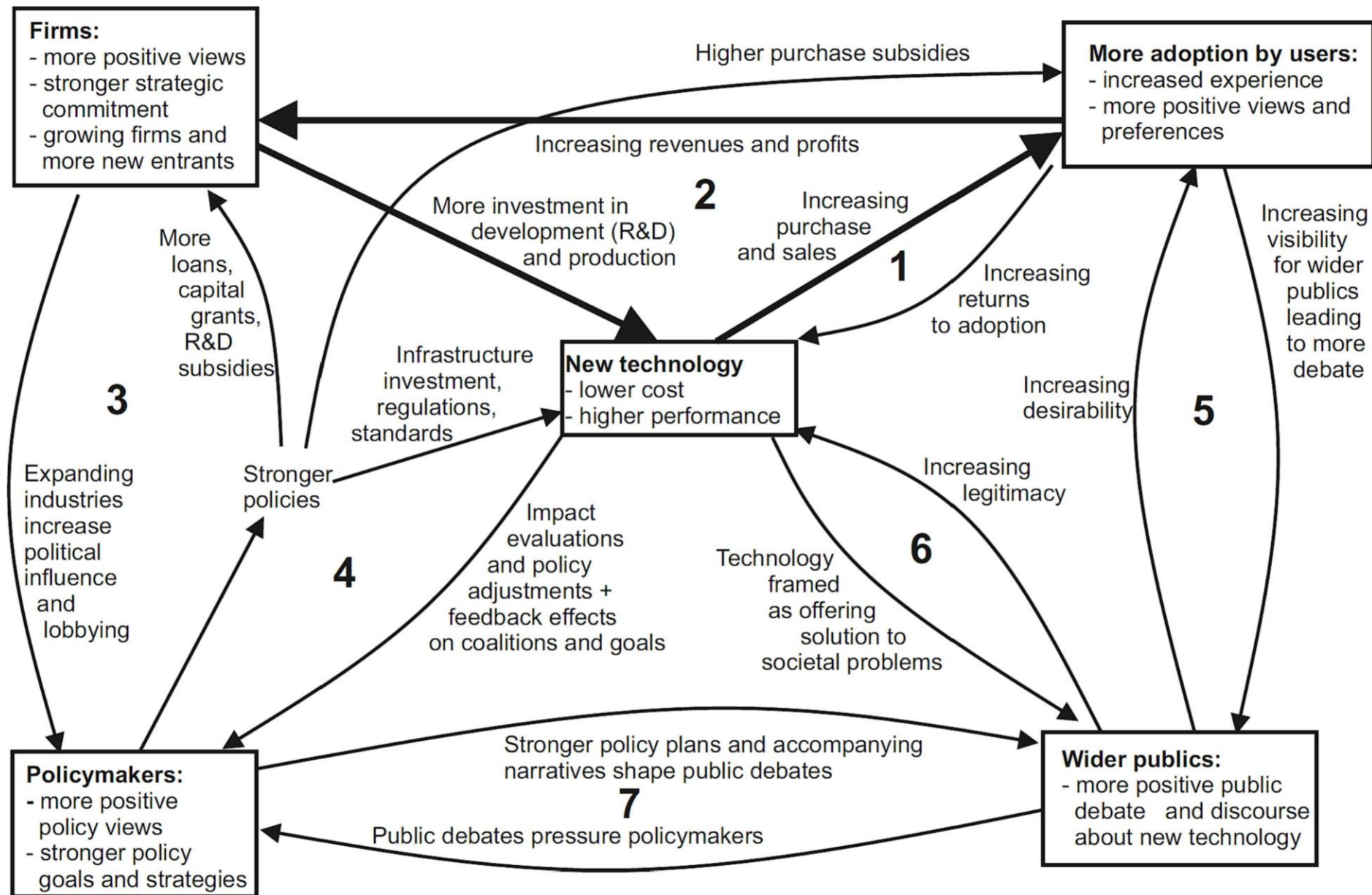


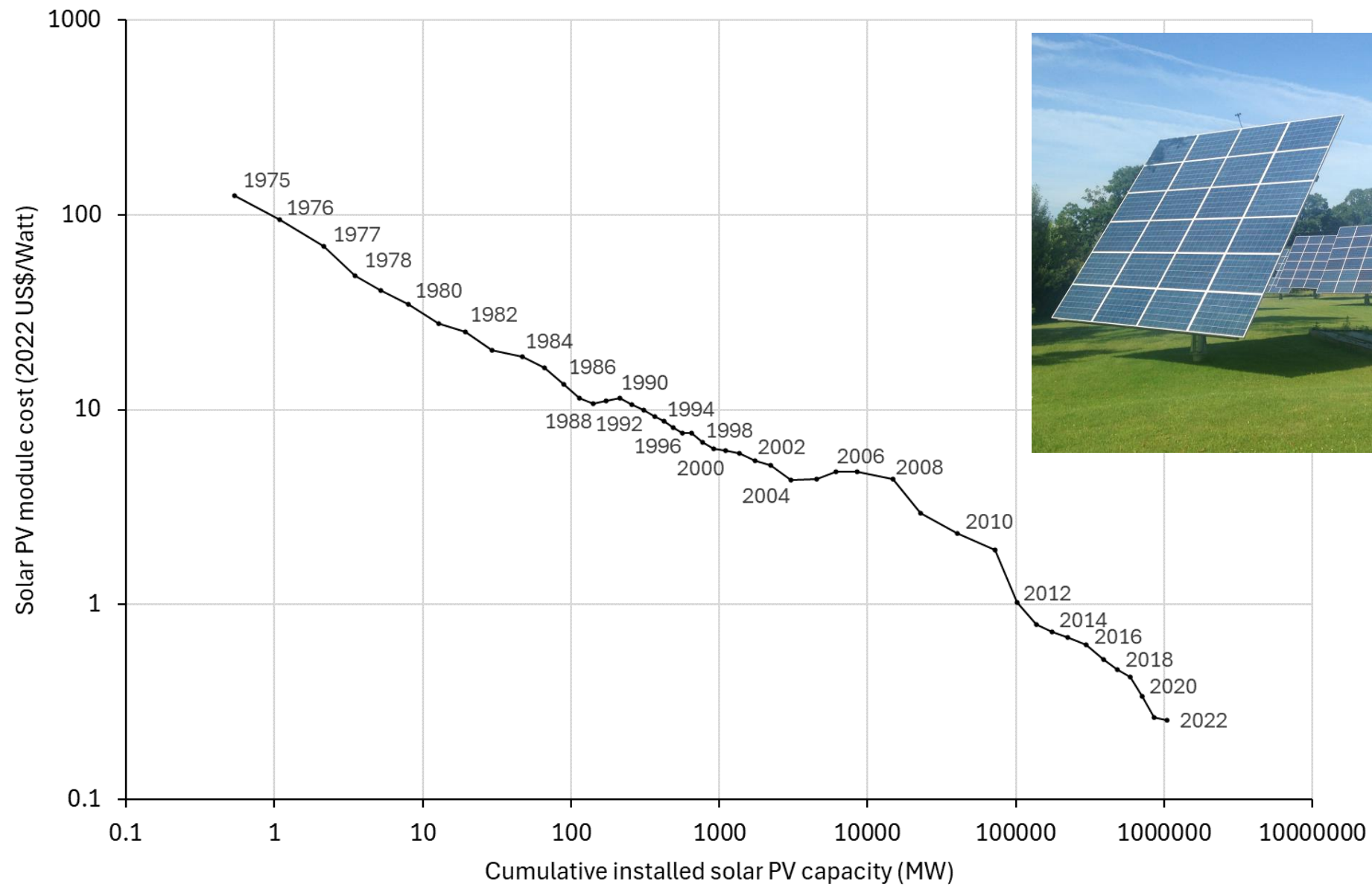
# Cascade of positive tipping points



## UK electricity production

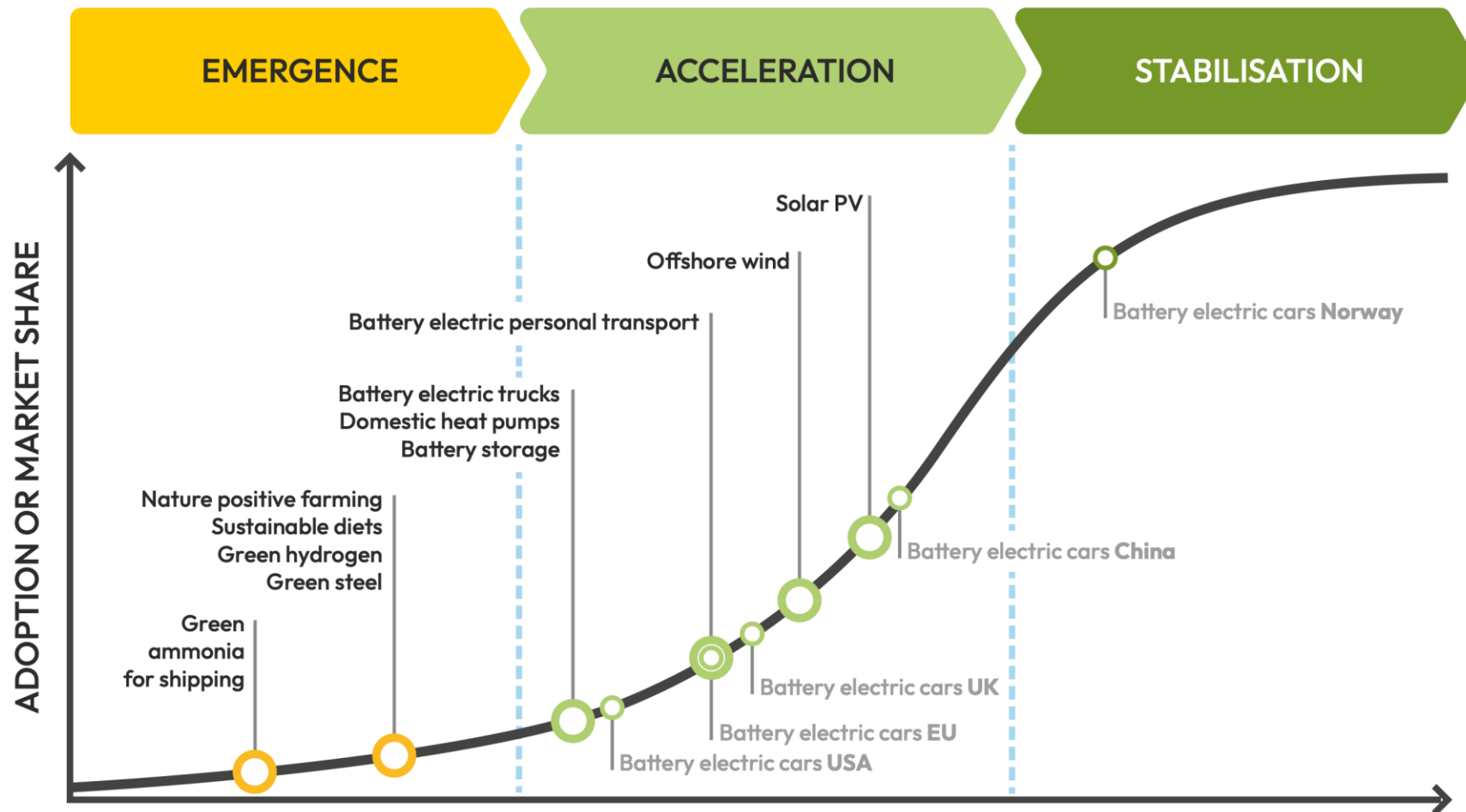


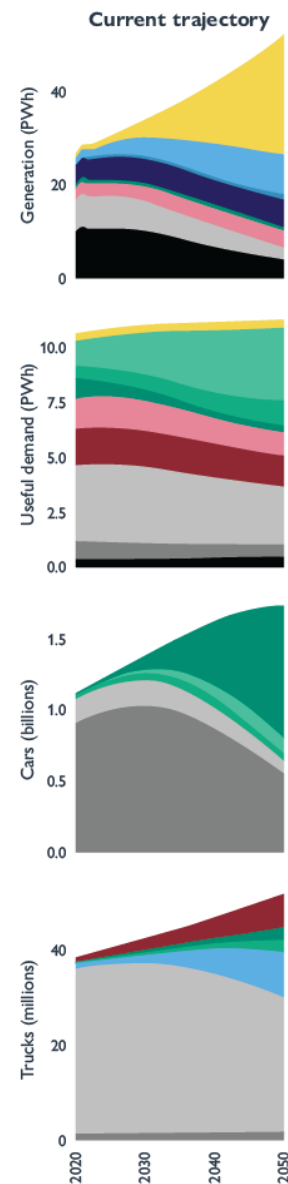
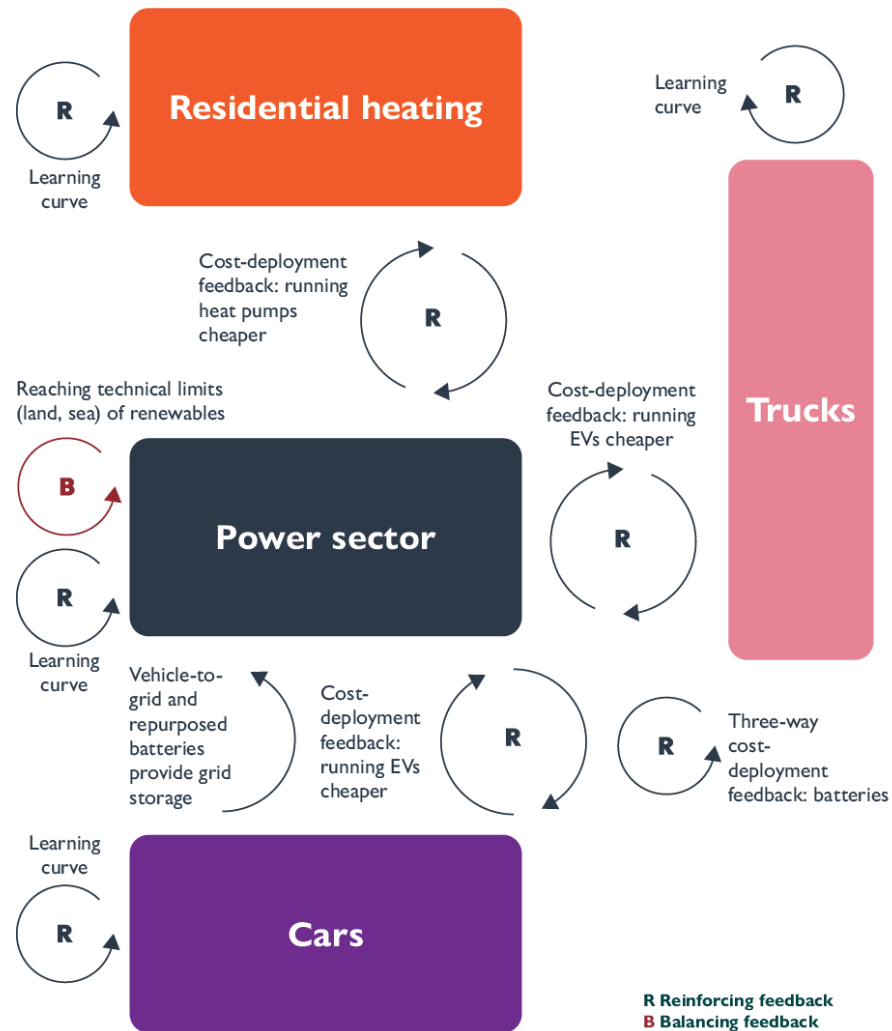






# We've identified the 10 most viable positive tipping points:





#### Power technology

- Coal and Oil
- Gas
- Nuclear
- Biomass & other
- Hydropower
- Offshore wind
- Onshore wind
- Solar

#### Heating technology

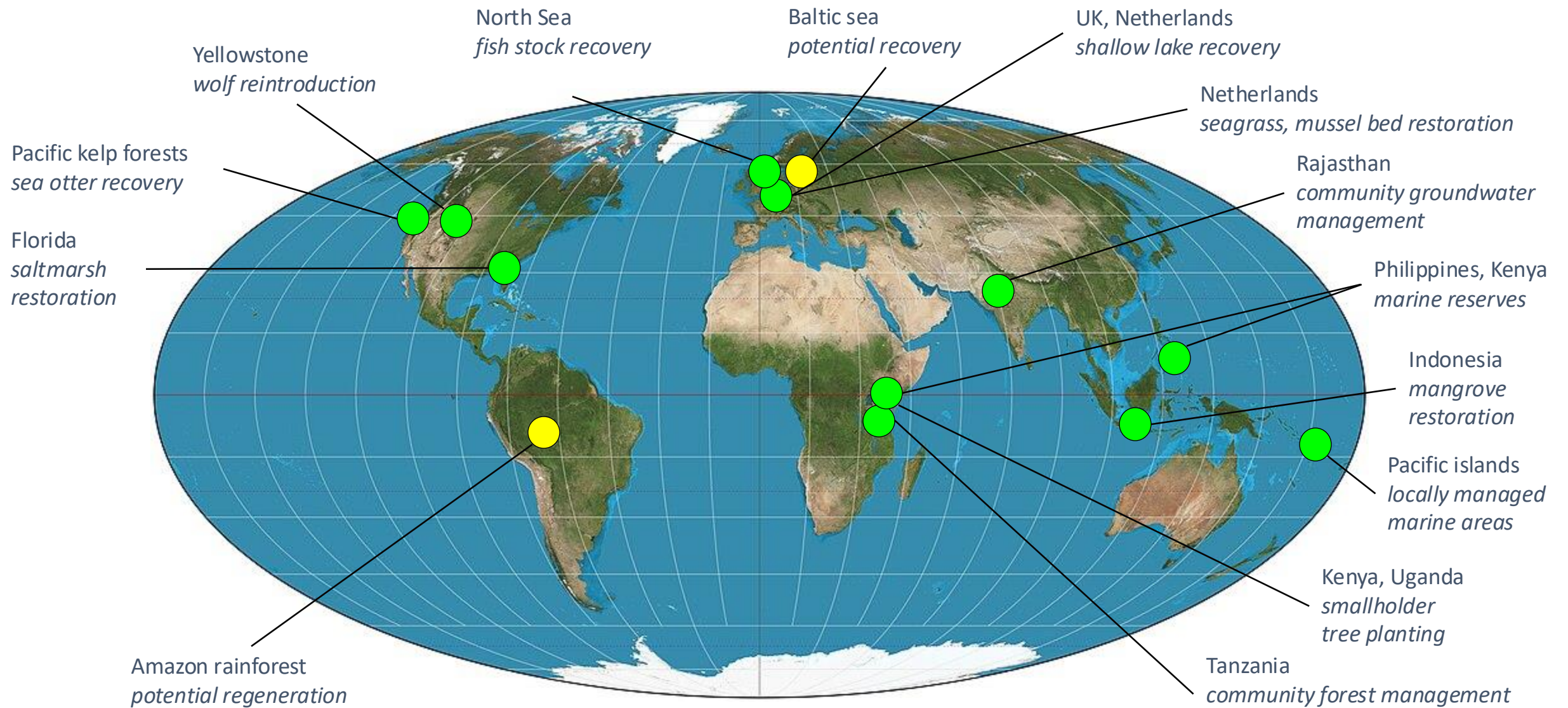
- Coal
- Oil
- Gas
- Biomass
- District heating
- Electric
- Hydronic heat pump
- Air-air heat pump
- Solar thermal

#### Transport technology

- Petrol
- Diesel
- CNG
- Hybrid
- Plug-in hybrid
- Electric
- Hydrogen

#### Freight technology

- Petrol
- Diesel
- CNG/LPG
- Hybrid
- Electric
- Hydrogen
- Biofuel



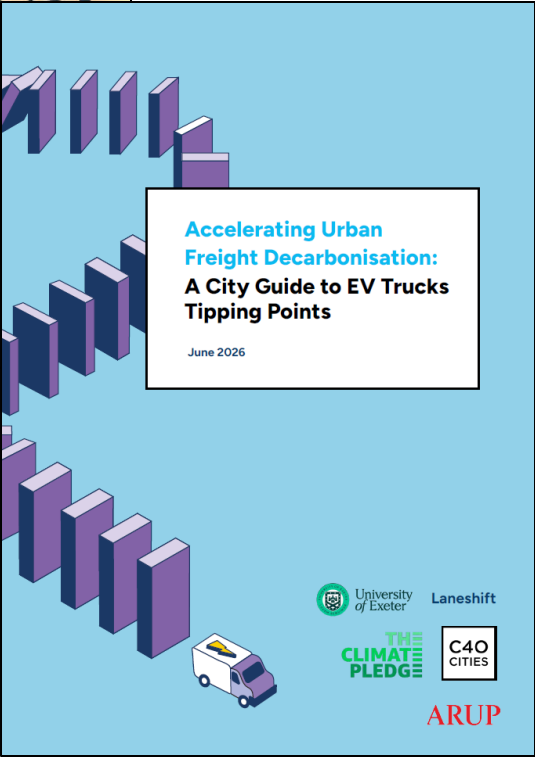
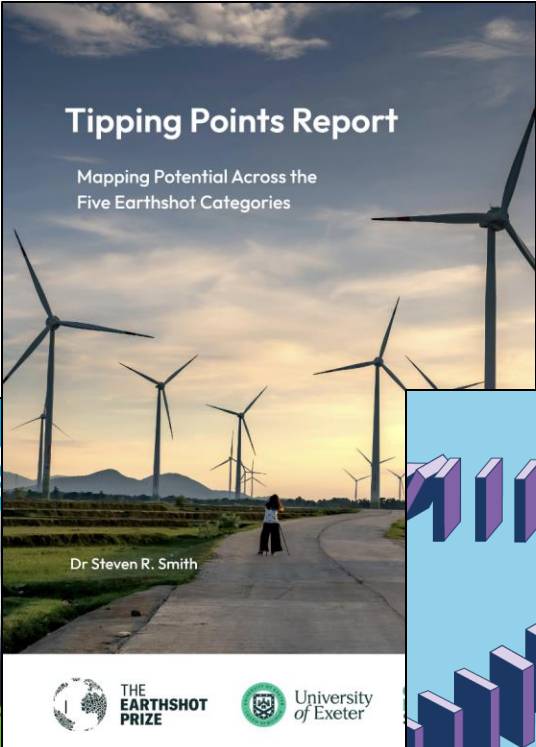
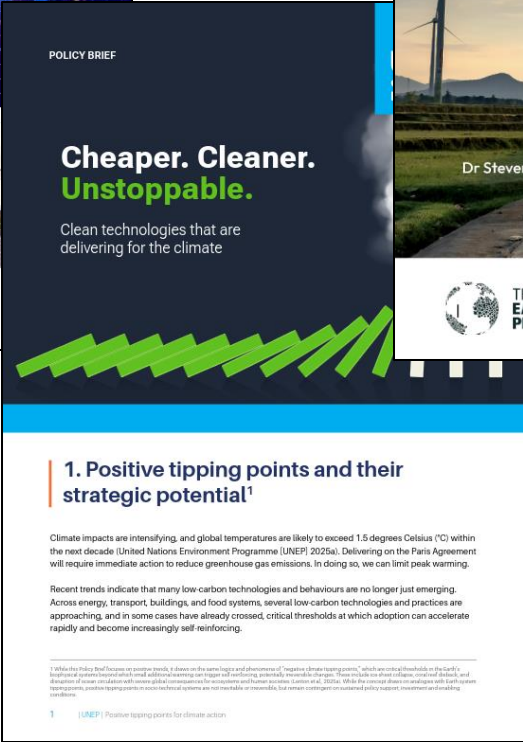
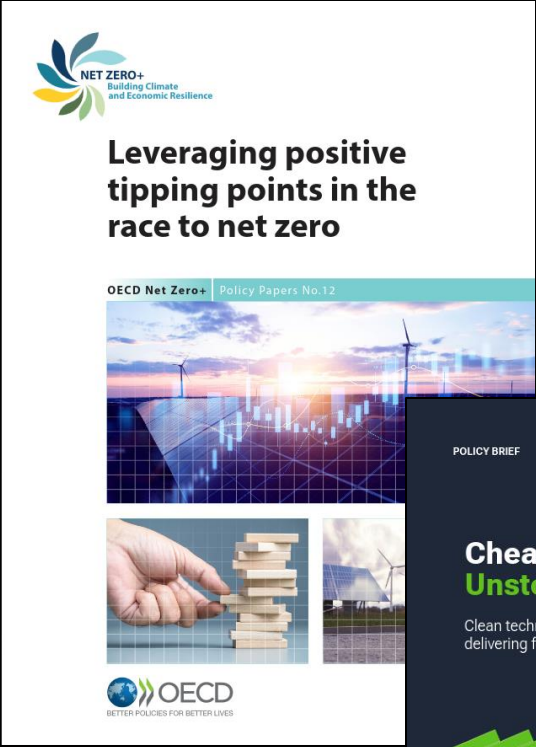
# The International Small-group Tree planting initiative (TIST)







'Creating the Story Together', Hannah Mumby



# MOVING FROM CATASTROPHE TO PROSPERITY

- Limiting overshoot of 1.5 °C global warming is the only way to avoid catastrophic risks from Earth system tipping points
- With policies and collective action to phase-out fossil fuels and regenerate nature we can turn from facing existential tipping point risks to seizing positive tipping point opportunities



# GLOBAL TIPPING POINTS REPORT 2025

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GLOBAL  
TIPPING  
POINTS

[global-tipping-points.org](https://global-tipping-points.org)

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