

The Inevitable Policy Response

Preparing financial markets for climate-related policy/regulatory risks



Financial markets are underprepared for climate-related policy risks

A forceful policy response to climate change within the near term is not priced into today's markets.

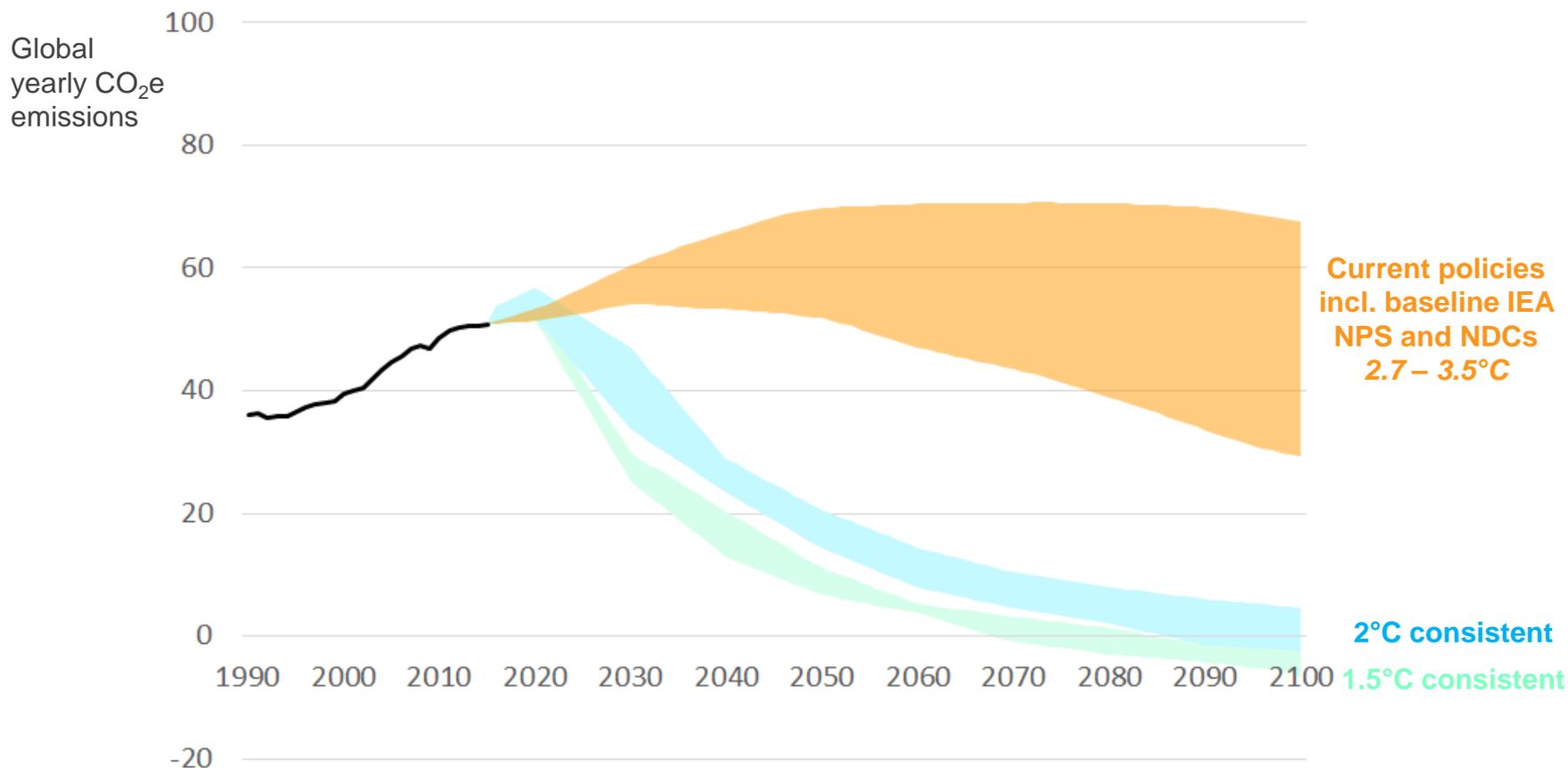
Yet it is inevitable that governments will be forced to act more decisively than they have so far, leaving investor portfolios **exposed to significant risk**.

The longer the delay, the more disorderly, disruptive and abrupt the policy will inevitably be.

In anticipation, PRI, Vivid Economics and ETA are building a pioneering forecast of the financial impact of this **Inevitable Policy Response (IPR)**, including a Forecast Policy Scenario:

- How will it affect **the economy**?
- Which **asset classes** will be impacted?
- Which **sectors** are most at risk?

The setting: current policies fail to get even close 2°C let alone the Paris Agreement ambition of well-below 2°C



Source: Climate Action Tracker, Dec 2018 update

Growing awareness and momentum on climate issues makes a near-term, forceful policy response more likely

Changing weather trends



Impacts on security

The effects of a changing climate are a **national security issue.**

- US Dept. of Defense



Cheaper renewable energy

FINANCIAL TIMES

Europe 'watershed' as green energy set to overpower coal



JUNE 3, 2019

New climate research

Global warming report, an 'ear-splitting wake-up call' warns UN chief



Civil society action



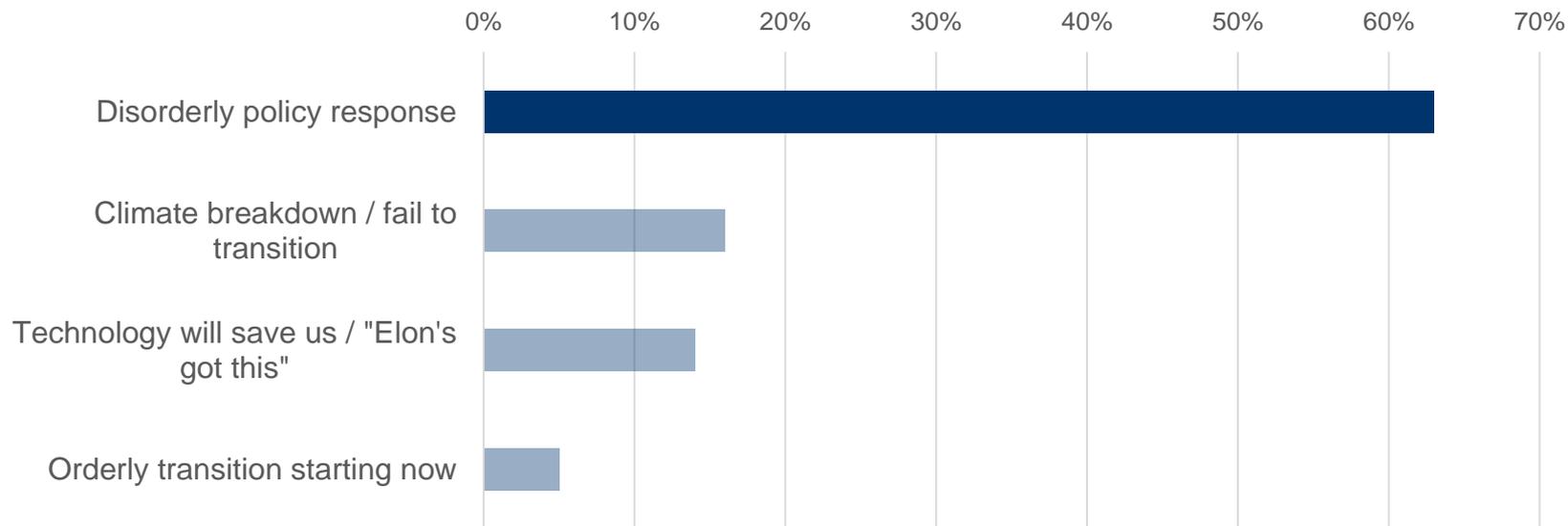
Stakeholders demanding clarity

The catastrophic effects of climate change are already visible around the world. We need collective leadership and action across countries, and we need to be ambitious.



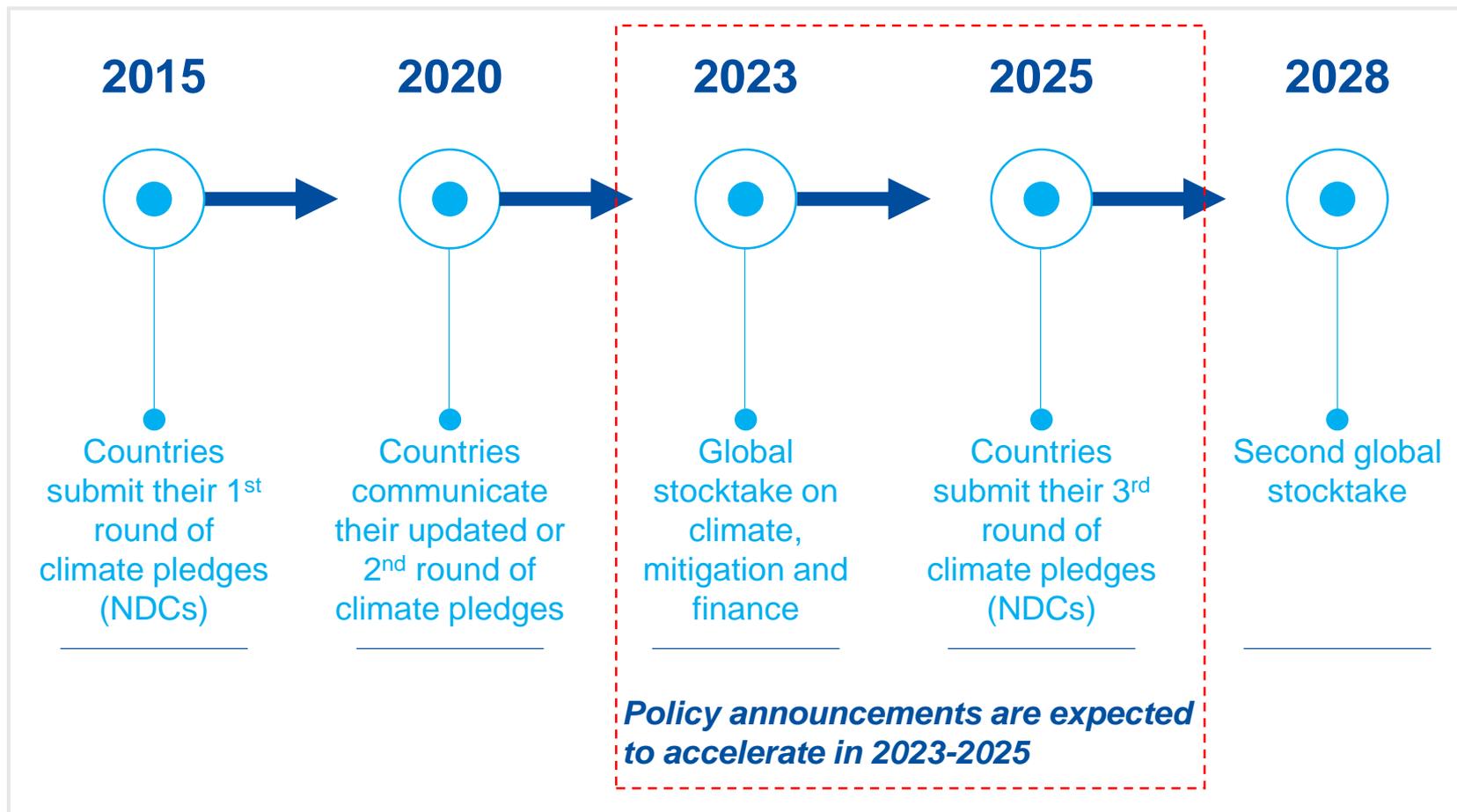
Investors acknowledge that there will be a policy response, and that it will be delayed and disruptive

Which of the following scenarios is most likely?



Source: UN PRI September 2018

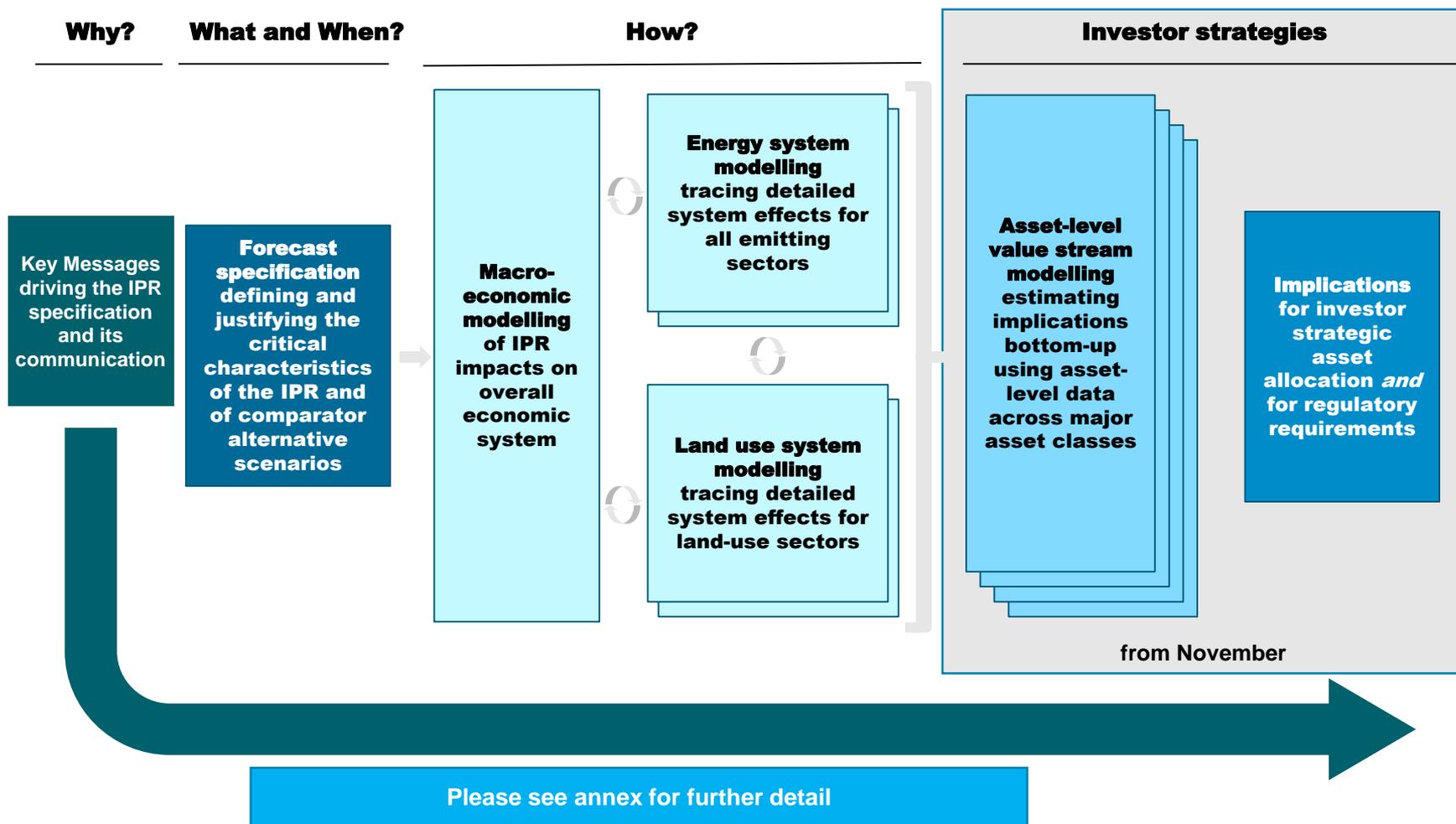
The Paris Agreement’s “ratchet mechanism” increases the likelihood that governments will strengthen policy by 2025



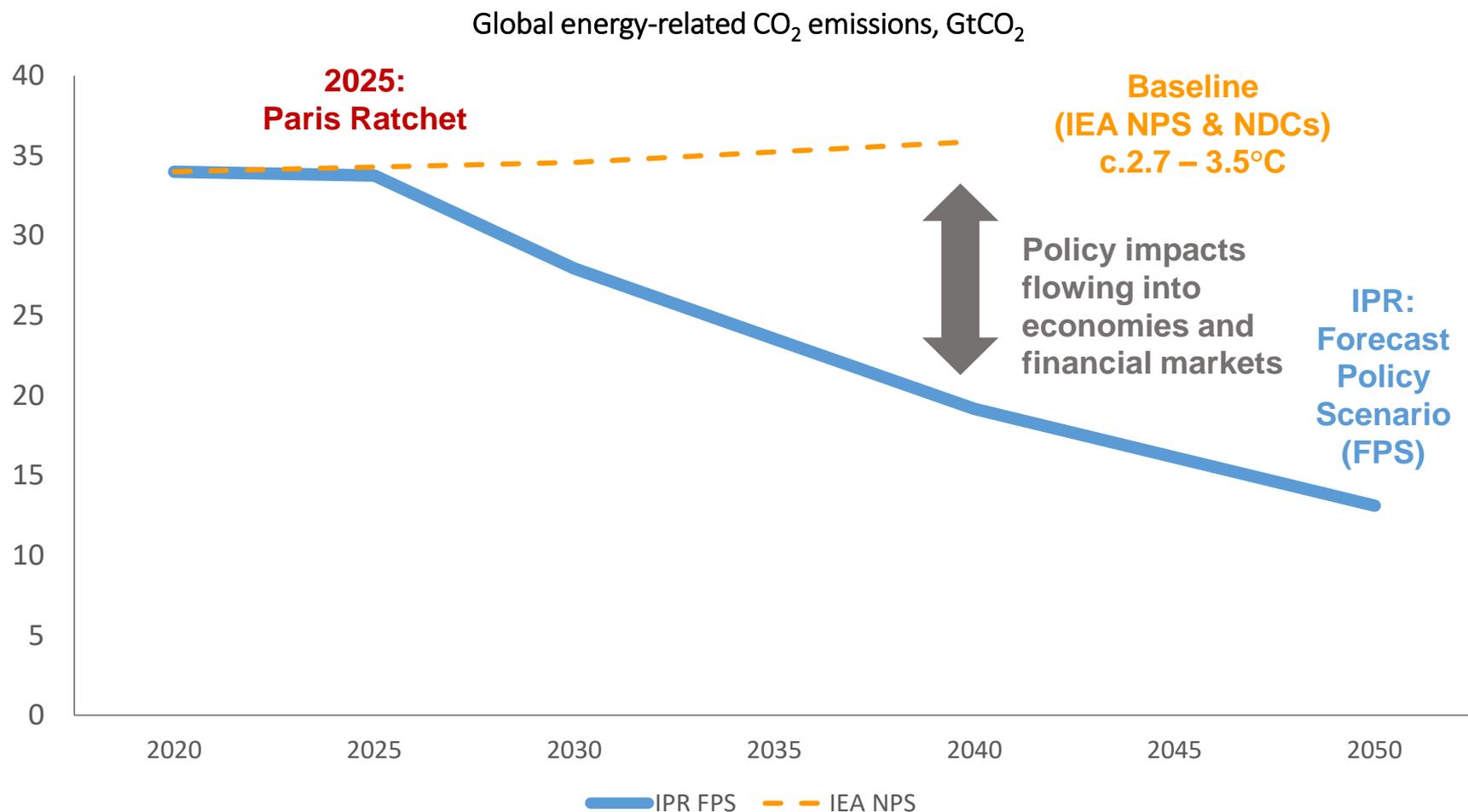
The most likely policy levers to secure an accelerated and ‘just’ transition are starting to emerge

<p>Coal phase-out</p>	<p>ICE sales bans</p>	<p>Carbon pricing</p>	<p>CCS and industry decarbonisation</p>	 <p>Enabling a green economy</p>
 <p>The UK has committed to phase out unabated coal use by 2025, and support for a just transition is starting to emerge</p>	 <p>All new cars to be emissions-free in the Netherlands by 2030, and other countries have announced intentions</p>	 <p>57 carbon pricing initiatives around the world cover 20% of global emissions and discussion of BCAs</p>	 <p>Only two large scale CCS power projects in operation at the end of 2018, and no proven policies ready for ensuring scale-up</p>	
<p>Zero-carbon power</p>	<p>Energy efficiency</p>	<p>Land use-based greenhouse gas removal</p>	<p>Agriculture</p>	 <p>‘Just Transition’ lens to ensure social and political feasibility</p>
 <p>Nuclear, hydro, solar PV, wind and other renewables represented 36% of electricity generation globally in 2018</p>	 <p>A coalition of 8 European cities have pledged to completely decarbonise their existing building stocks by 2050</p>	 <p>National and bilateral payment systems trialled and planned to support nature-based solutions, including re/afforestation and bioenergy production</p>	 <p>Historic rates of agricultural improvement very high, and large investment in agricultural technologies and infrastructure remains a priority</p>	

Our forecast of an Inevitable Policy Response is based on a robust and strategic analytic process

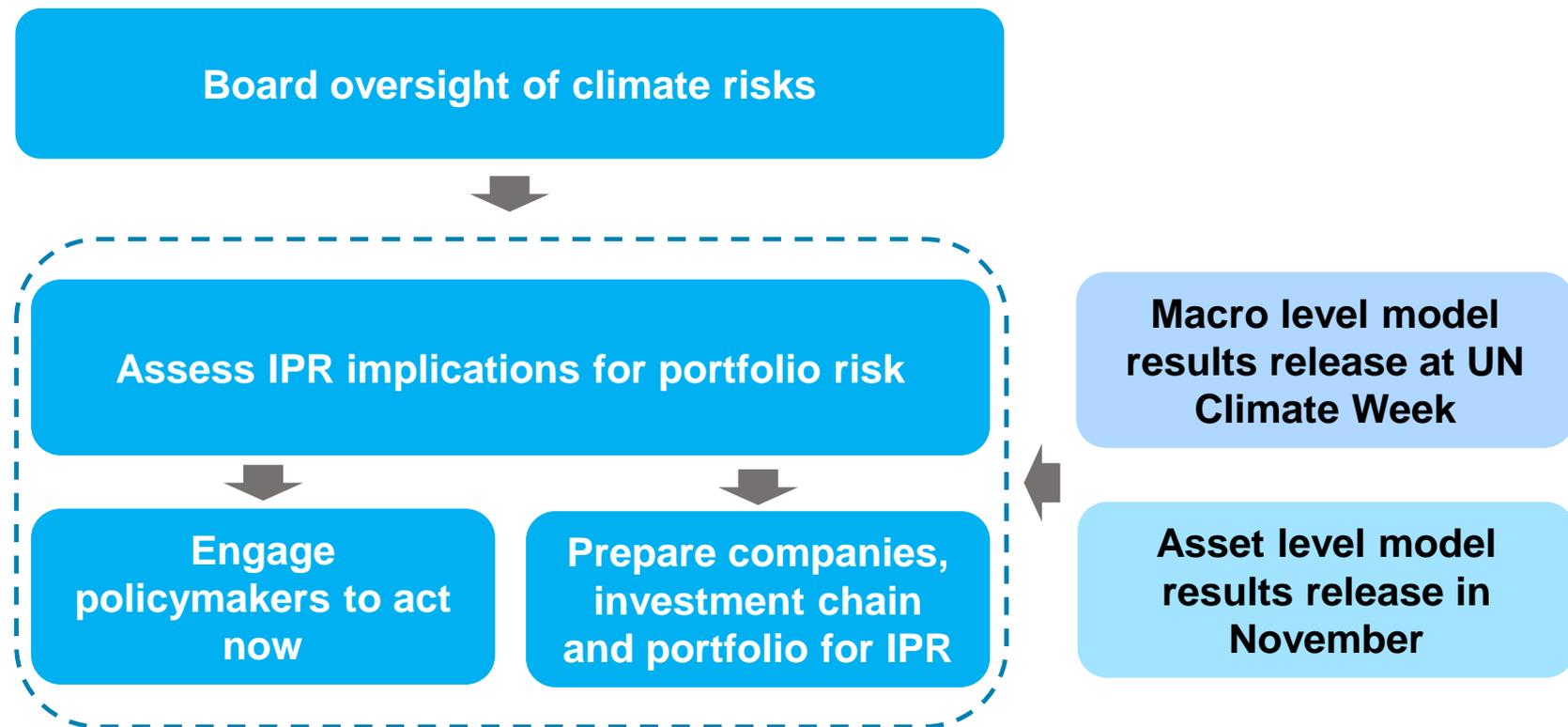


Our forecast of an Inevitable Policy Response provides an alternative to the IEA NPS as a business planning case for investors, corporates & regulators to consider



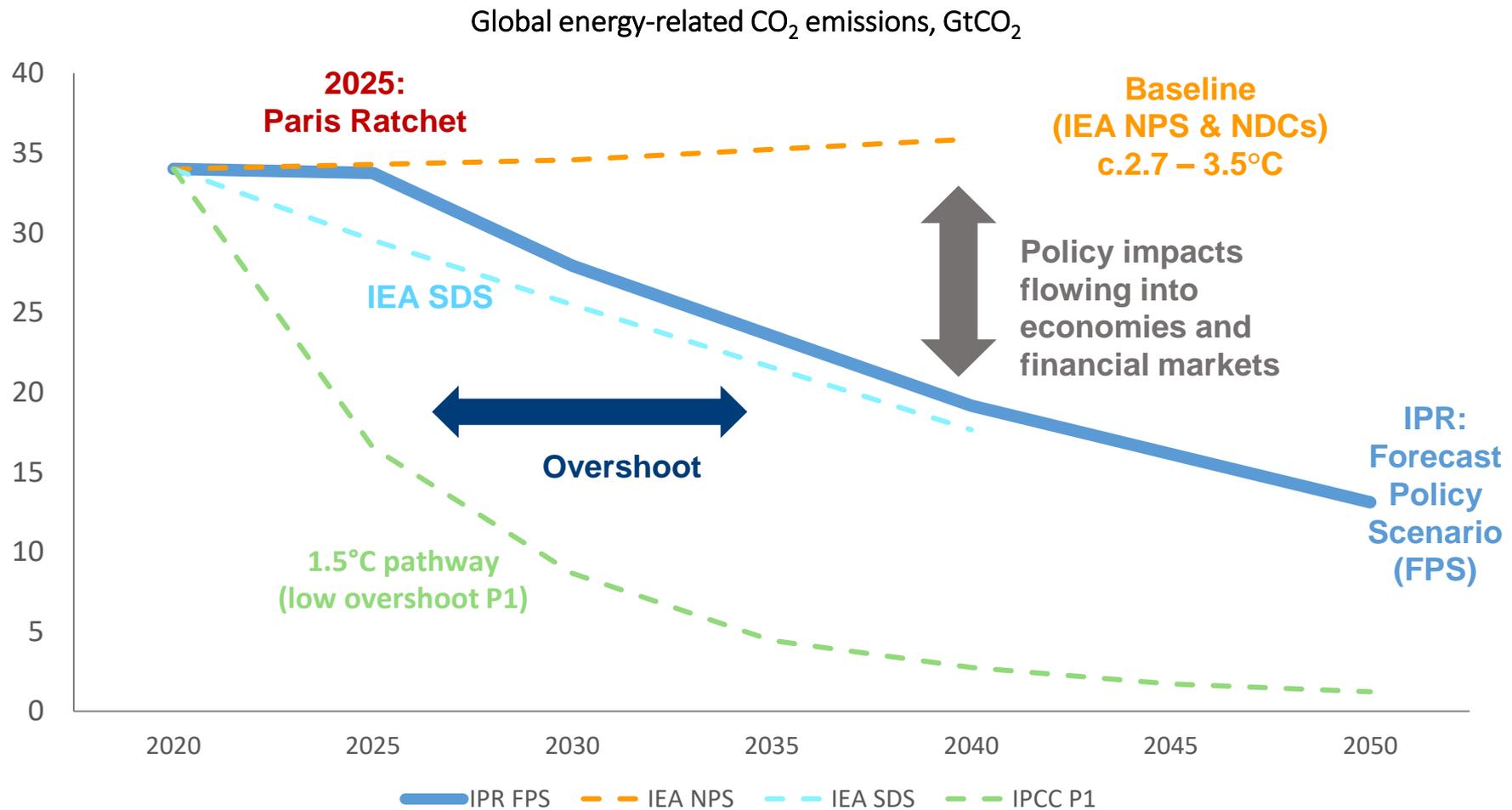
Investors need to act now

- The greater the delay in responding the greater the cost
- Early action is needed to manage portfolio risk and protect value



Still aspire to the Paris Agreement..

Reaching a 1.5 degrees outcome is a far bigger challenge – but should remain the Aspiration



PRI's ambition is to limit warming to 1.5°C

- Aiming for a 1.5°C target matters – it is a much better outcome for the world than 2°C.
- Stakeholders should aspire to 1.5°C – and that ideally, they would set targets to reach this goal including a second policy ratchet.
- However, in the interim they should proceed with realistic and transparent forecasts.

But our forecast tells that we will overshoot the 1.5°C target

Therefore, Policy makers need also to focus R&D spending on key areas of the “Known Unknowns” such as:

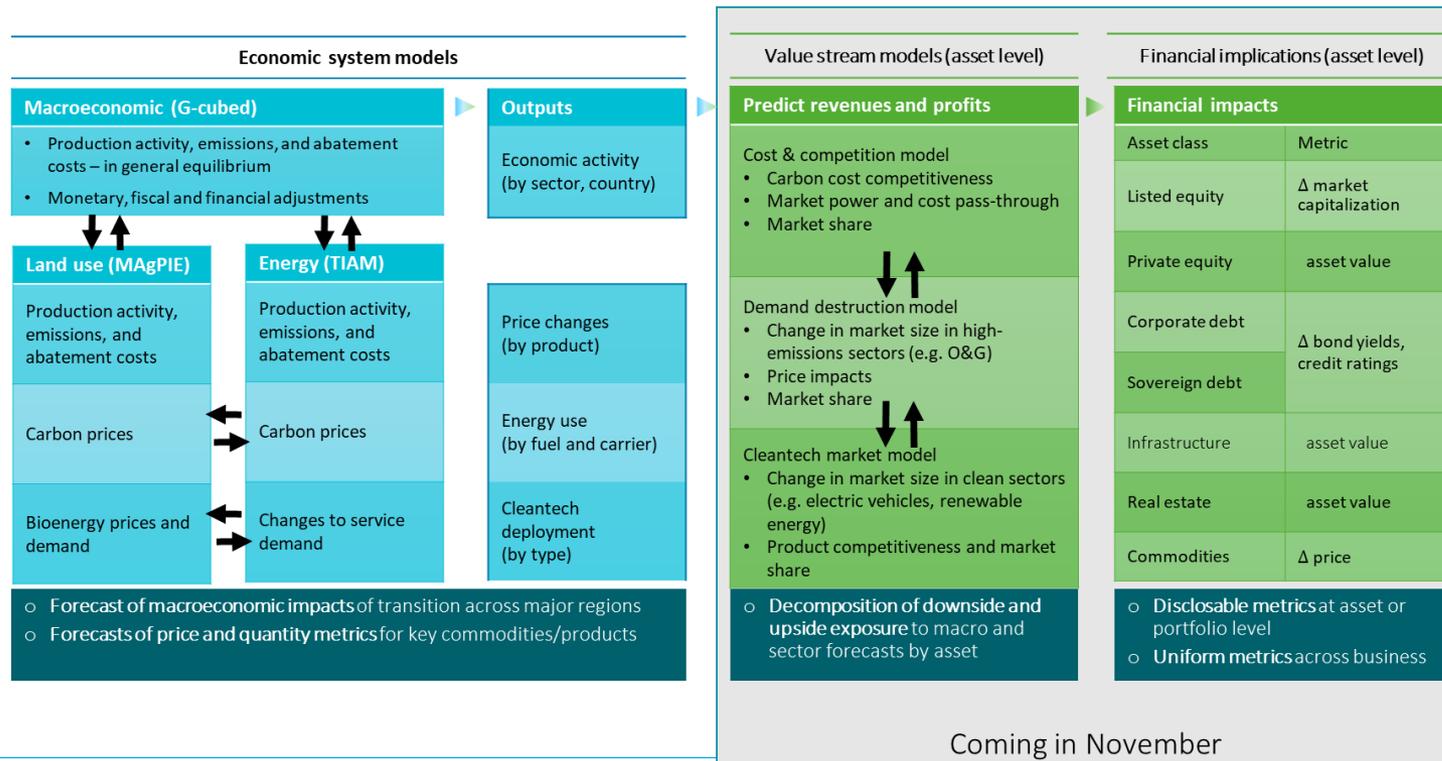
- **Faster policy action – ACT NOW**
- Negative Emission technologies for industry
 - Scale up of CCS enables bioenergy use with CCS (BECCS) and in industry, while we see negligible CCS deployment in fossil-fuel fired electricity generation.
 - Direct air capture
- More aggressive agricultural practices
 - Dietary Change leading to less beef usage
- AI and autonomous vehicles
- Hydrogen and bioenergy
- Consumer preferences
- Low-carbon materials

Appendix

Our model analyses the impact of climate-related policy and regulatory risks on the financial markets

ADVANTAGES OF OUR MODEL:

- **Transparency** – defining and justifying a realistic outline of future policy response
- **Implications at the company level** – estimating implications at the asset level for the first time
- **Completeness** – more accurately capturing the interaction between impacts of the macro economy, the energy system and the land use system



Project partners

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