PRI Principles for Responsible Investment

UNEP FINANCE INITIATIVE | United Nations Global Compact

An investor initiative in partnership with UNEP Finance Initiative and UN Global Compact

The Inevitable Policy Response

The Investor Brief

Preparing Financial Markets

Consortium partners

This report was prepared by Vivid Economics and Energy Transition Advisors, who bear sole responsibility for any views expressed, which do not necessarily reflect those of the sponsors or other consortium members. The authors are solely responsible for any errors.

This project was commissioned by the PRI with support from:

Lessons from Covid-19

- As demonstrated by COVID19, large systemic environmental risks like Climate Change warrant serious investor attention.
- Stimulus packages in the next year may well effect these climate policies.
- Financial impacts under a more forceful IPR response to a major set of climate impacts could be as large and non-cyclical..

Climate change ✓ Added

IEA's green recovery plan backed by governments and investor groups

Energy body says world must harness coronavirus stimulus packages to shift to clean power

The International Energy Agency recommended more support for wind and solar energy © Bloomberg

Leslie Hook in London JUNE 18 2020

Be the first to know about every new Coronavirus story Get instant email alerts

Several governments and investor groups have thrown their weight behind a set of climate-friendly recovery measures from the International Energy Agency that would harness massive coronavirus stimulus packages to help lead

FINANCIAL TIMES

WORLD US COMPANIES TECH MARKETS GRAPHICS OPINION WORK & CAREERS LIFE & ARTS HOW TO SPEND IT

on Commodities

Trump eases environmental rules during pandemic

Covid-19 crisis will bring change to mining industry

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EU carbon credit prices roar back as traders bet on intervention

Mechanism to reduce supply encourages a speedier recovery than after the last crisis

EU policymakers intend to foster a 'green' recovery from the pandemic, which traders have speculated could further support carbon prices © AFP via Getty Images

David Sheppard and Leslie Hook in London 14 HOURS AGO

The price of carbon credits aimed at cutting pollution in the EU has jumped back to levels last seen before the coronavirus crisis hit markets in March, as traders bet that the instruments could be bolstered by the bloc's plans for a "green" recovery.

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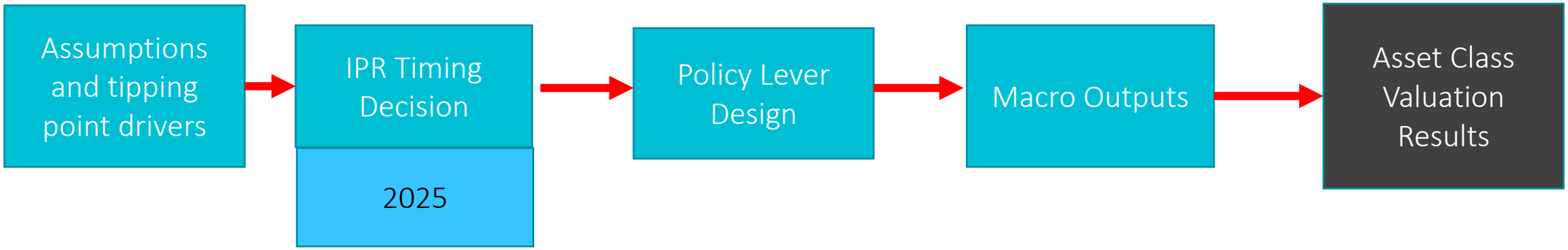
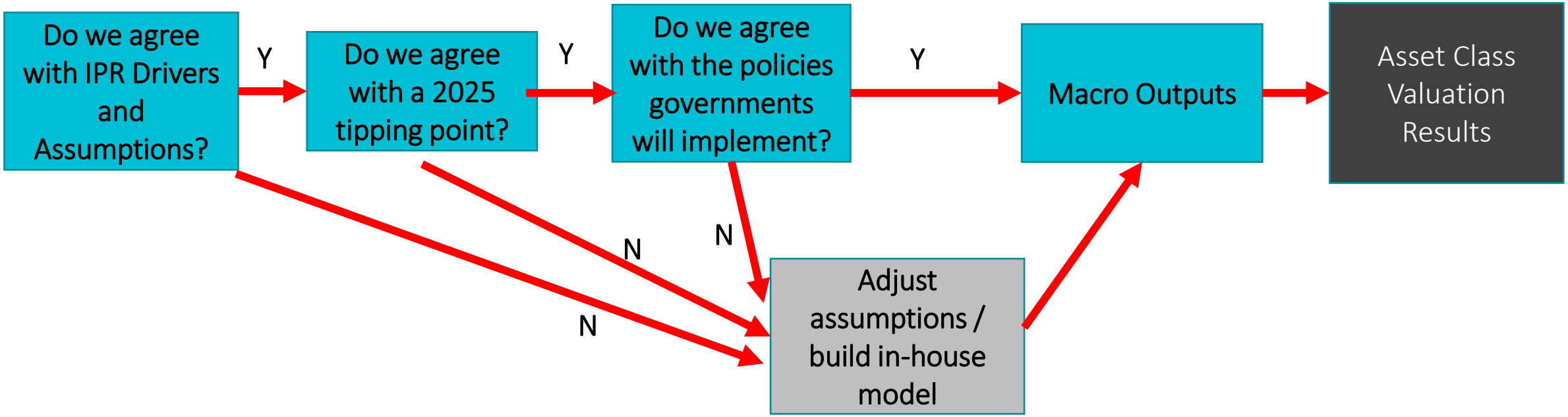
THE IPR ELEMENTS

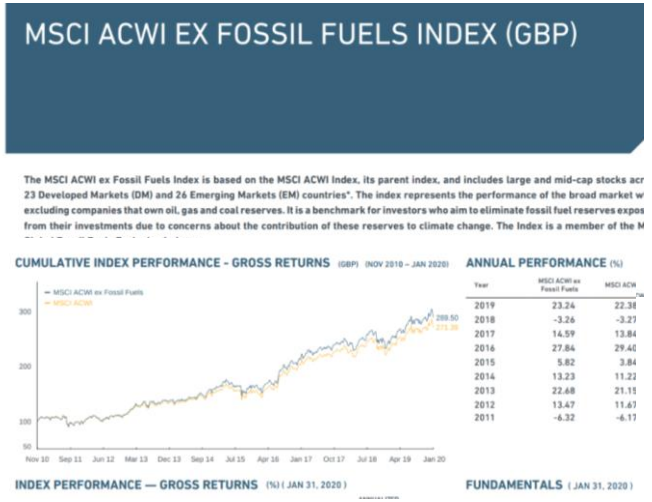


The IPR Adoption Model

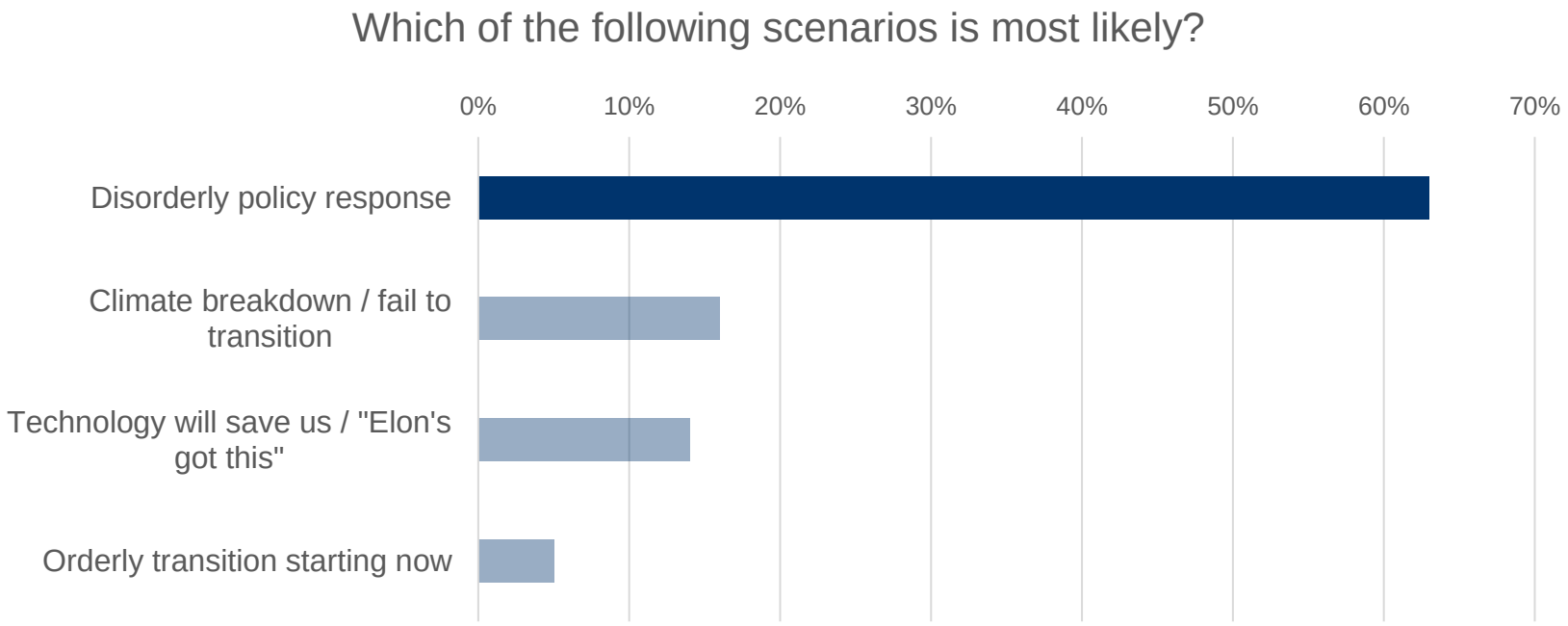


What is priced into markets today?

- The risk wasn't priced in in 2015 and Fossil Fuel free index has outperformed MSCI ACWI.
- We use a baseline of IEA STEPS for what is priced into todays markets – existing government committments
- Discounting and acknowledged market behaviours drive short term horizon on transition risk
- Markets see transition risk as status quo but are already producing unpriced impacts eg: German utilities

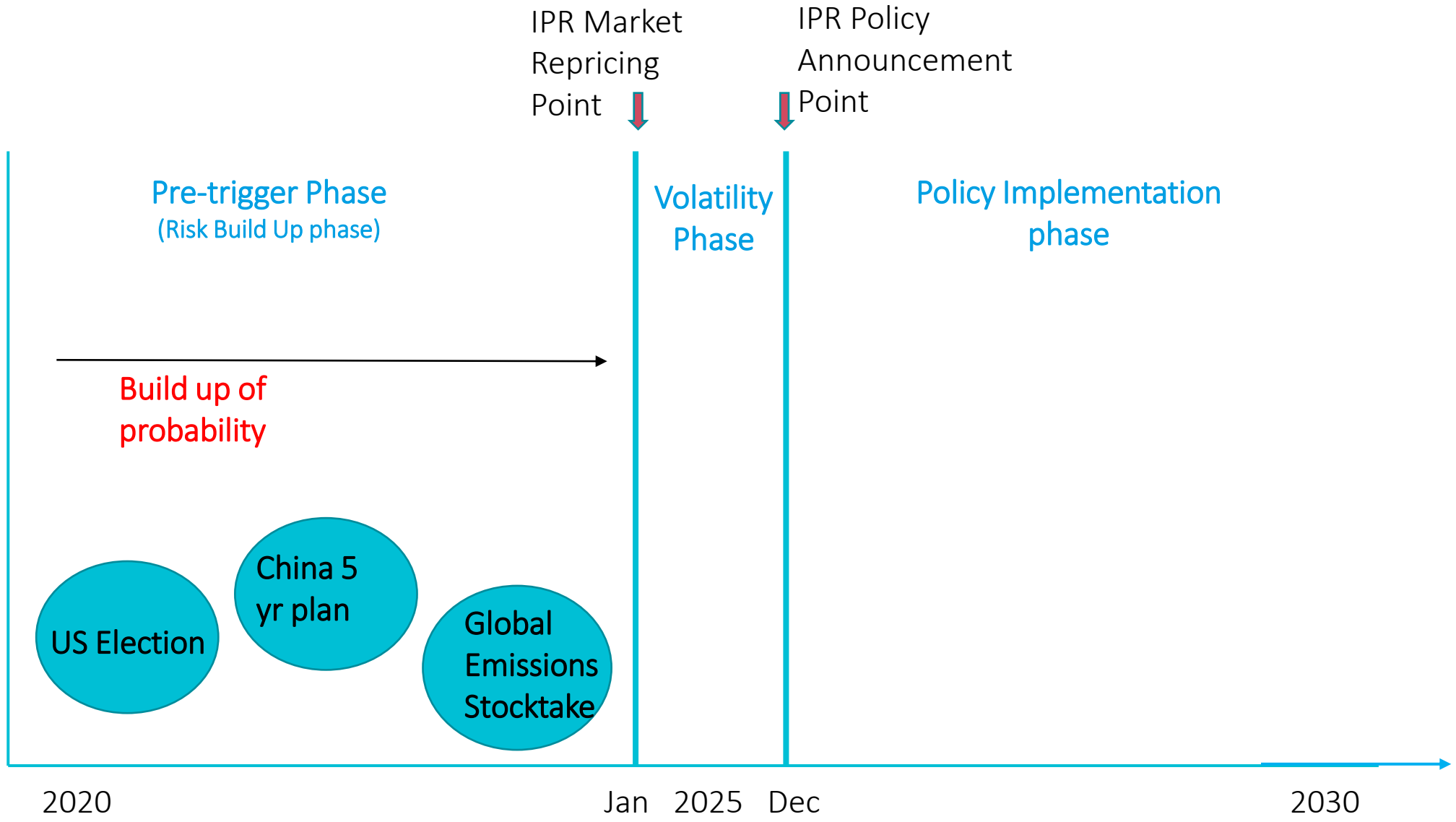


Investors acknowledge that there will be a policy response, and that it will be delayed and disruptive



Source: UN PRI September 2018

IPR Outline concept



IPR Framework – Tipping Points and Assumptions

Momentum Based Drivers

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Policy

Border Tax Adjustments

GHG reduction policy

Net Zero Targets

Ongoing New climate research

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

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

- 03/06/2019

Uninsurable World

Munich RE

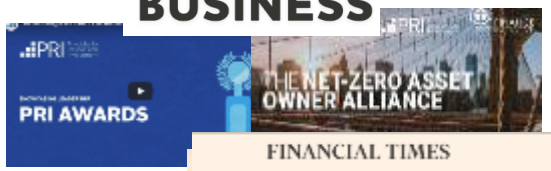
"Climate change could make insurance too expensive for most people"

Moody's INVESTORS SERVICE

"Climate change risks outweigh opportunities for P&C (re)insurers"

Pressure from leading investors and business

WE MEAN BUSINESS



FINANCIAL TIMES

BHP UK investors urge halt to fossil fuel

Activist shareholders make history in anti-lobby resolution at Origin AGM

Regulator influences and warnings on stability

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.

Additional, less predictable but equally high impact triggers

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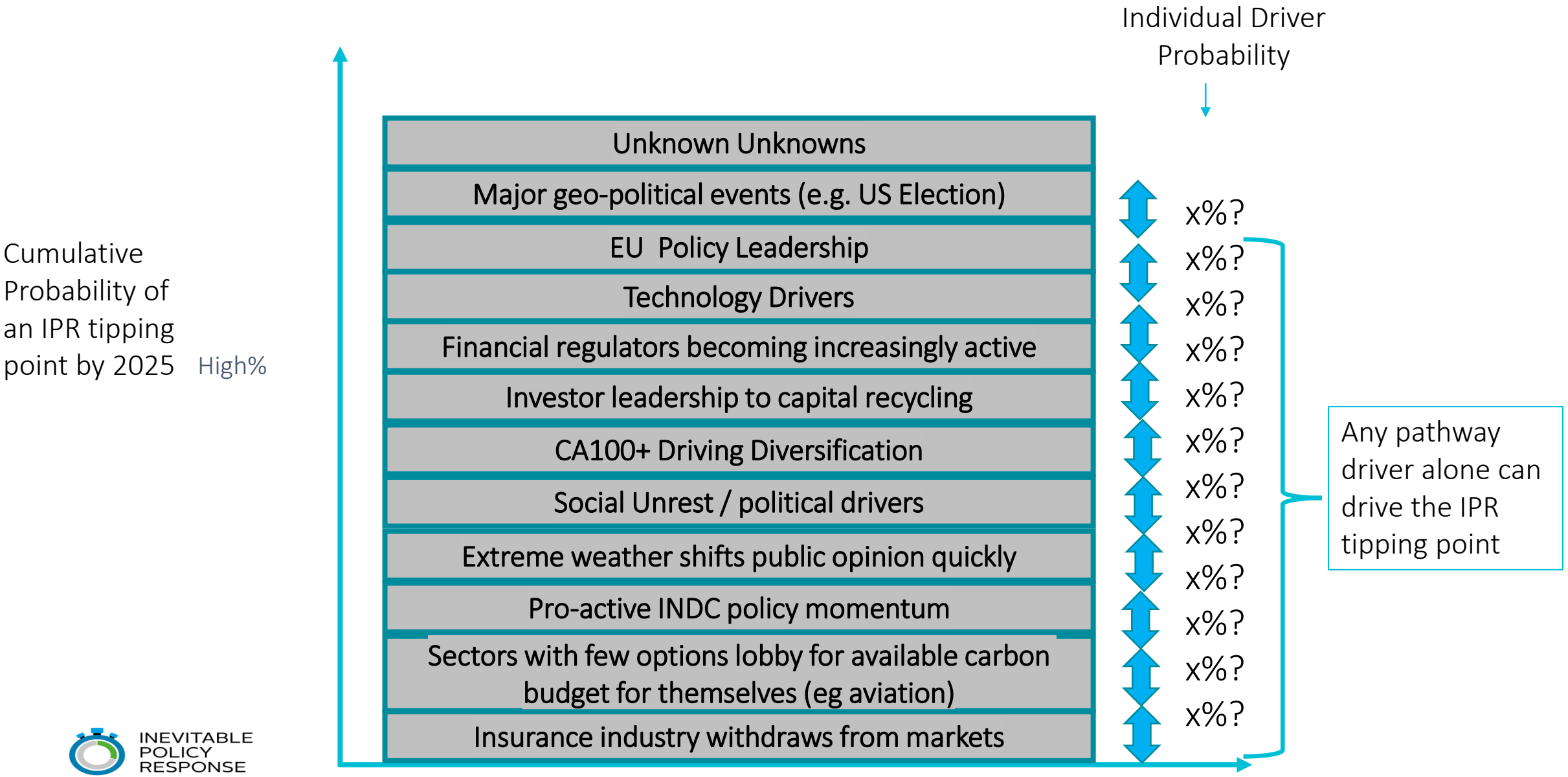
Extreme weather events

Civil society action & young voters

US Leadership

Nb: Polls now say a close run race

Any single factor could drive the market repricing point but together they form a powerful case for 2025



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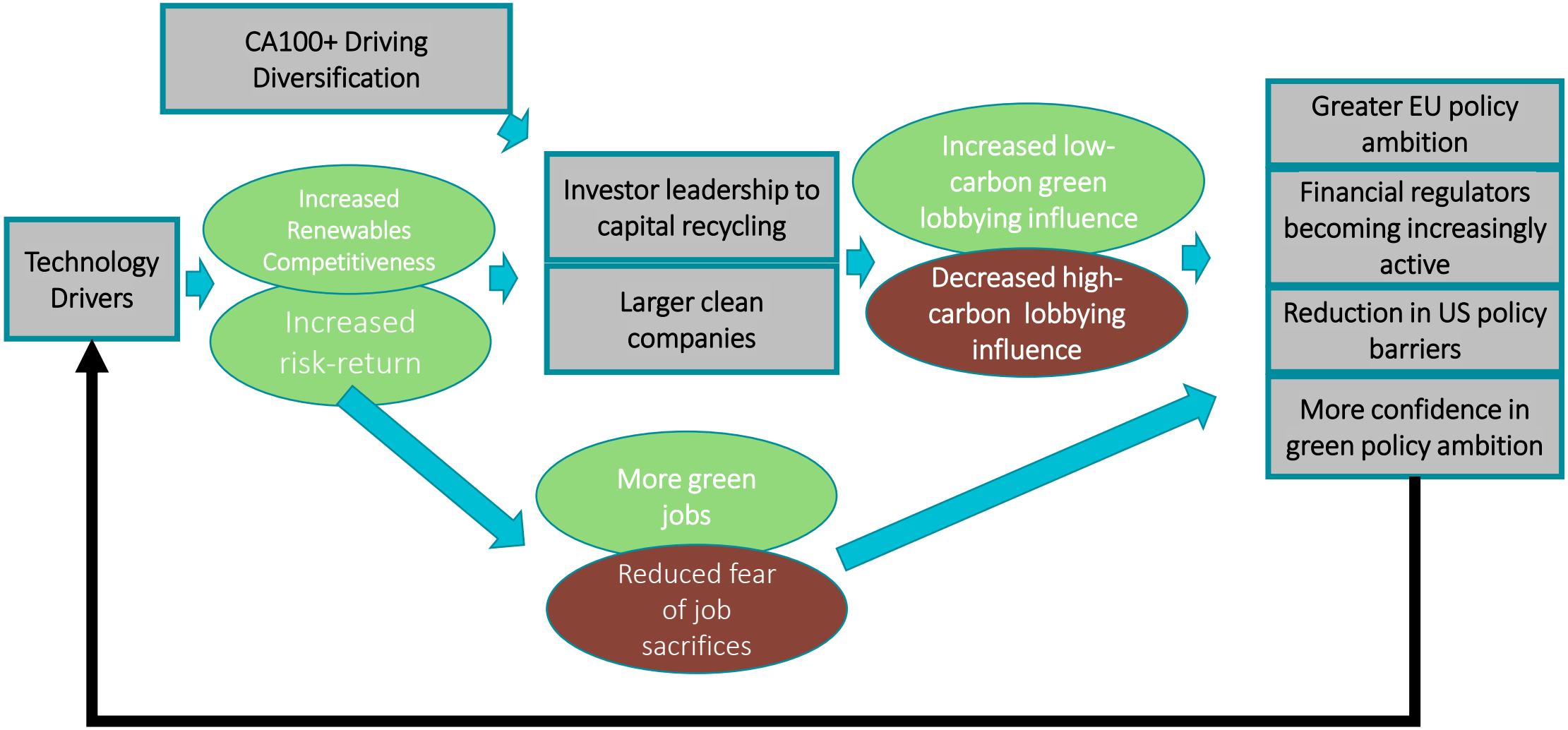
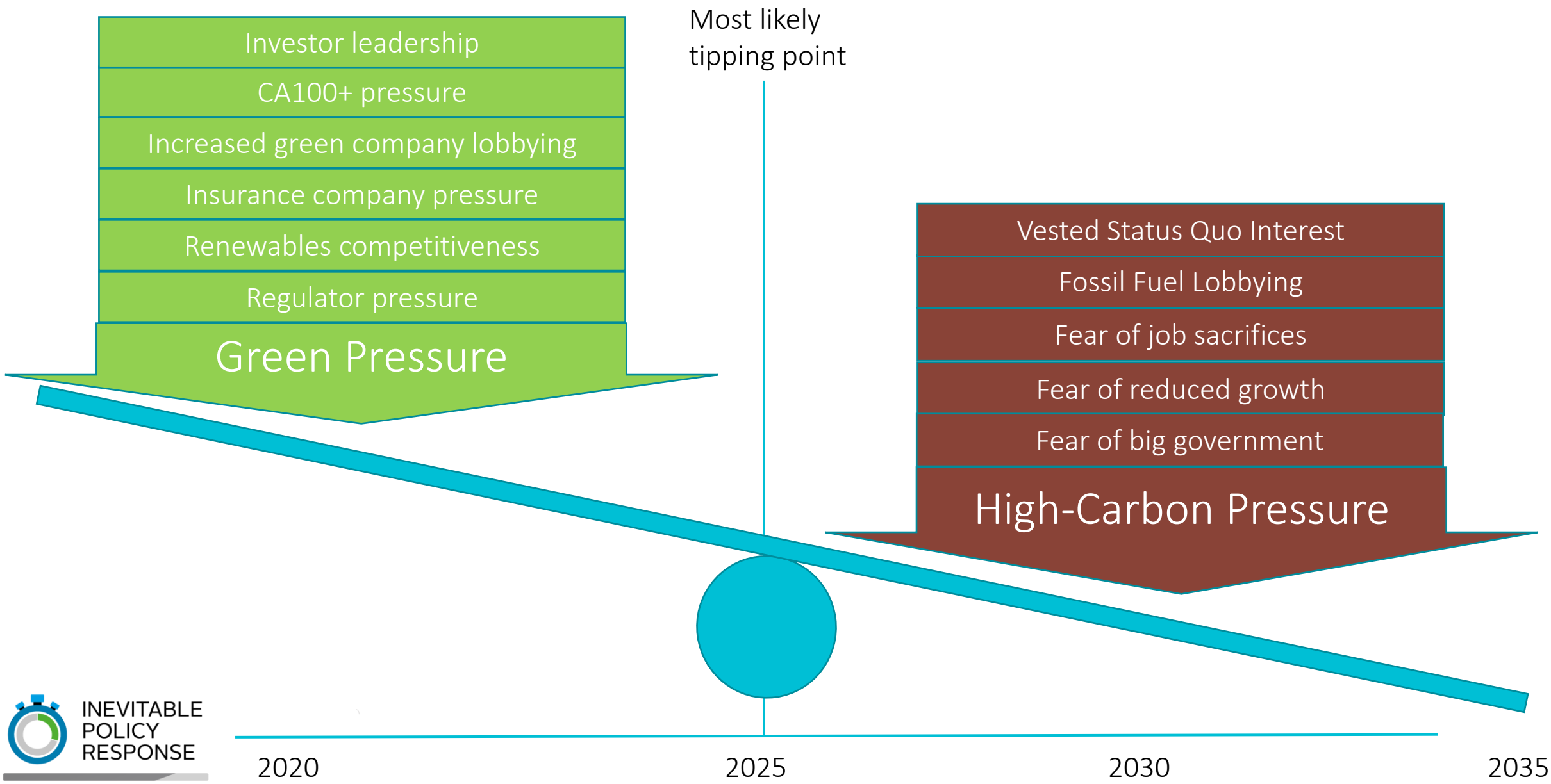
Example of how the acceleration and tipping point drivers interact



Interaction of drivers towards tipping point



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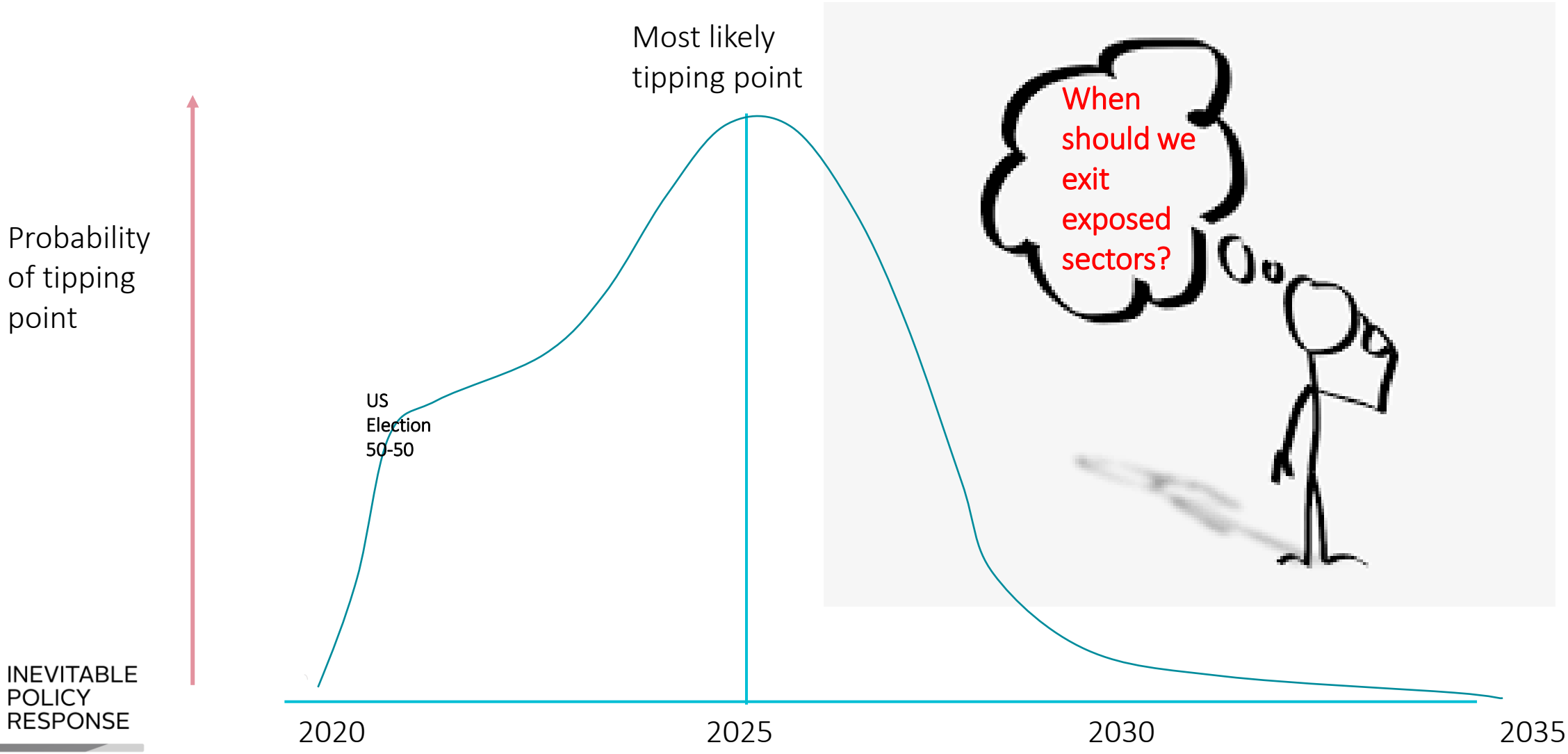
For Sophisticated Investors, the range of IPR Probability is important



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Once the tipping point is reached – What Policy Levers?

Once governments are forced to act, these are the likely key policies

Coal phase-outs

- Early coal phase-out for first mover countries by 2030
- Steady retirement of coal-fired power generation after 2030 in lagging countries

ICE sales ban

- Early sales ban for first mover countries by 2035
- Other countries follow suit as automotive industry reaches tipping point

Carbon pricing

- US$40-80/$tCO_2$ prices by 2030 for first movers
- Global convergence accelerated by BCAs to ≥$100/$tCO_2$ by 2050

CCS and industry decarbonisation

- Limited CCS support in power
- Policy incentives primarily for industrial and bioenergy CCS
- Public support for demonstration, and then deployment of hydrogen clusters

Zero carbon power

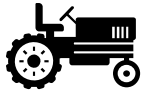
- Significant ramp-up of renewable energy globally
- Policy support for nuclear capacity increase in a small set of countries, nuclear managed out elsewhere

Energy efficiency

- Increase in coverage and stringency of performance standards
- Utility obligation programs,
- Financial and behavioral incentives

Land use-based GHG removal

- Strong policy support for re/afforestation
- Stronger enforcement of zero deforestation
- Controlled expansion of bioenergy crops



Agriculture

- Technical support to increase agricultural productivity
- Increasing public investment in irrigation and AgTech
- Incremental behavioural incentives away from beef

Carbon pricing – How the world will act

Country / region	Forecast Policy Response	
Tier 1 — Western Europe — Eastern Europe — Canada — China — United States	Early, high CO2 pricing	— US$60 by 2030 — US$100 by 2040 — Incentives to accelerate convergence: border carbon adjustments (BCAs), technology transfers, trade tariffs and financial support from the Green Climate Fund
Tier 2 — Australia — India — Japan — South Korea — Mexico	Early, medium CO2 pricing	— US$40 by 2030 — Tier 2 to converge to Tier 1 by 2040
Tier 3 — Central and South America — Other developing Asia — Former Soviet Union — Middle East — Africa	Early, low CO2 pricing	— US$25 by 2035 — Tier 3 to converge to Tier 1 by 2050

Countries with carbon pricing mechanisms already in place, who have started their energy transition and have high levels of climate ambition

Countries with emerging carbon pricing initiatives, for which international power plays are expected to play a key role, or which are likely to receive support from the EU

Countries which will give priority to socioeconomic development and might start with limited ambition

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What macro outcomes result?

Major macro outcomes

Deep and rapid changes in the energy system

- Oil to peak in 2026-28
- Thermal coal virtually non-existent by 2040
- Solar and wind generating approximately half of all electricity in 2030

Transport electrified inside 20 years

- ICE sales bans, supported by falling cost of EVs, drive rapid deployment of ultra-low emissions vehicles
- Making up almost 70% of passenger vehicles by 2040

Major changes in land use

- Deforestation virtually eliminated by 2030, with pressures on supply chains
- Large opportunities to invest in nature-based solutions

Rapid reductions in carbon emissions, but not enough to hit 1.5°C

- > 60% fall in global CO_2 emissions by 2050
- New innovative policy and industrial solutions, not yet proven or achieved at scale, are needed to achieve 1.5°C

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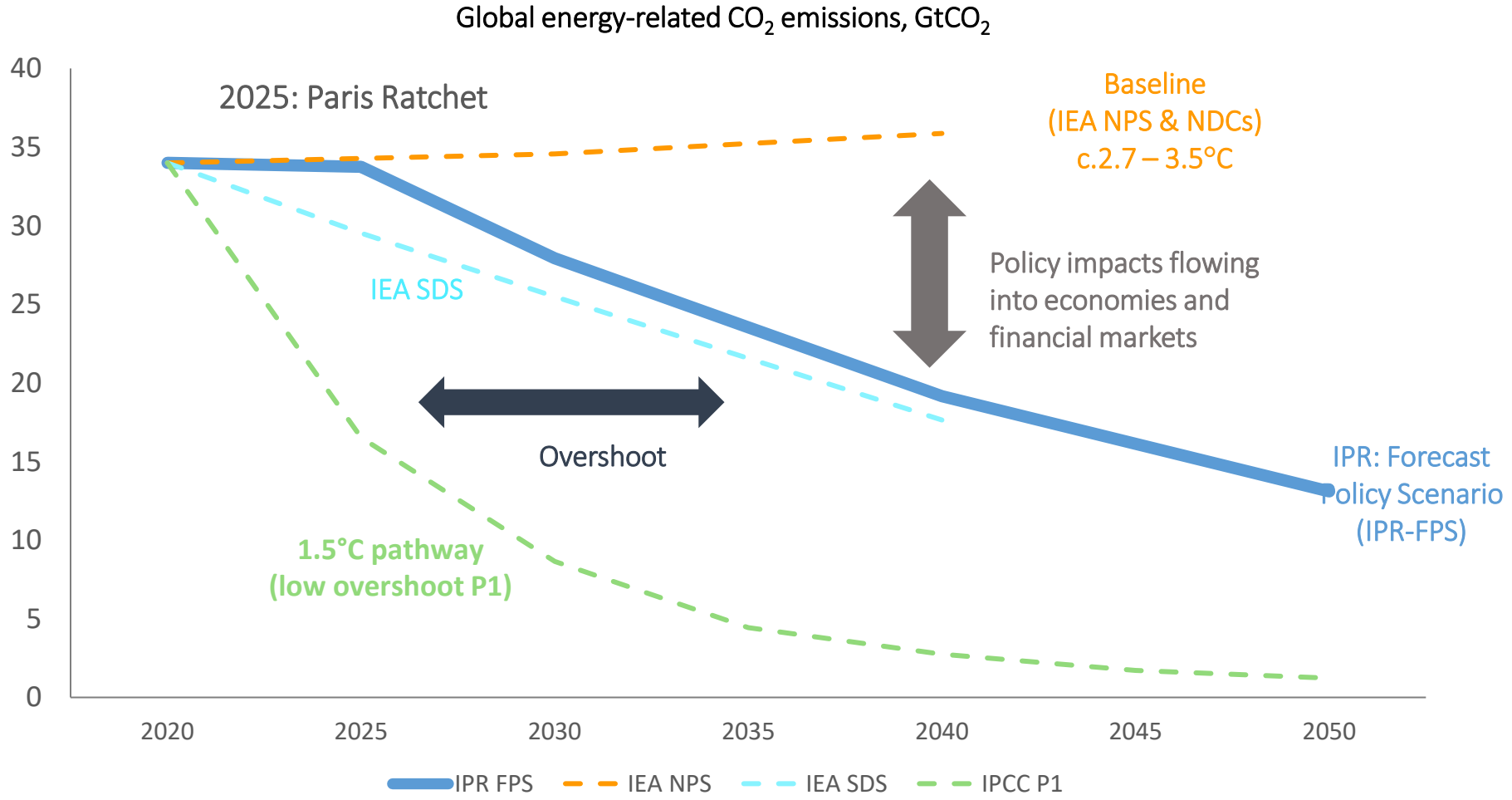
Reaching a 1.5 degrees outcome is a far bigger challenge – but should remain the Aspiration



Achieving the 1.5°C target will require accelerated and substantial effort across multiple emerging solutions to go further than IPR-FPS.

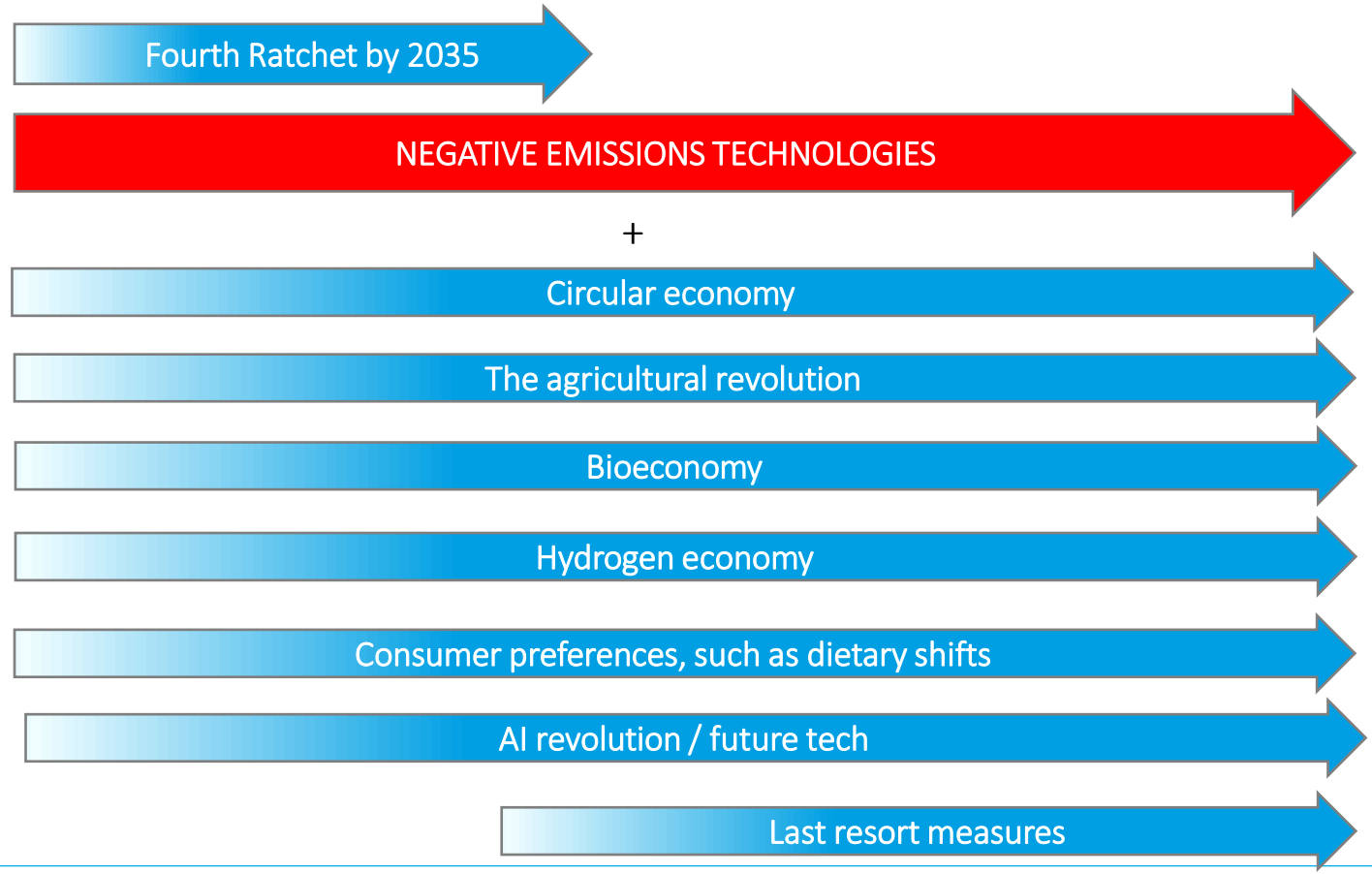
Today

Faster investor and policy action today

ACT NOW to move more smoothly and cost-effectively to 1.5°C

2030 –2050

Post 2050



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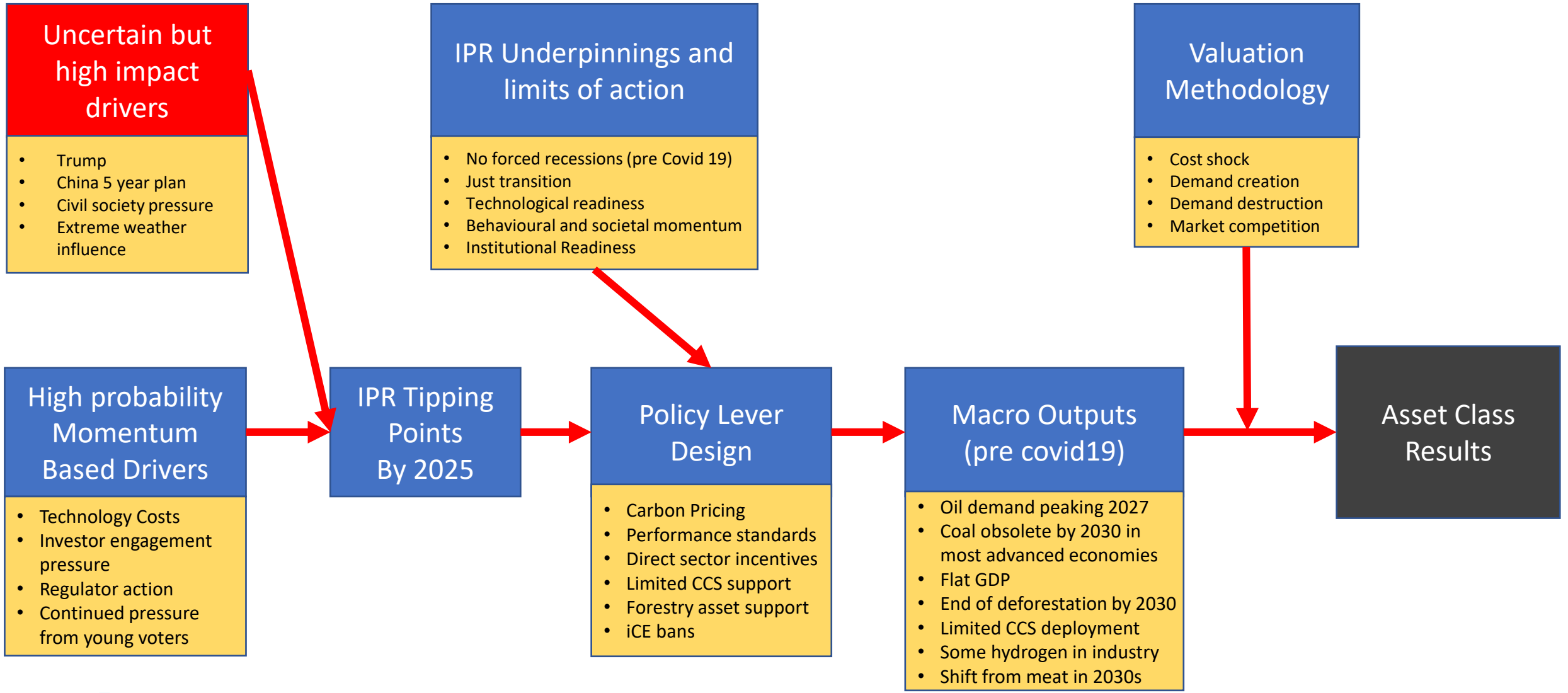
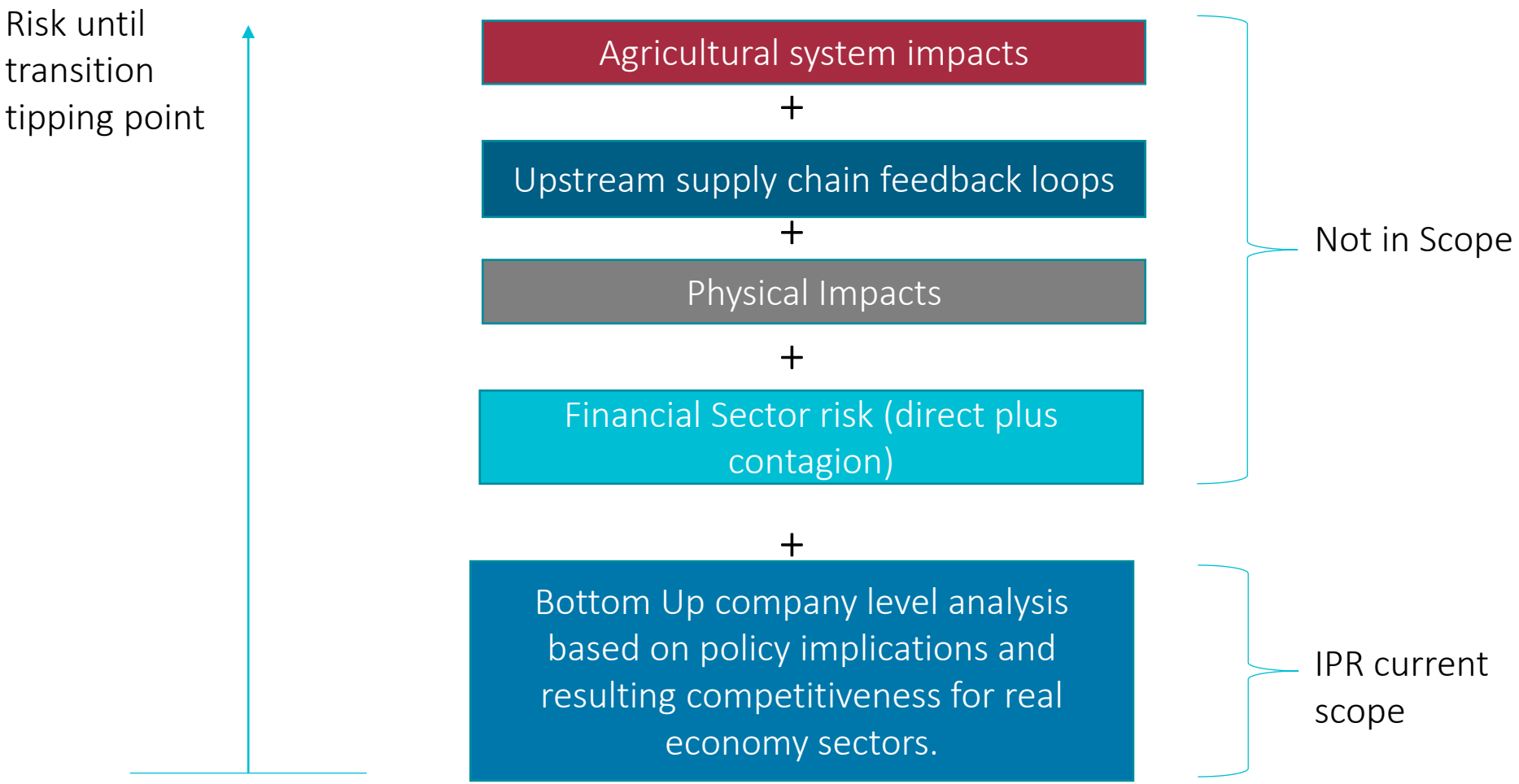
Asset Valuation Results

THE IPR ELEMENTS AND UNDERPINNING ASSUMPTIONS



IPR Asset Valuation Methodology – additional downside unmodelled risks



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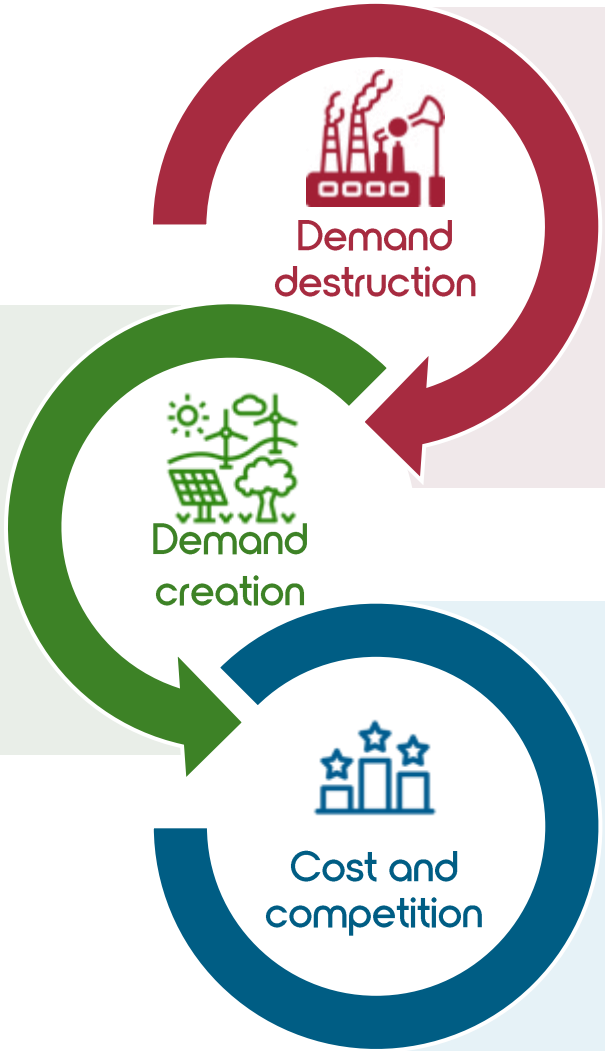
The value streams capture the dynamics of the transition, which affects production costs directly through carbon pricing and indirectly through demand changes



The demand destruction value stream captures the impact of the **contraction in demand for high emissions products** due to climate policy (such as ICEs and fossil fuels).

These impacts will depend on a company's sensitivity to falling **commodity prices and margins**, which will be tied to **production horizons and cost structures**

The demand creation value stream captures the effects of **increasing demand for low emissions products or inputs** (such as EVs, copper and renewable energy equipment).

These impacts will depend on **a company's current and future share of green markets,** and the extent of **overall market growth.**

Cost and competition captures the **carbon costs companies face directly from Scope 1 emissions,** and **indirectly through power prices**.

Impacts will depend on a company's **emissions intensity, abatement opportunities and capacity to pass through costs to consumers,** relative to competitors.*

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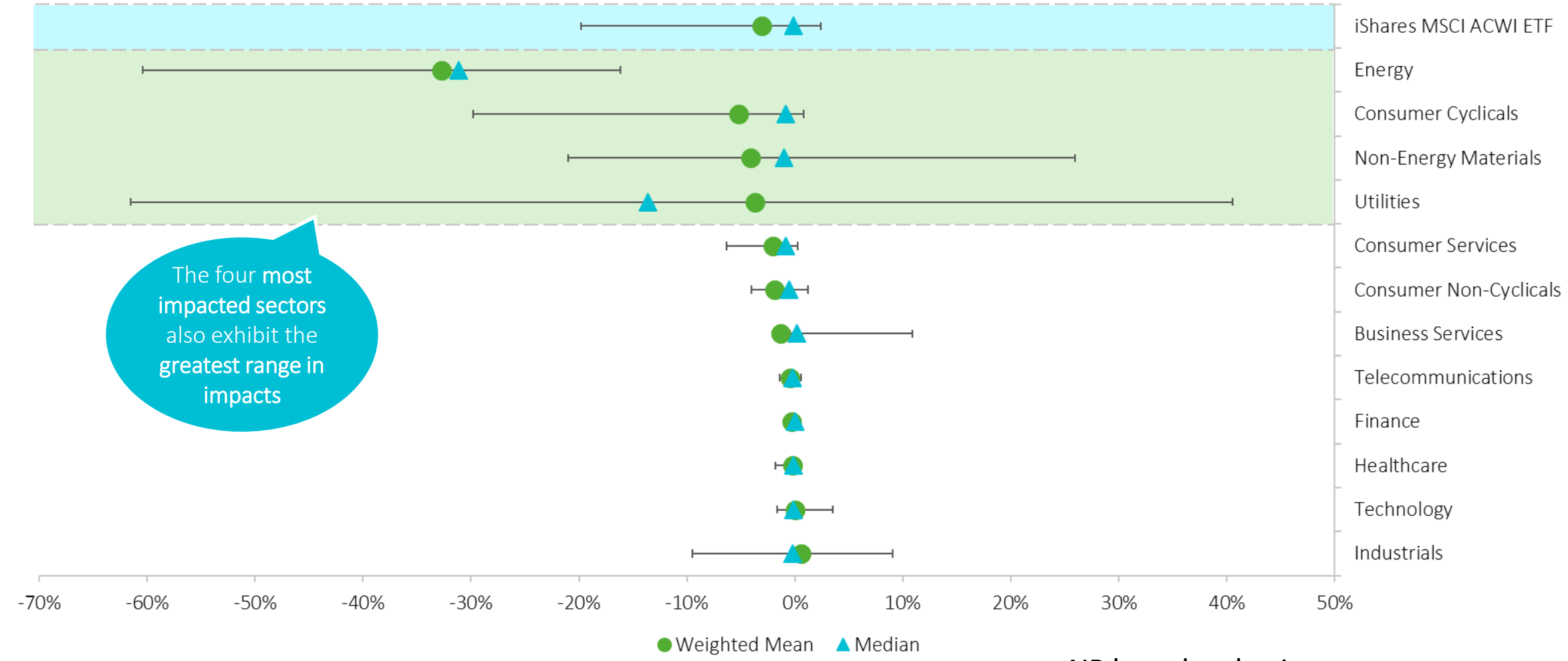
Notes: * The cost pass through and competition elements also apply to costs from demand destruction and demand creation models.
Source: Vivid Economics

Sectoral: Within-sector variation can be significant, particularly for the four most impacted sectors in the index: Energy, Consumer Cyclicals, Non-Energy Materials and Utilities



NB based on business models as at today

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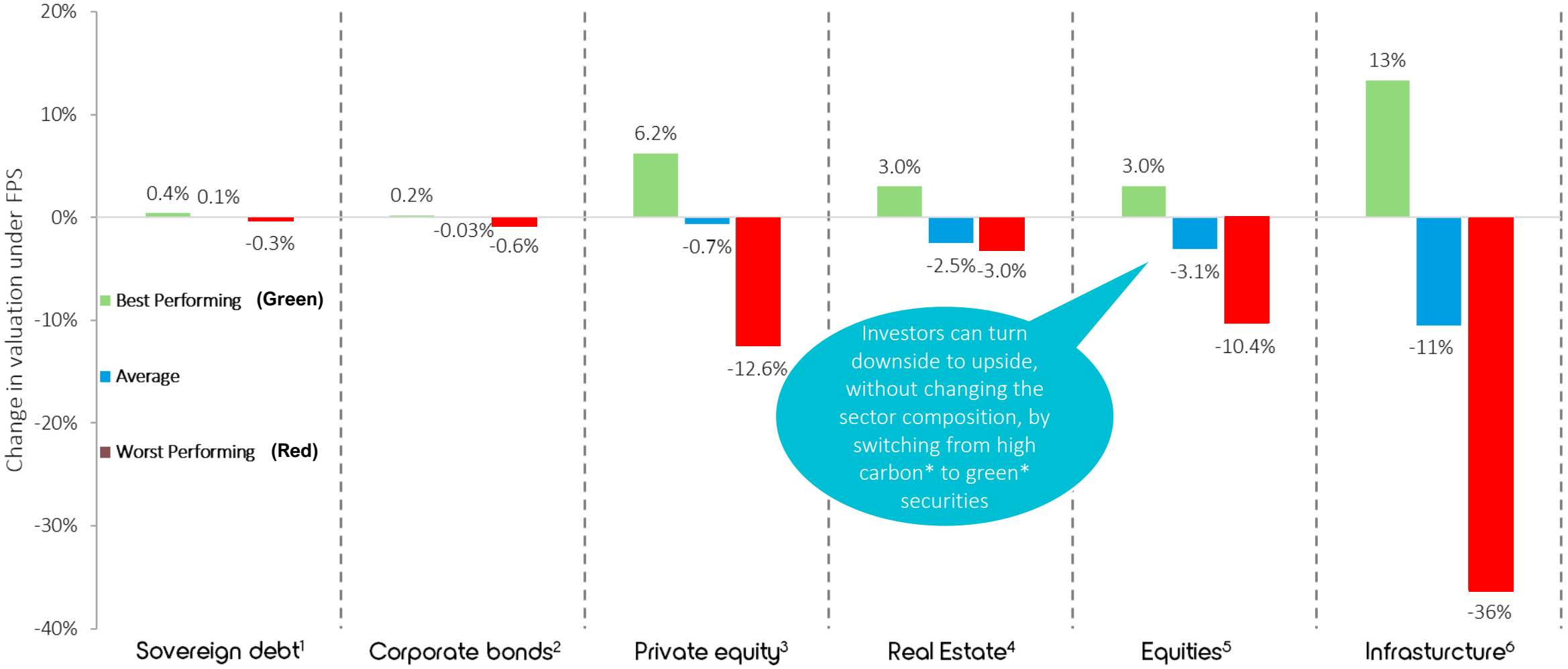
Notes: Error bars indicate the 10th and 90th percentiles of impact within each sector. Sectors: RBICS level 1.
Source: Vivid Economics Net Zero Toolkit

Quantitative Results: the big opportunities are by tilting portfolios towards greener options within asset classes – especially in green infrastructure



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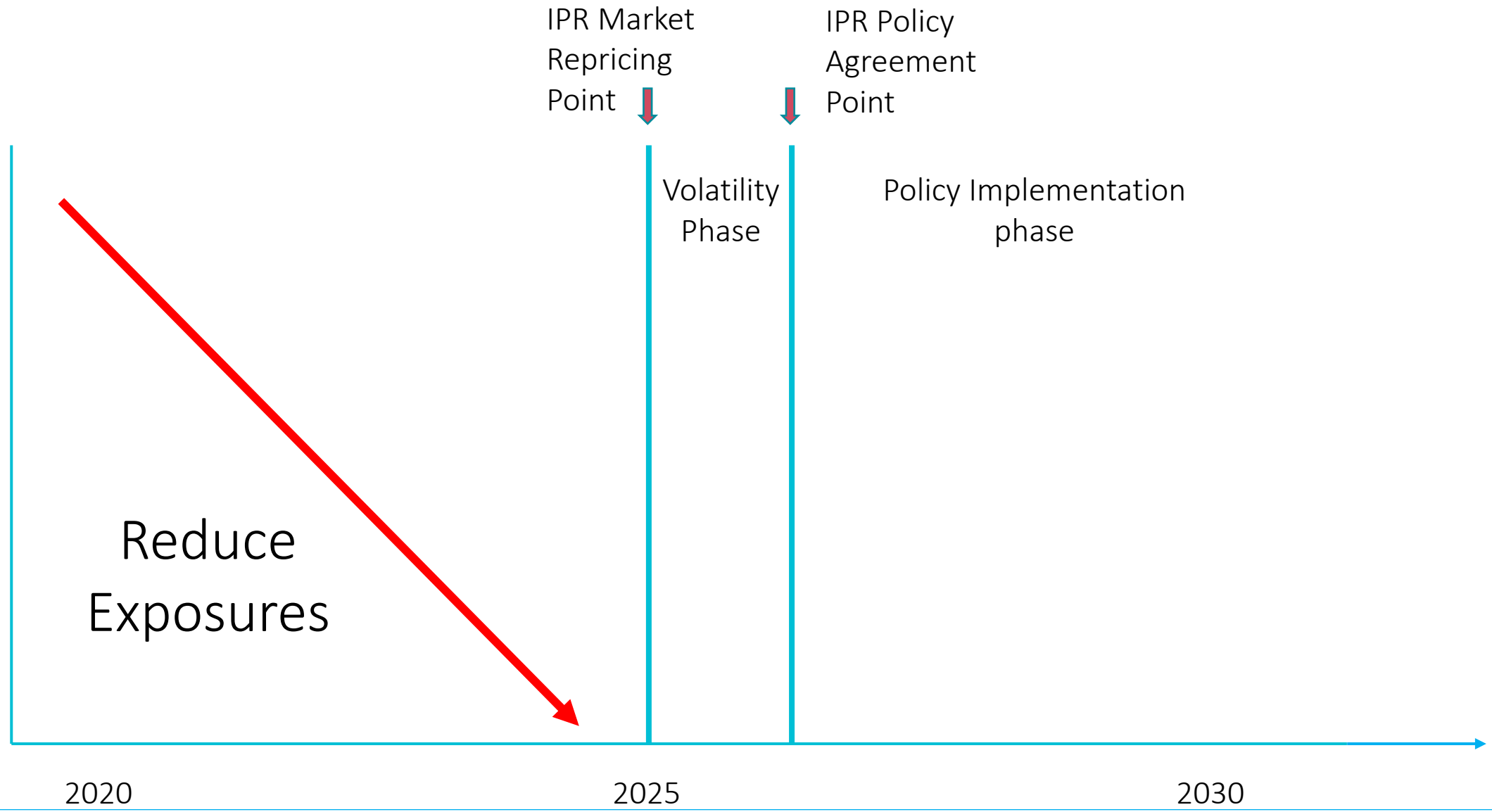
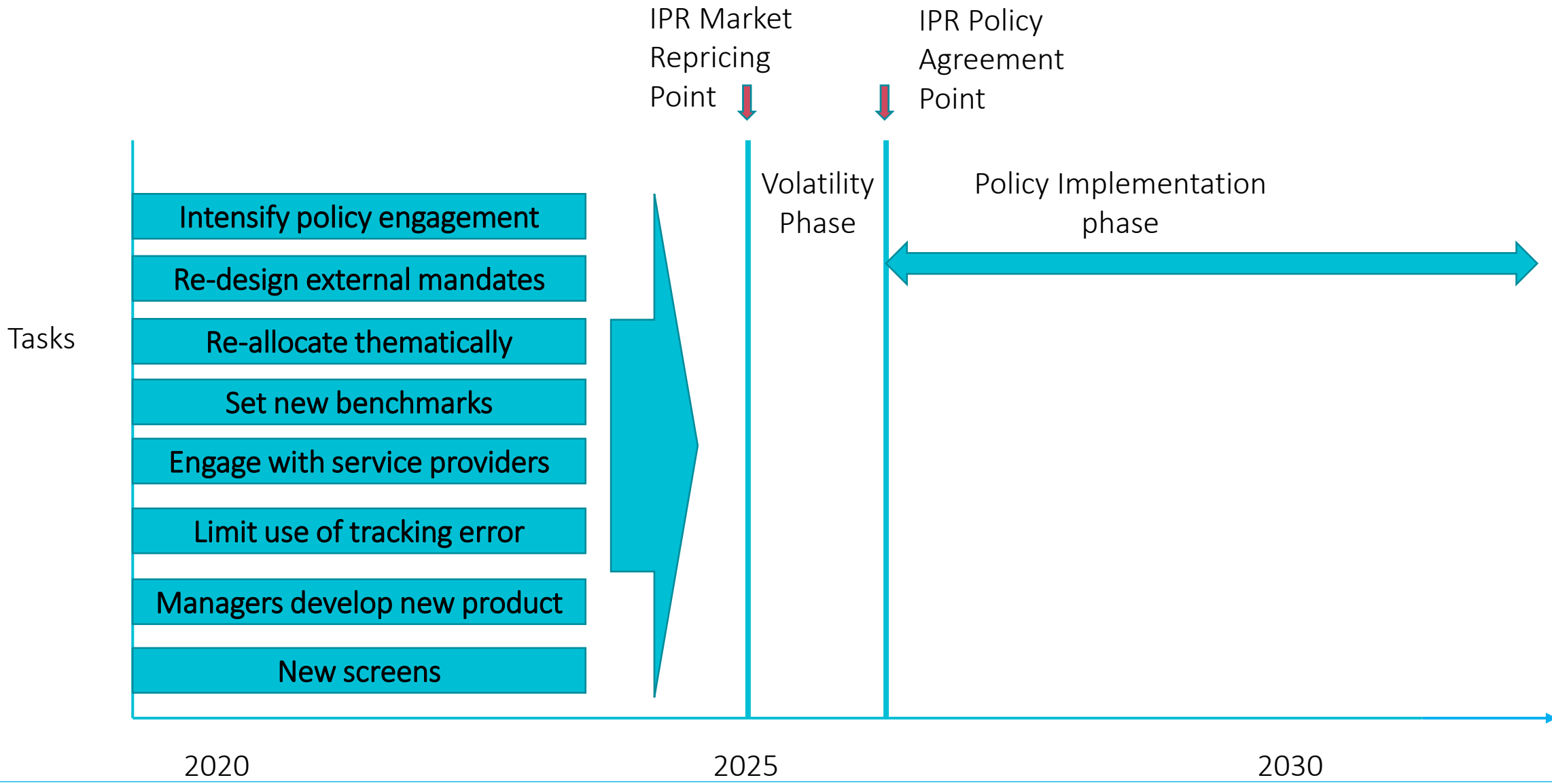
See separate presentation with quantitative results

What should investors do?

Investor Actions



Asset Owner IPR Mitigation Tasks



Engagement or Portfolio construction strategy?

- The two pillars of climate mitigation strategy will become intertwined in some asset classes especially public markets.
- An engagement philosophy is to engage companies to make their strategies reflect the energy transition. This does not require active portfolio reconstruction as the risk is transferred to the company to manage if it can be effective before the tipping point.
- For some asset owners, capital recycling into low carbon assets themselves might seem more attractive than betting on high carbon companies acting fast enough, particularly with only a short time to 2025 to see real transition and with few having shown urgency.
- Rewarding and incentivizing companies to create credible transition strategies. Using forward looking company plans to assess valuation will become key.

The focus of this paper is on portfolio action.

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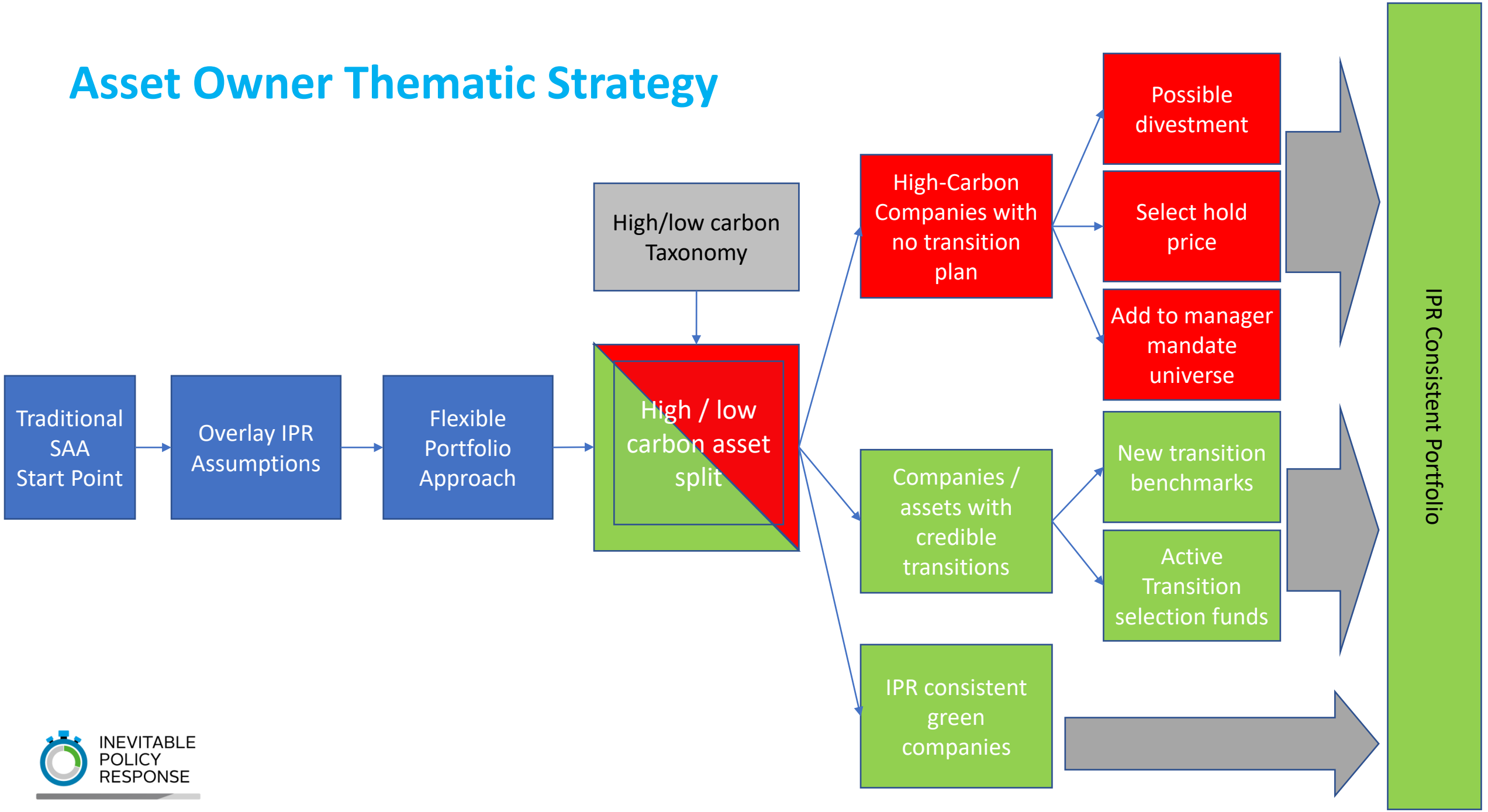
Asset Owner Thematic Strategy



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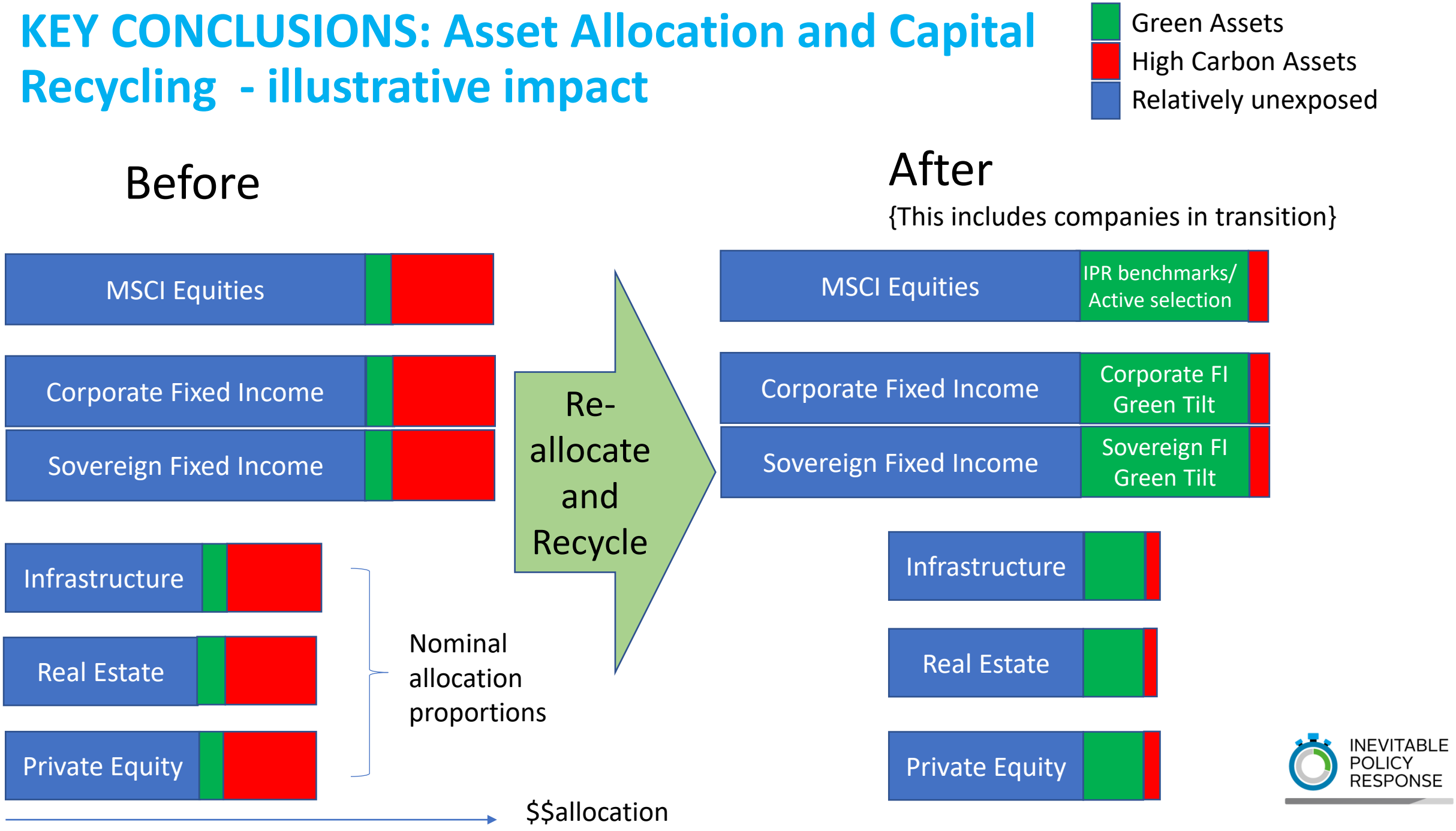
KEY CONCLUSIONS: Asset Allocation and Capital Recycling - illustrative impact



Traditional SAA v Total Portfolio Approach / Flexible Constructions

Traditional SAA	Total Portfolio Approach/Flexible Constructions
Well established but increasingly seen as inadequate for modern markets and themes	Requires more judgement, more detailed risk analysis, more thematic, e.g. carbon transition
Historical data used mostly, can look forward	Forward projections used
“Safe” space for investment consultants	Mercer / Towers advocates new approaches
Low career and reputational risk for CIOs	High reputation and career risk but higher reward if correct
May miss the carbon transition completely	Can be based around themes like IPR
Long cycles for re-iteration	Far more dynamic and real time
Requires little change	Requires significant change – new capacity, new governance decisions
Portfolio plays “catch up” on new opportunities	Portfolio anticipates and maximises new opportunities e.g. natural assets, transition bonds etc
Risk = volatility	Risk defined more broadly and managed in far more holistic manner

Maximising Thematic Climate risk approaches across asset classes

Asset Class	Consideration
Equities	New benchmarks around IPR. Consider increase in active allocation. Engage with asset managers and companies.
Fixed Income	Active position on corporate debt, New green bond indices. Transition bonds. Identify worst sovereign risks. Engage heavily with ratings agencies
Infrastructure	Allocate to value add buckets
Private Equity	Creative deals, delist companies for transition, bring companies to market
Real Estate	Driver clean REITs, tilt unlisted towards green.
Real Assets	Forestry, nature based assets a huge opportunity

Note: Seeking thematic exposure to agriculture changes essential across all asset classes

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Capital Recycling – how far should investors go?

	Very Active – High Capacity Required	Partially Active
Equities	• Ignore tracking error • Reduce equity allocation considerably • Screen out energy stocks entirely • Screen out negative return stocks • Reallocate significant passive equities to active mandates with a transition theme. • Re-allocate high carbon equities to low-carbon assets in alternatives. • Lower targets for sector and regional diversity	• Maintain some tracking error against broad index • Reweighting of exposed companies • Smaller reduction in equities • Screen out 75th or 90th percentile worse expected performers in all sectors • Reallocate partially to alternative asset classes • Retain some sector diversity • Retain some regional diversity
Fixed Income	Same as equities for corporate debt. Screen out high carbon countries from sovereign debt	Some screening
Infrastructure	Major reallocation to value add buckets. Lower infrastructure index exposure. Engage with asset managers on clean indices	Re-allocate within existing SAA ranges
Real Estate	Make whole real estate allocation low carbon and increase allocation. Tilt REITs away from exposures.	Set guidance for real estate acquisition
Private Equity	Structure PE mandates around IPR. Seek large creative deals to take advantage of possible restructuring of some large companies.	Engage with General Partners

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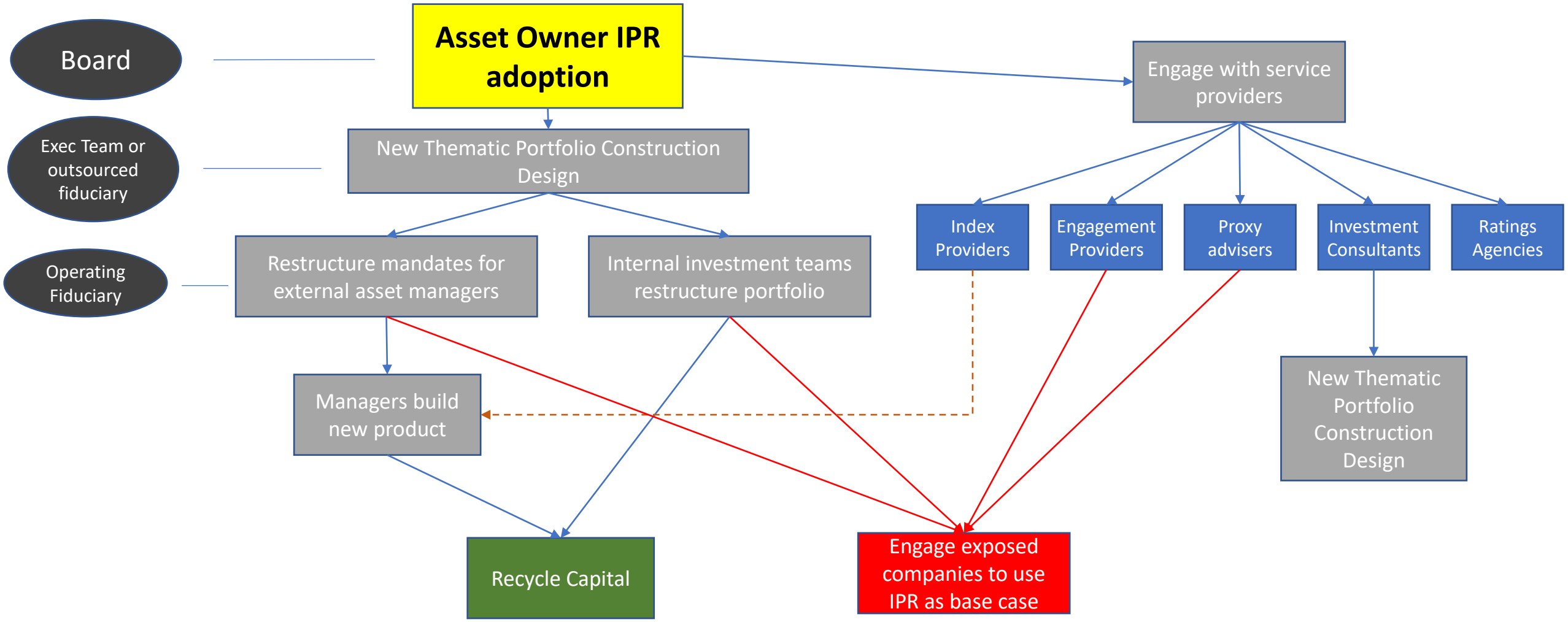
Asset Owners recycling capital across the Investment Chain



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IPR Early Adoption – what does it mean?

1. Feedback on IPR assumptions
2. Public acknowledgement and support for the IPR framework and concepts
3. Full or partial Implementation of IPR through engagement and / or portfolio constructions
4. Further feedback on implementation barriers

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APPENDICES

Company outputs from the Forecast Policy Scenario modelling

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Outcomes for companies are driven by the IPR Forecast Policy levers*, particularly the coal and ICE phase-out, carbon pricing and zero-carbon power

Company (anonymised)	Description	Coal phase-out	ICE sales bans	Carbon pricing	CCS and industry decarbonisation	Zero-carbon power	Energy efficiency	Land use-based greenhouse gas removal	Agriculture
A	Utility (primarily renewable generation)	✔	(✔)	✔	✗	✔	(✔)	✗	✗
B	Utility (primarily coal generation)	✔	(✔)	✔	✗	✔	(✔)	✗	✗
C	Integrated Oil & Gas	(✔)	✔	✔	✔	(✔)	(✔)	✗	✗

Indirect effect through demand for electricity

Indirect effect through demand for power

Indirect effect through demand for gas power

Indirect effect through demand

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Note: Further information on the IPR Forecast Policy Levers can be found on the PRI website.
Source: Vivid Economics analysis

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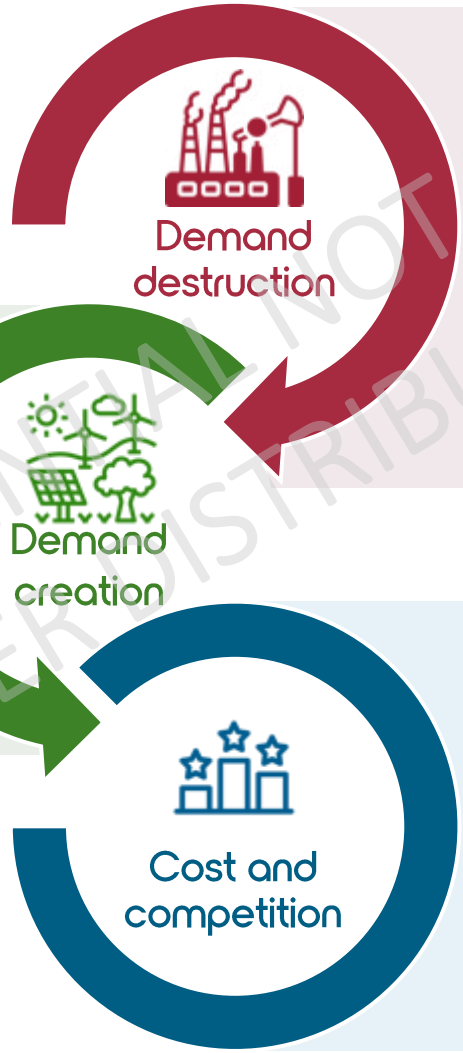

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Notes: * The cost pass through and competition elements also apply to costs from demand destruction and demand creation models.
Source: Vivid Economics

Utilities with more renewable generation gain at the expense of emissions intensive fossil fuel generators, and oil & gas suffer predominantly from falling demand

Company (anonymised)	Description	Company emissions intensity / market intensity*	Current valuation	Value streams			Total FPS impact
				Demand destruction	Demand creation	Carbon costs	
A	Utility (primarily renewable generation)	0.31	100%	-0.1%	0.4%	40.9%	41.3%
B	Utility (primarily coal generation)	3.71	100%	0.0%	2.7%	-62.5%	-61.5%
C	Integrated Oil & Gas	0.39	100%	-27.2%	3.2%	3.6%	-22.2%

Small renewable energy equipment business

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Note: * This is the emissions intensity (Scope 1 + Scope 2) of the company divided by the average emissions intensity of the market.
Source: Vivid Economics analysis

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POLICY
RESPONSE


PRI
Principles for
Responsible
Investment