The Inevitable Policy Response

Implications for Portfolio Construction

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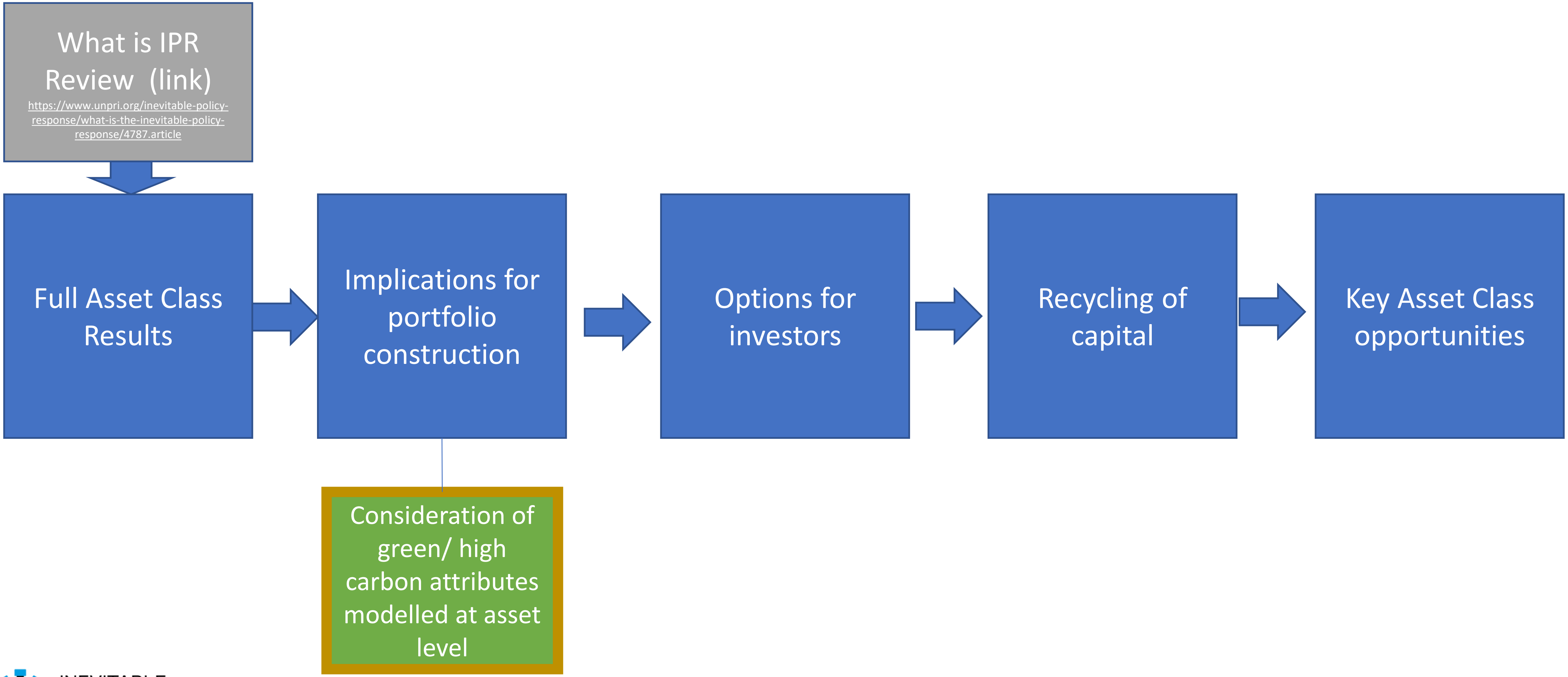
Consortium partners

What we cover in this IPR Phase



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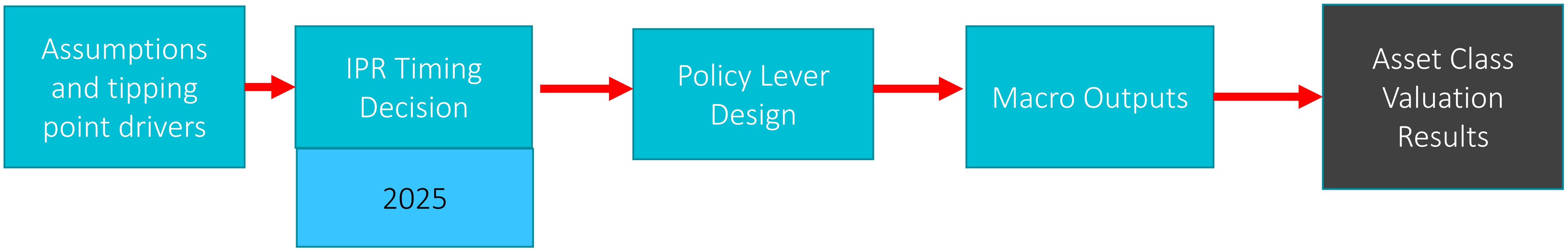
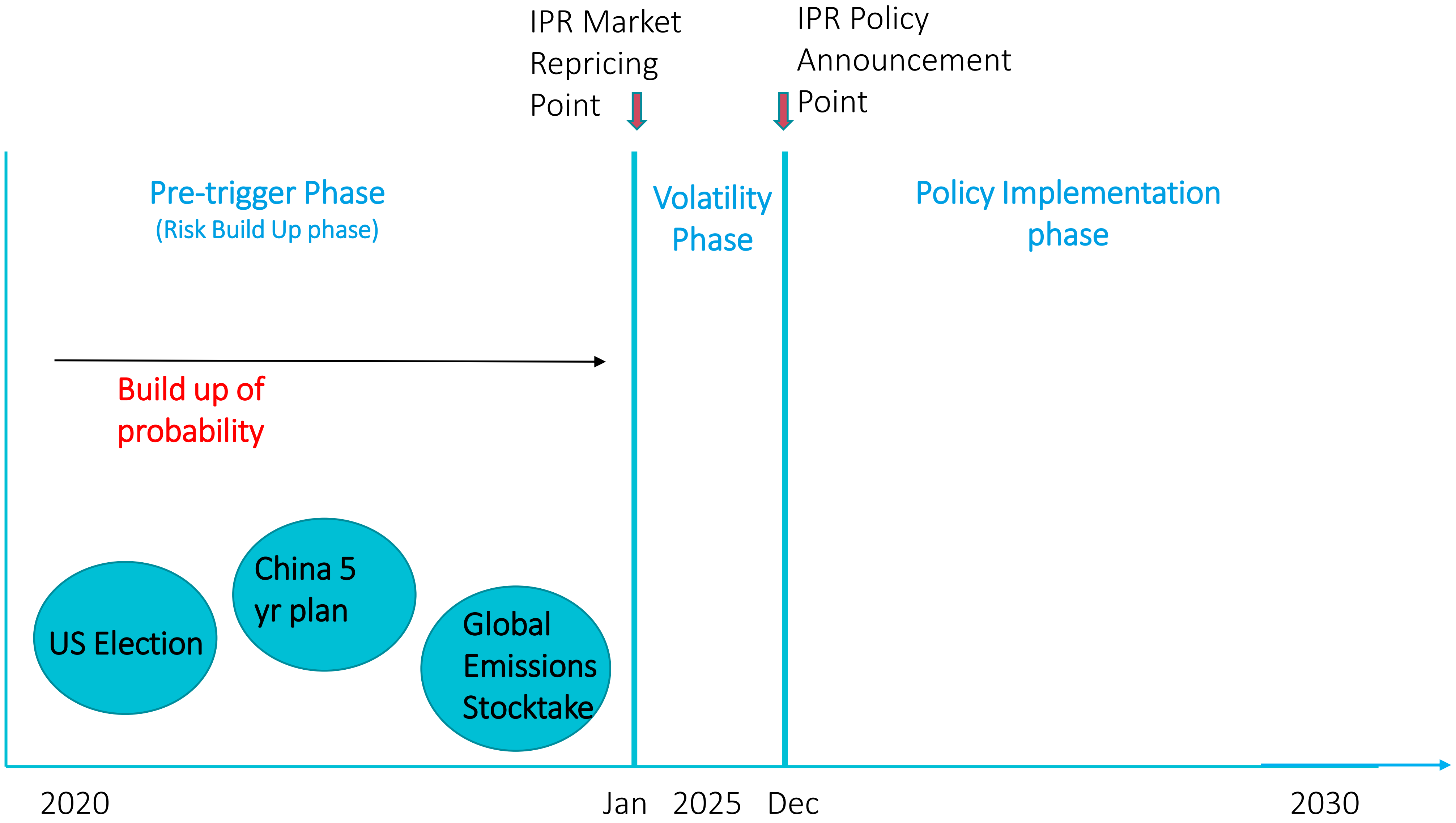
Lessons from Covid-19

- 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.
- We expect another ratchet of policy response in 2030-35 towards a 1.5 degree outcome. If IPR were to be triggered by physical catastrophes on top of momentum-based drivers, the lesson from Covid-19 is that comparable powerful government responses are indeed possible. This is additional downside risk that requires consideration and preemptive action by governments and investors.
- Financial impacts under a more forceful IPR response to a major set of climate impacts could be as large and non-cyclical.

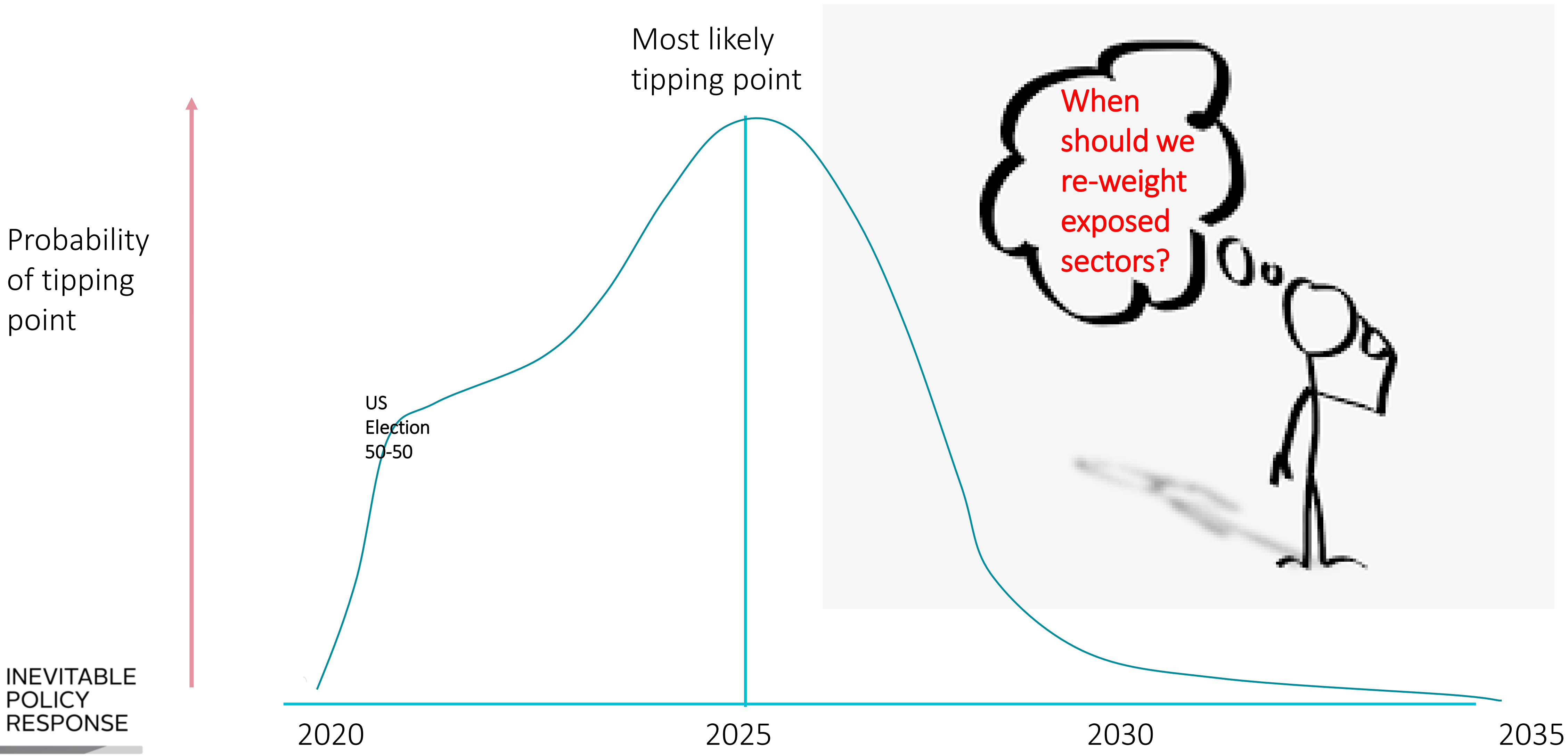
REVIEW OF THE IPR ELEMENTS



REVIEW OF IPR Outline concept



Review of the range of IPR Probability



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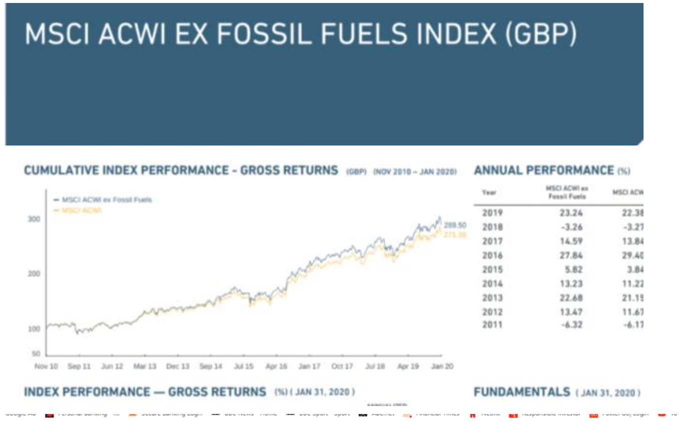
Review of How much risk is priced in?

- The risk wasn't priced in in 2015 and Fossil Fuel free index has outperformed MSCI ACWI.
- 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
- The Litterman FF stranded asset swap has returned 13%pa since 2014
- Market's see physical impacts as long term but have shown some event pricing eg PG&E



Forbes

Will Investors And Insurers Sink Or Save Florida?

Florida. What's more, the fate of Florida's citizens, homes, towns, businesses and overall economy depend on decisions being made right now on 30-year mortgages and bonds that will be critically impaired by that 2050 high-tide line.

Traditional Strategic Asset Allocation OR Climate Thematic risk approach?

- Climate transition risk needs to be understood across traditional asset classes
- Huge difference in expected return between sector winners and losers
- Many investors already turning to more flexible portfolio construction methodologies
- Many Asset Owners employ a Strategic Asset Allocation process, often advised by Consultants. This drives asset manager selection and product build.
- The problem with traditional optimisers is that they tend to take historic returns and historic risk (measured by Standard Deviation of returns) which does not suit a forward-looking structural change like IPR. Risk is not just volatility.

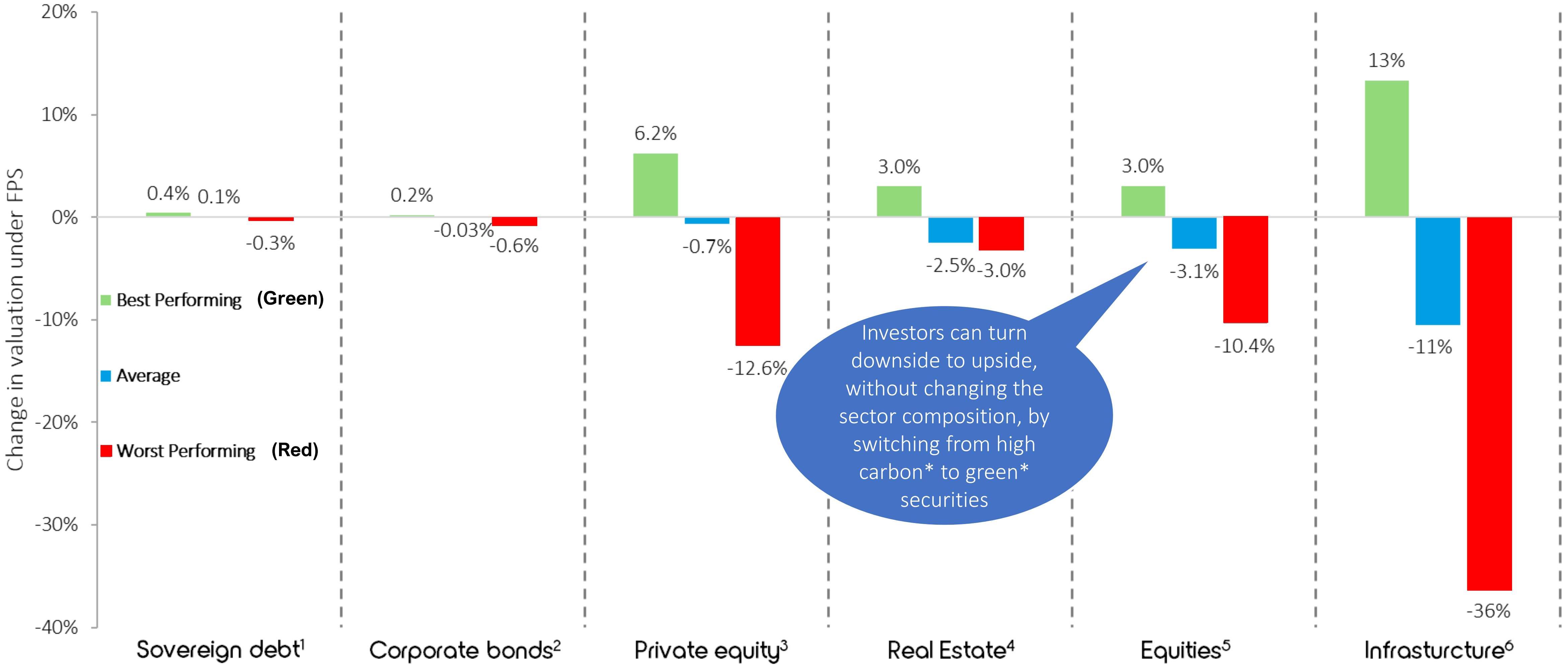
Engagement or Portfolio construction emphasis?

- Investors may need to integrate engagement and portfolio construction far more tightly than ever before, engaging companies to make their strategies reflect the energy transition before the IPR tipping point.
- This does not require active portfolio reconstruction as the risk is transferred to the company to manage. This is very prevalent right now and is gaining momentum via CA100+.
- If an investor doesn't see transition in companies by the expected 2025 IPR tipping point, then taking portfolio action makes sense for risk reasons.
- 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 with credible transition strategies. Using forward looking company plans to assess valuation will become key.

Getting to the Green – High Carbon split

- A “Green” (or low carbon) / High Carbon split is a way of differentiating investments according in terms of the transition risk represented by IPR.
- As “Transition Plans” become more prevalent in companies this will make the green – high carbon mix more important to estimate and verify at the granular level. EU taxonomy is seen as a way forward here.
- At present, in aggregate, high carbon is more prevalent in the economy and securities markets so ”asset class” results can be misleading in terms of underlying opportunities.
- Going more thematic would require a revolution across all levels of strategic asset allocation, down through consultants and product construction in asset managers

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



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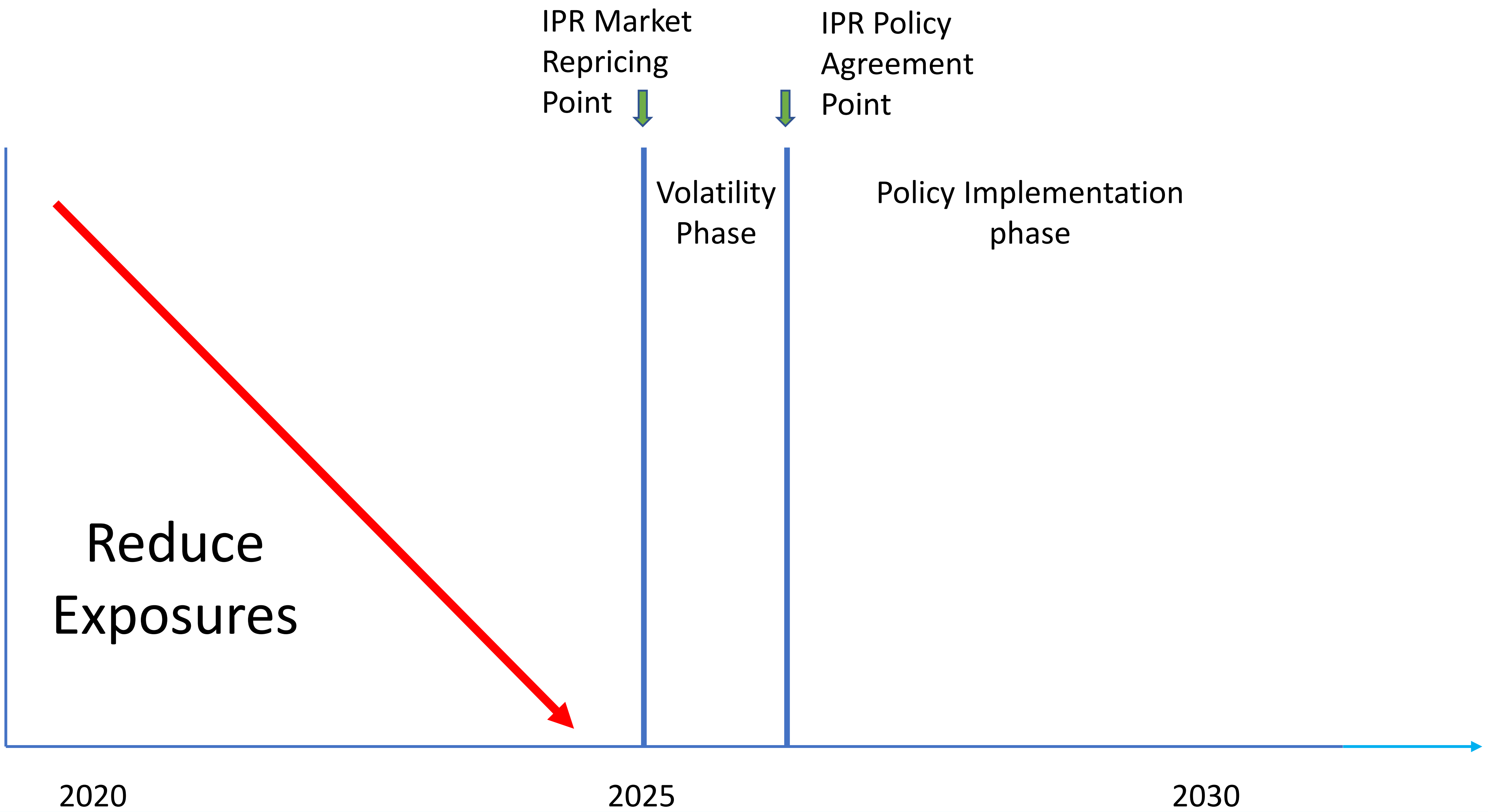
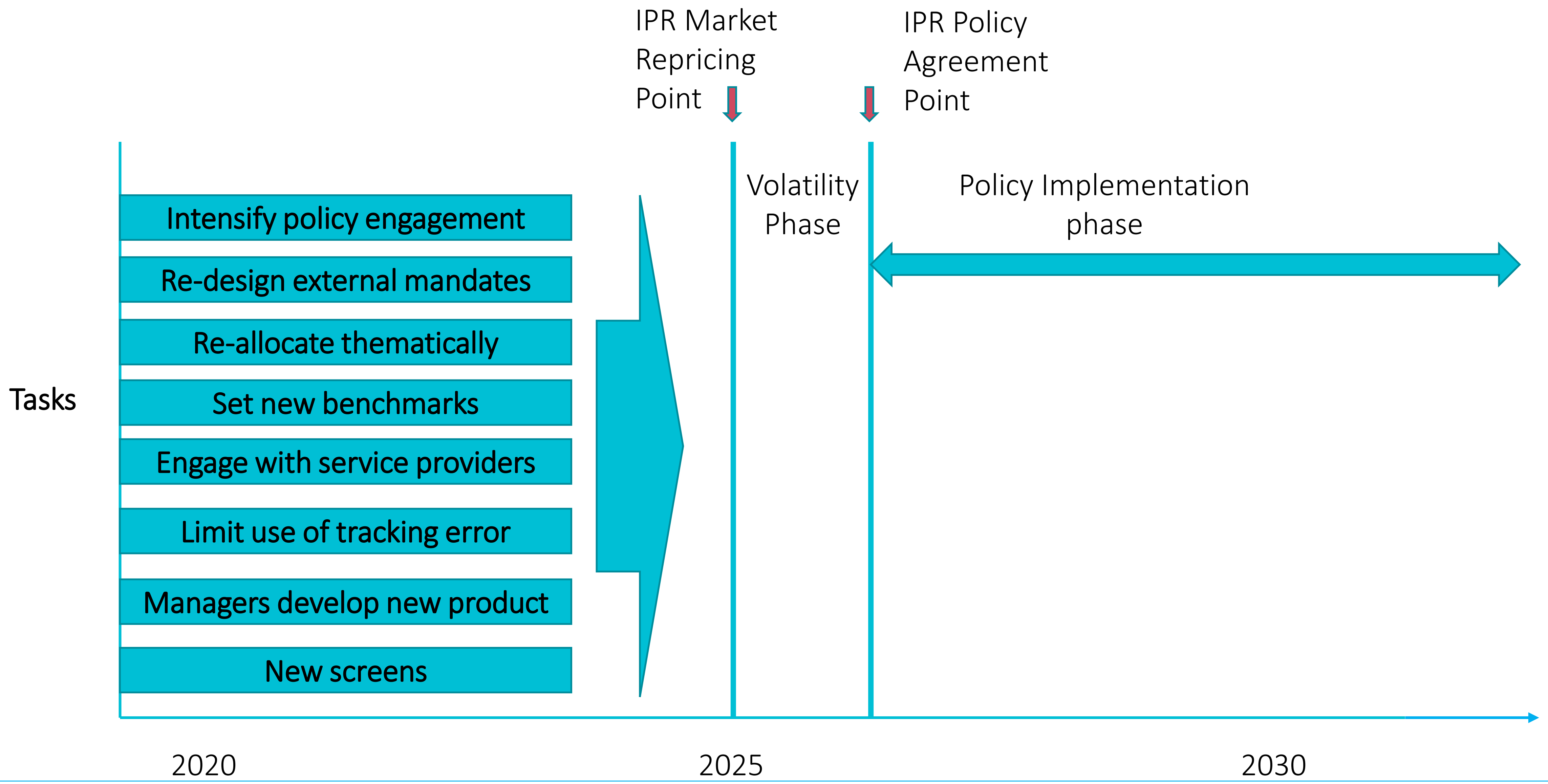
<u>See separate presentation with quantitative results</u>

Investor Actions for 2025 resilience



IPR Mitigation Tasks



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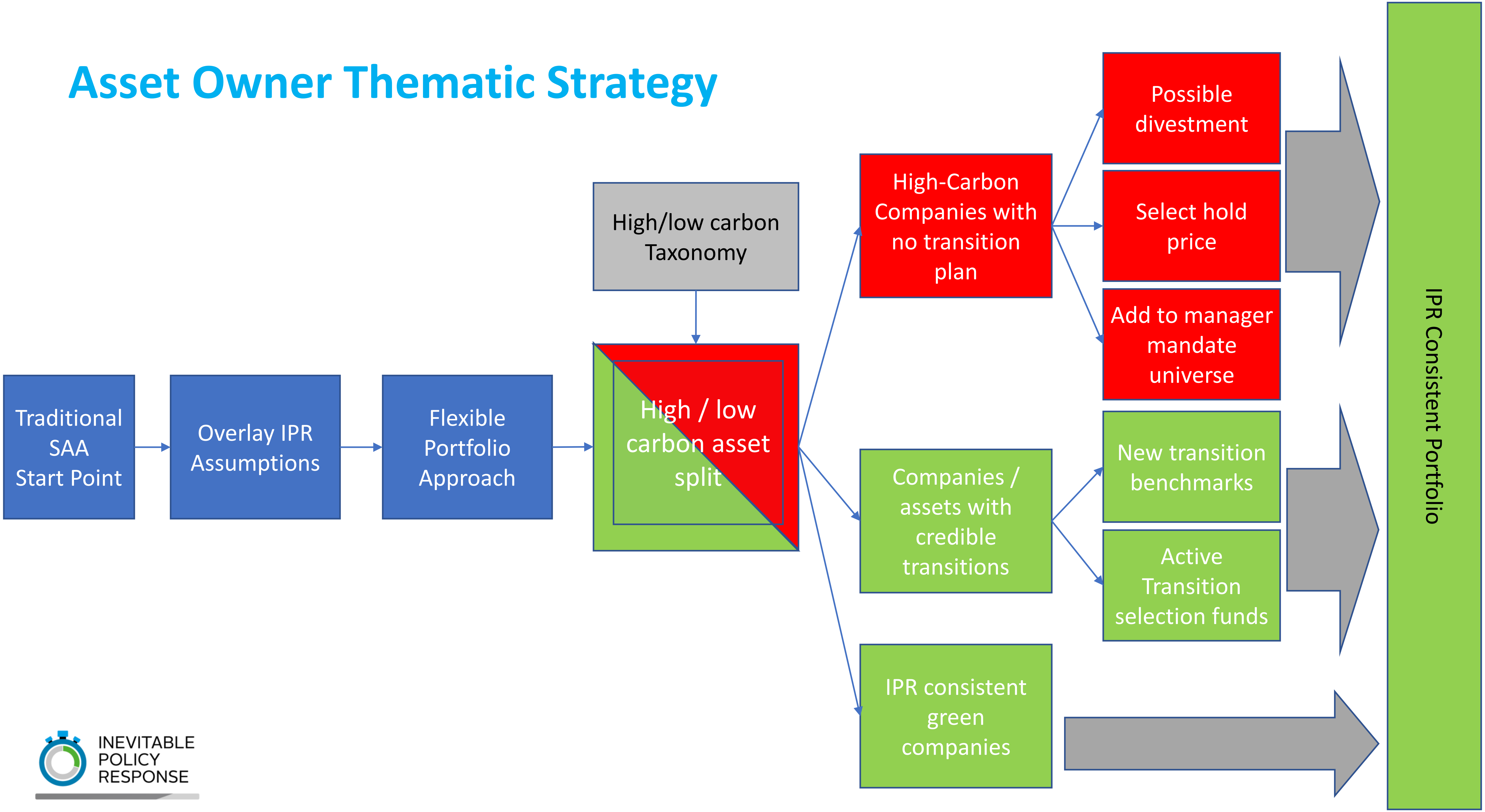
Asset Owner Thematic Strategy



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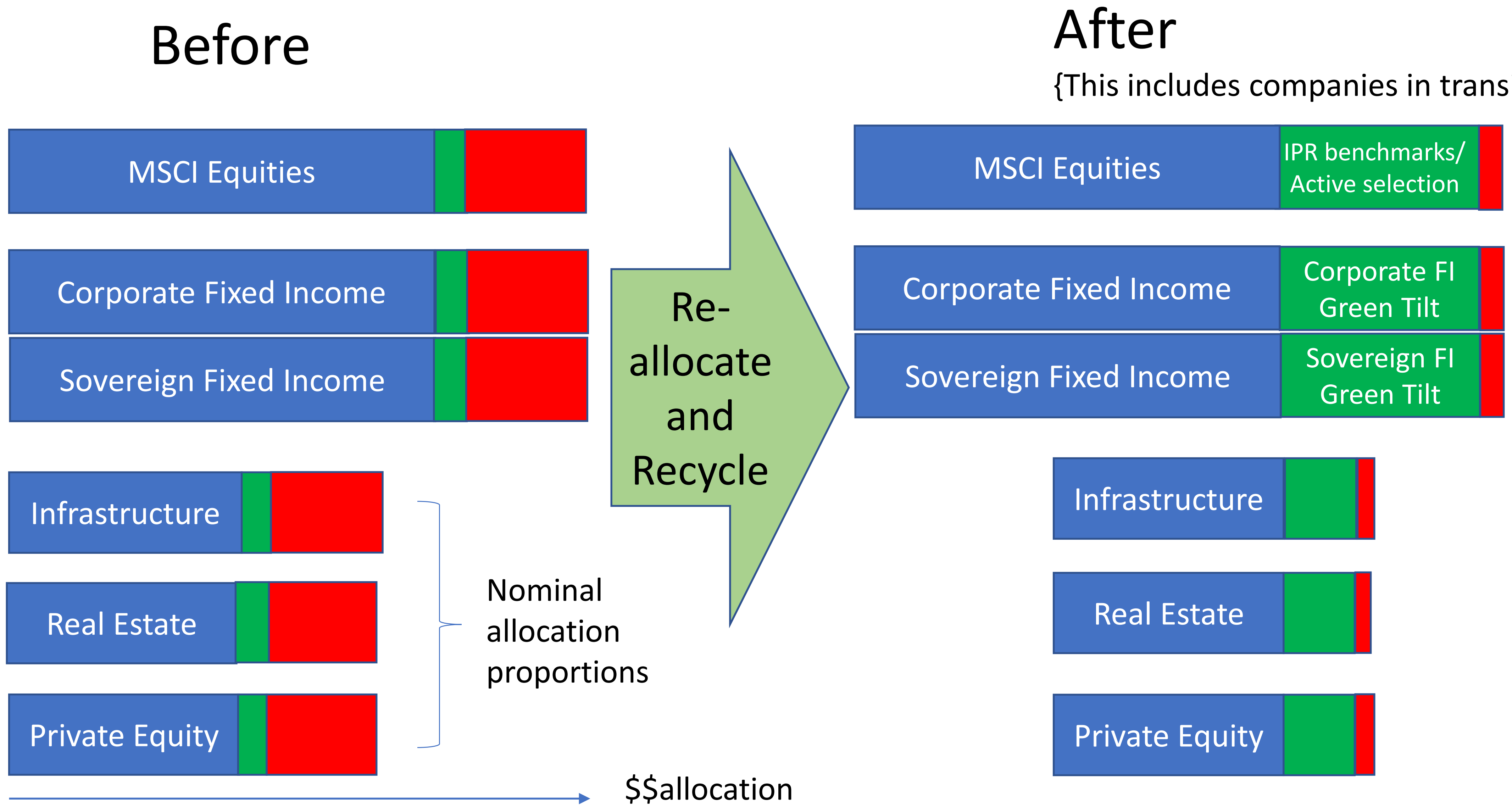
KEY CONCLUSIONS: Asset Allocation and Capital Recycling - illustrative impact



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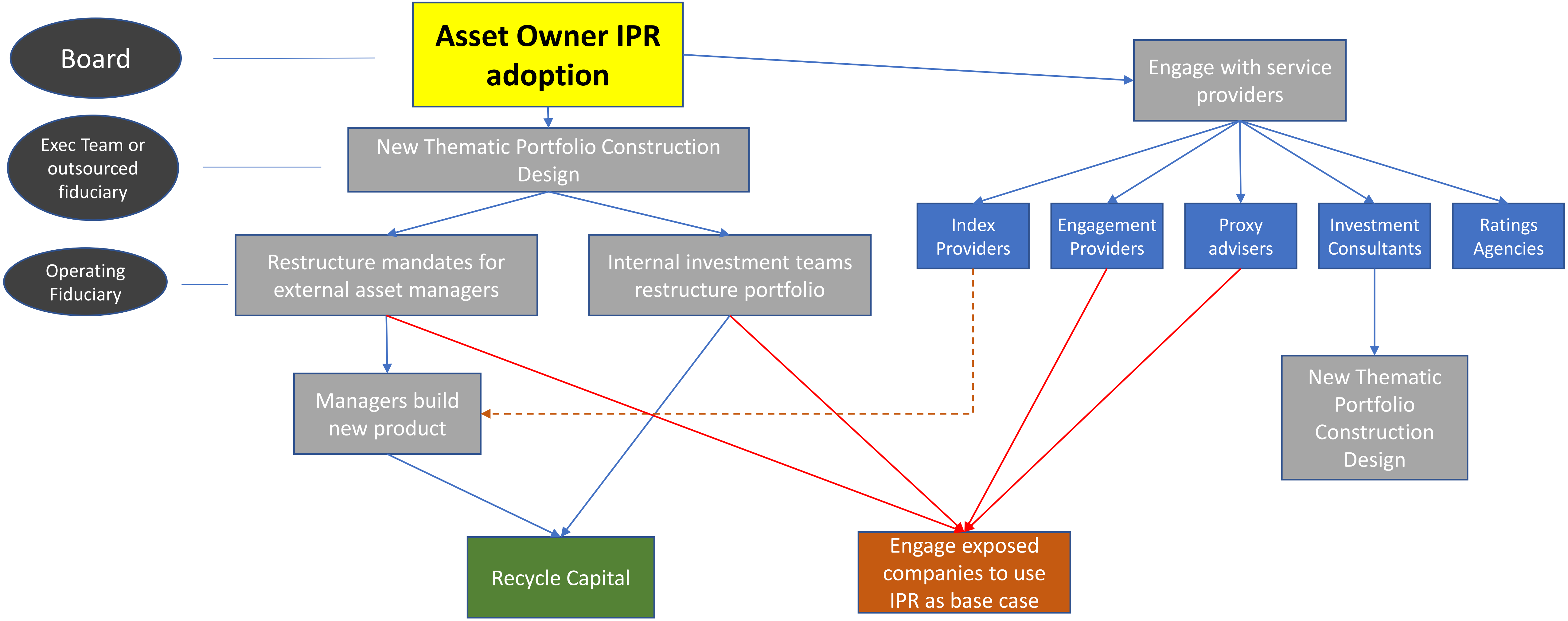
Asset Owners recycling capital across the Investment Chain



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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

Thematic management in climate

- As shown in our Equity Markets (qv link) paper the spread of winners and losers within an Asset Class can be significant
- This reflects ultimately the so called Green (low carbon) vs. High Carbon that IPR FPS is measuring.
- This has led many investors to conclude this is best suited for active real economy level selection.
- As shown in the Clean Trillion (cite) there are many barriers for investors doing this themselves on the green side – scale, packaging, etc.
- Further there are perceived external expertise issues and costs for appointing specific managers.
- Active management approach is viable and readily open right now.

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

Emissions Reductions – making impact through capital Recycling

- Asset Owners and their service providers can align the portfolio with an IPR outcome to protect risk and return by:
    - Shifting asset allocation to asset classes where low carbon exposure is easier to obtain
    - To create a thematic tilt within asset classes to populate sub-asset classes with low carbon assets and away from risky ones
    - To change benchmarks within passive mandates based on IPR
- For Asset Owners who use passive index products in equities where they switch benchmarks to exclude high carbon sectors/stocks this would recycle capital but with questionable impact on cost of capital for equities unless excluded capital is recycled to new value add assets. However, excluded equities can have other behavioural and engagement benefits.
- Selling down high carbon equities recycling to switch into asset classes such as infrastructure, property , private equity, real assets where there is direct exposure to financing new low carbon underlying assets on the ground would be more directly traceable to real emissions impacts.
- This has far more implications for overall portfolio construction and risk/liquidity issues. But it potentially would have much more impact

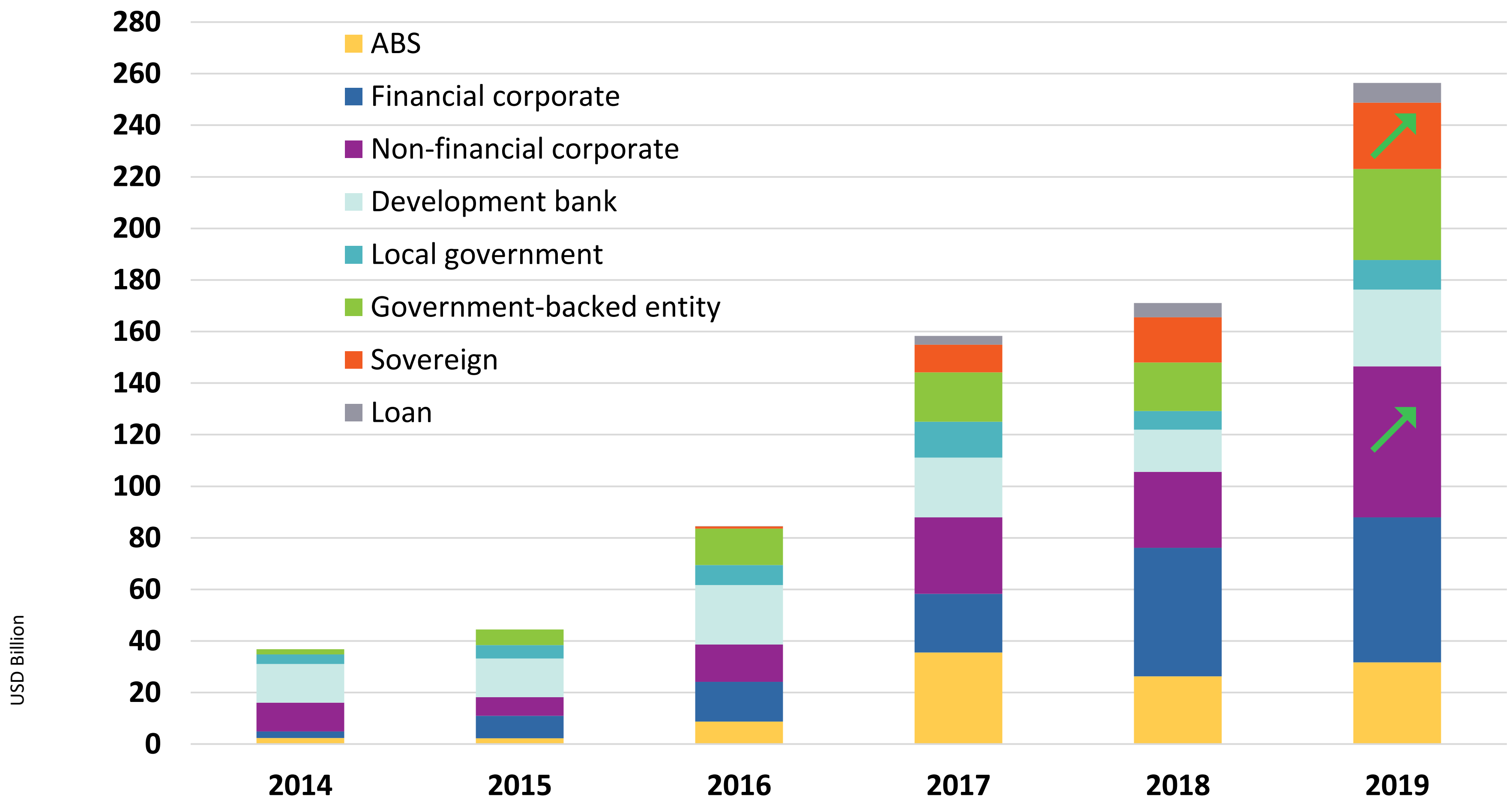
Capital Recycling – how far should investors go?

	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 clean 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

The key role of bonds in capital recycling

- The role of the corporate bond market stands out in particular – corporate bonds often are used for financing of capex.
- The Green Bond Market picks up on this idea and as well as offering individual project related opportunities could offer many interesting ideas in relation to "transition bonds" at the holding company level.
- Disinvestment of High Carbon bonds has a higher impact on the issuer cost of capital than in equities

Green bonds – Use of Proceeds - evidence of investor demand

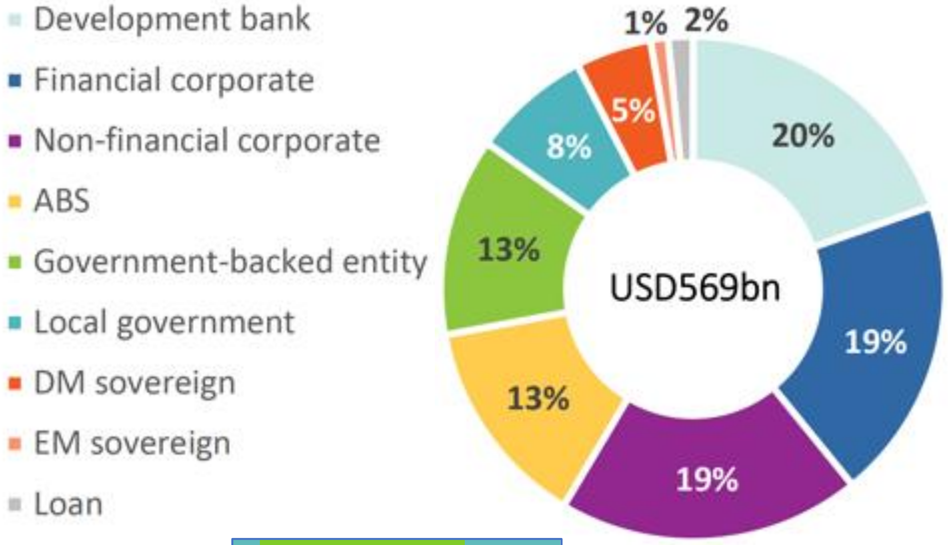


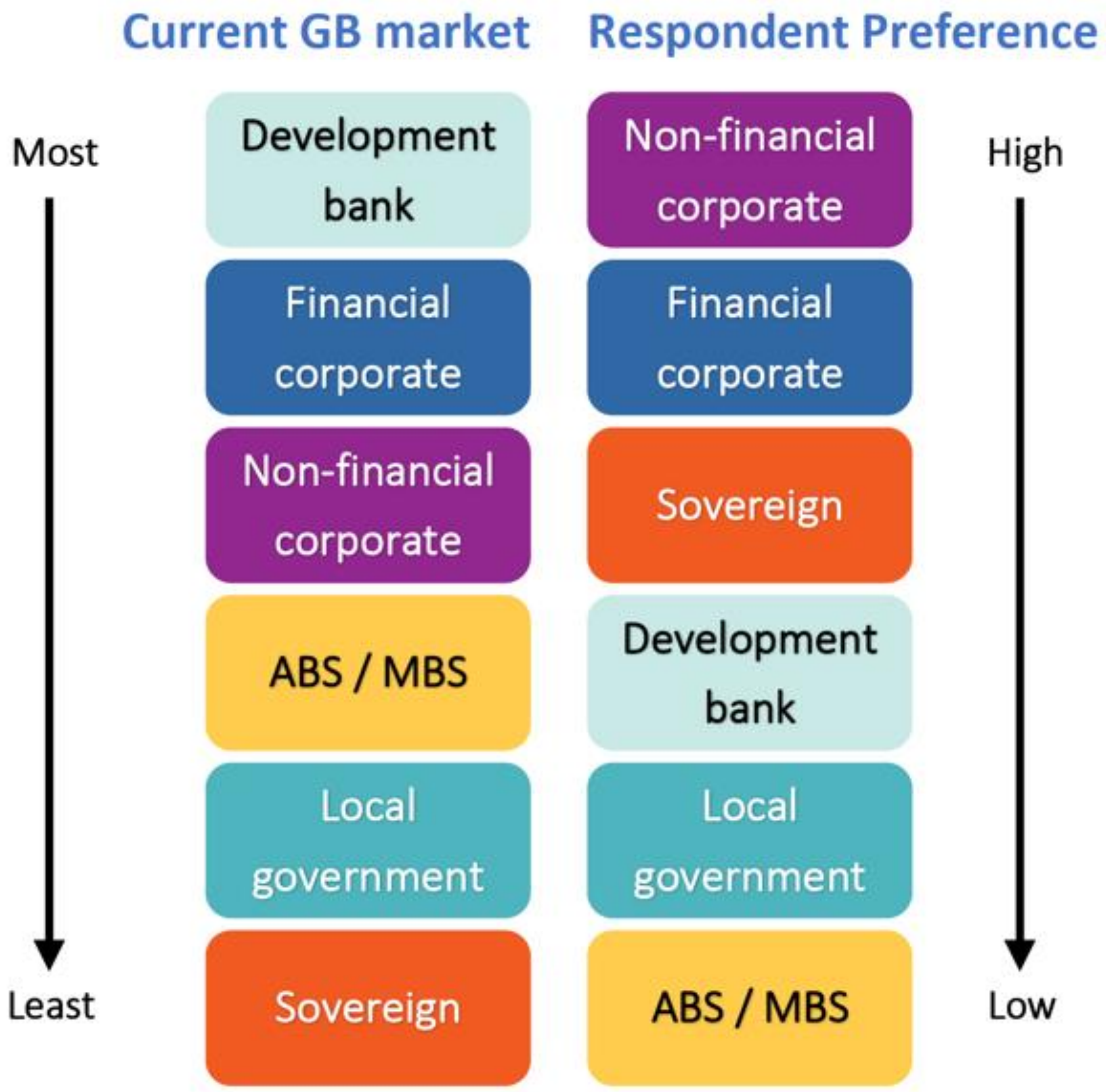
FOR INVESTORS
- Risk mitigation
- Capital protection characteristics

FOR ISSUERS
- Investor diversification
- Stock price correlation
- Pricing

Investor preferences

Development banks and corporates dominate current green bond issuance





Note: *Comparison excludes government-backed entities and green loans.*

Developing Transition Bonds

- As yet there has been no criteria developed to agree when a holding company rather than a specific bond (use of proceeds based) can be deemed "green"
- That would greatly expand the "green" bond market and potentially lead to more capital being made available for the Transition.
- Setting inclusion thresholds such as 50% "green" revenue for different industrial and energy sector "Transition" Bonds that are tied to investments seen as material to achieving 1.5C / 2degC transition targets
- Developing ambitious "industry transition trajectories" that can be used to assess transition plans of companies operating in those sectors.
- Identifying investments material to achieving the transition but not currently seen as green, such as mining of resources essential to greening the economy (e.g. cobalt, palladium, copper)
- Importantly as companies try and claim to be "Paris Agreement Compliant" there will be future looking plans and strategies to achieve that. Therefore the ability to assess and validate forward looking Transition strategies will become crucial.

Financing transition plans – corporate bonds

- This relates to the development of the EU taxonomy which has started to look at some of these issues
- Environmental performance criteria for economic activities are developing rapidly and will support growth of green bond markets, E.g. EU Sustainable Taxonomy
- Issuers using these criteria can detail their transition strategies to align with environmental performance requirements post IPR-volatility phase
- In doing so, issuers will build credibility with investors and accountability for delivery – in line with "Paris-aligned" aspirations.
- Corporate green bonds markets can be developed further with green exposure requirements, e.g. for % of operations aligning with the performance criteria or for achievement of the criteria within committed timeframes.

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Asset Owners actions - internal

- Asset owners can use the IPR or adapt FPS as a likely central business case and define a risk mitigation strategy and timing of transition for their portfolio.
- Asset owners may want to review portfolio construction strategies and the proportion of passive and active mandates.
- Active investors can consider climate as a factor potentially creating alpha or improving beta
- Passive investors can consider the relevance of existing benchmarks and explore development of benchmarks informed by IPR
- Reduce the use of tracking error as primary guide to equity risk target
- Establish exclusion criteria for asset manager mandates and internal teams

Asset Owner actions - external

- Engage with Asset Managers managing exposed sectors or sub-sectors
- Adjusting mandates towards IPR assumptions and away from historical norms /performance
- Asset owners and their consultants may want to integrate IPR into Asset Manager selection
- Asset owners can engage with service providers on ratings, index creation, proxy recommendations, impairment tests, etc.
- All engagement by investors can use IPR to set a base case for companies in exposed sectors
- Continue to advocate and engage for earlier and more ambitious climate action to minimize the disruption from a disorderly transition and from physical impacts resulting from global mean temperatures exceeding 1.5°C

Asset Manager Actions

- Asset managers can greatly increase capacity to design build product
- Asset Managers can design product to help Asset owners implement green and climate aware investment strategies – this moves forward the current asset class definitions and historic way of approaching SAA
- Asset Manager company engagement can drive the market faster, perhaps in partnership with their Asset Owner clients.
- Asset manager creativity and competition required to maximise the opportunities, arbitrage, first to market, etc.

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