The Inevitable Policy Response

The Investor Brief

March 2021

The Stage is Set
Consortium Partners

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Financial markets are underprepared for climate-related policy risks

A forceful policy response to climate change 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.

PRI, Vivid Economics and ETA have built a high conviction policy-based forecast of the financial impact of this Inevitable Policy Response (IPR), including the Forecast Policy Scenario:

- How will it affect the economy?
- Which sectors are most at risk?
- What will drive financial impacts?
What is stopping any forecastable policy response reaching 1.5 degrees?

Global energy-related CO₂ emissions, GtCO₂

IPR forecastable ambition limited by:
- Economic growth
- Just transition
- Proven technologies including NETS
Value-add of the IPR: Forecast Policy Scenario (FPS)

A high conviction policy-based forecast, not a hypothetical scenario that optimizes policy to meet a temperature constraint.

Designed to be an alternative to, for example, the IEA STEPS for business planning by financial institutions.

Covers all regions of the world, with specific policy forecasts for key countries and regions.

Fully integrating land-use to examine the full system impacts of policies, and highlight the critical role of land.

Transparent on expectations for policy and deployment of key technologies, such as Negative Emission Technologies.

Complete forecast includes macroeconomic, energy system, and land use models linking crucial aspects of climate across the entire economy.

Applicable to regulatory stress testing, setting out near-term expectations toward a 1.5°C scenarios.

Applicable to TCFD, aligned forward-looking analyses.
IPR in climate finance for investors landscape

**Investor Action Initiative**
- **IPR**
  - Financial Stability Board - TCFD
  - CA100+
  - COP26
  - Net Zero Alliances
  - Divest / Invest

**Corporate Engagement**
- Can be used in engagement
- IPR creates a realistic outlook for investors

**Investment**
- Can be used as a reporting standard

**Disclosure**
- Forecasts inform policy makers
- TCFD Focus: IPR brings realism to TCFD scenarios – already being used in PRI reporting
- CA100+ Focus; IPR gives a realistic forecast scenario – Aim for recognition 2021
- IPR focuses policymakers on the inevitable

**Policy Advocacy**
- IPR Links risk to emissions targets – already cited in AoA
- IPR uses risk framework to drive capital “recycling” within portfolios
IPR 2021 Methodology

Drivers: Realistic limits to action

Emissions
Outcomes

Policy
Forecasts

Macro
and sector level outputs

Valuation Drivers
(to feed into investor valuation models)

Valuation Analysis

Portfolio Strategy

USED BY:
- Asset Owner internal teams
- Asset Managers
- Service Providers

USED BY:
- Investment Committees
- Asset Consultants
- Service Providers

Expert Policy Survey

Asset Managers

Service Providers
IPR in 2021

**17th March**

Publish new climate Policy Forecasts during PRI webinar
- 200 Policy Experts have provided feedback

**October**

Publish a new Forecast Policy Scenario (FPS)

**October**

Develop deep value drivers from the FPS for use by investors

**By COP 26**

Develop an IPR 1.5C scenario based on more ambitious policy from 2030 onwards leading to net zero
IPR 2021 Forecast concept

Policy Implementation Acceleration Phase
1.5 °C Ambition?

Policy Announcement Acceleration Phase

- China Net Zero
- China 5-year plan
- US Election
- Biden Climate Summit
- COP26 Policy Ratchet
- Global Emissions Stocktake
Investors aligning with Net Zero: The IPR context

- Emissions associated with portfolio reduction in exposure against IPR Phase 1
- Emissions reduction from IPR policies Phase 2
- IPR 2030 ratchet towards Net Zero - phase 3

IPCC 1.5 deg Targets gtco2e
## Summary recommendations for IPR-Net-Zero aligners

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<tbody>
<tr>
<td>1</td>
<td>Investors who wish to align with Net Zero can use a range of scenarios for setting targets but mitigation against a higher probability IPR FPS can become the 2020-2030 base mitigation for Net Zero aligners.</td>
</tr>
<tr>
<td>2</td>
<td>Mitigation against IPR will result in significant emissions reduction depending on asset owner strategy using risk/return expectations.</td>
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<tr>
<td>3</td>
<td>IPR is developing a 1.5c scenario where policy ratchets from 2030 onwards become more forceful. The role of NETs will be explored in detail as in our recent NBS paper.</td>
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<td>4</td>
<td>IPR will work with Net Zero aligners to explore the relationship between risk/return and emissions reductions based on IPR modelling.</td>
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<tr>
<td>5</td>
<td>Recycling of capital towards clean solutions across asset classes will make real economy demand changes more than just removal of high carbon exposures from portfolios</td>
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IPR 2021 Forecasts and Investor Implications
The Inevitable Policy Response: Investor Brief

The drivers of momentum makes a forceful policy response more likely

- Extreme weather events
- Impacts on security
- Cheaper renewable energy
- New climate research
- Civil society action
- Financial regulator warnings on stability
- Uninsurable world
- Influence shifting
- New geopolitics of energy
How has the IPR 2019 forecast been validated?

- Renewables cost deflation
- EU leadership
- Pressure from leading investors
- Increased regulatory pressure
- Shifts in corporate strategy/policy
- US Election outcome
- Emergence of land use in corporate transition plans
- Net zero adoption by countries and investors
Following a wave of announcements in 2020, we forecast the United States, India and Australia will announce their net zero emissions targets by 2023.
The IPR2021 Policy Forecast was informed by a rigorous evidence review and large-scale survey of country climate policy experts.
IPR2021 forecasts most countries will implement a package of policies to deliver rapid emissions reductions across the main emitting sectors:

<table>
<thead>
<tr>
<th>Carbon pricing</th>
<th>Coal phase-out</th>
<th>100% clean power</th>
<th>Zero emission vehicles</th>
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<tr>
<td>• Carbon taxes</td>
<td>• Prohibiting regulations</td>
<td>• 100% clean power targets</td>
<td>• 100% zero emission vehicle (ZEV) sales legislation</td>
</tr>
<tr>
<td>• Emissions trading systems</td>
<td>• Emissions performance standards</td>
<td>• Renewables capacity auctions and other support policies</td>
<td>• Manufacturer ZEV obligations</td>
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<tr>
<td>• Border carbon adjustments</td>
<td>• Electricity market reforms</td>
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<td>• ZEV consumer subsidies</td>
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<th>Low-carbon buildings</th>
<th>Clean industry</th>
<th>Low-emissions agriculture</th>
<th>Forestry</th>
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<tr>
<td>• Prohibiting regulations for fossil heating systems</td>
<td>• Emissions performance standards for industrial plant</td>
<td>• Methane or nitrous oxide emissions tax or cap-and-trade system</td>
<td>• Strong policy action against deforestation, such as monitoring and penalties, supported by consumer pressure</td>
</tr>
<tr>
<td>• Purchase subsidies for low-carbon heating systems</td>
<td>• Subsidy for new or retrofit clean industrial process</td>
<td>• Subsidy for low-emissions agricultural practices and technologies</td>
<td>• Incentives for reforestation and afforestation via domestic action and carbon markets</td>
</tr>
<tr>
<td>• Thermal efficiency regulations for new build and retrofit</td>
<td></td>
<td>• Farmer education and technical assistance programmes</td>
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## IPR2021 top ten policy forecasts: 1-5

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<td><strong>Carbon pricing</strong></td>
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<tr>
<td>1.</td>
<td>Carbon Border Adjustments Mechanisms (CBAMs) for carbon will become increasingly a policy option. This could lead the United States to announce a national carbon pricing system as early as 2023, and we forecast by 2025, and signal a strong carbon price path to reach a backstop of $65 by 2030.</td>
</tr>
<tr>
<td>2.</td>
<td>The European Union’s evolving commitments will deliver substantial carbon prices. By 2030, we expect EU policy to backstop an EU ETS carbon price of $75/tCO2 to ensure long-term action toward decarbonization in heavy emitting sectors.</td>
</tr>
<tr>
<td><strong>Coal</strong></td>
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<td>3.</td>
<td>In India, rapidly evolving Indian policy and prospects for market reforms and pricing has already ended further investment in new coal</td>
</tr>
<tr>
<td>4.</td>
<td>China will end construction of new coal fired power production after 2025, driven by new policies to facilitate its 2060 net zero target and ongoing market liberalisation.</td>
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<tr>
<td>5.</td>
<td>The United States will end all coal-fired power generation by 2030, through a combination of emission performance standards and carbon pricing at the Federal and State levels, combined with market forces.</td>
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### IPR2021 top ten policy forecasts: 6-10

<table>
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<th>Category</th>
<th>Forecast Description</th>
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<tr>
<td><strong>Clean power</strong></td>
<td>6. The United States will implement a binding and credible 100% clean power standard for 2040, ending unabated fossil electricity generation.</td>
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<tr>
<td><strong>Zero emission vehicles</strong></td>
<td>7. China, France, Germany, Italy and Korea will end the sale of fossil fuel cars and vans in 2035. Jointly these large markets will accelerate the auto industry transition to electric drive, and precipitate further policy action internationally.</td>
</tr>
<tr>
<td><strong>Industry</strong></td>
<td>8. All major industrial economies including the US, Germany, Japan and China will require all new industrial plants, led by steel and cement, to be low-carbon by 2040, through a combination of emissions performance standards and carbon pricing.</td>
</tr>
<tr>
<td><strong>Agriculture</strong></td>
<td>9. The US, Canada, Australia and other major agricultural producers will have comprehensive mitigation policy in place by 2025 to reduce emissions from production of crops and livestock.</td>
</tr>
<tr>
<td><strong>Land use</strong></td>
<td>10. Major tropical forest countries will end deforestation by 2030, with domestic policy responding to international climate finance and corporate supply chain pressures.</td>
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Potential other accelerators

- Strong co-ordination between US-China-EU on climate creating leadership pressure
- China 5-year plan more ambitious than expected especially on energy/transport
- India announces net zero
- Australia announces qualified net zero
- Border Tax Adjustments leading to potential US carbon markets
- Cop26 leadership on Land Use
- Global market connectivity momentum
- Role of Finance emphasized
Top 10 forecasts – some key Implications heading into FPS in September 2021

- Border Cost Adjustments (BCAs) could have some Sovereign Debt implications
- US acceleration should create opportunities in the short-medium term
- Real assets eg forestry – Now accelerated opportunities and higher probability than 2019 forecast
- EU market matures earlier with the transition and upsides may emerge increasingly elsewhere
- Thematic opportunities in key emerging markets develop as India, China decarbonises
- Greater focus emerging on industrials transition

Border Cost Adjustments (BCAs) could have some Sovereign Debt implications

US acceleration should create opportunities in the short-medium term

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Thematic opportunities in key emerging markets develop as India, China decarbonises

Greater focus emerging on industrials transition
IPR 2021 – Probabilities of market repricing

Accelerated Transition since 2019

Broader IPR time impact – accelerated

COP Global Stocktake

COP26 – Possible accelerators eg CBAM

US Election

Real world Volatility will overlay this smooth curve

Upsides? Downsides? Both?
Real world issues

Unique market conditions now exist, exhibited by recent volatility which is likely to remain

Asset Owners should remain committed to fundamentals of the transition both in terms of upside and downside

The fundamentals of future climate policies have likely not yet been levied as liabilities on company forecasts

It is likely that only committed policy announcements would be recognised in company impairment tests
So what has been priced in equities? Nobody really knows!

**ENERGY EXAMPLE**

6 month S&P vs Various Energy

5 year month S&P vs Various Energy
So what has been priced in equities? Nobody really knows!
So what has been priced in utilities? Nobody really knows!
So what has been priced in? Nobody really knows!
What should investors do?
Implications for asset classes?

**Equities** – In the long term, low carbon outperforms high carbon

**Infrastructure** – Stronger signals on clean energy capital switch from country specific policies and net zero targets

**Debt** – Corporate, transition debt and infrastructure debt all likely to grow in market size. Some volatility likely as transition moves through major growth phase

**PE-VC** – Technologies highlighted and key but little clarity on direct support

**Real assets e.g. forestry** – Now accelerated opportunities and higher probability then 2019 forecast

**Commodities** – Policies driving transport transition creating uncertainty for O&G
Asset Owner IPR Transition Tasks – laggards may be too late

- Set urgent voting guidelines on company transition
- Re-set manager selection criteria and design mandates towards risk AND low carbon upside
- Drive asset managers towards forward looking assumptions
- Set new benchmarks eg low carbon
- Drive Managers to develop new product
- Ensure approach can support forward strategic asset allocation & flexible portfolio construction around the energy transition theme

2020

2025

2030

Accelerated Transition

Policy Implementation phase
Stick to the fundamentals - Recycle capital from high to low carbon assets now

**Before**

- MSCI Equities
- Corporate Fixed Income
- Sovereign Fixed Income
- Infrastructure
- Real Estate
- Private Equity

**After**

- MSCI Equities
- Corporate Fixed Income
- Sovereign Fixed Income
- Infrastructure
- Real Estate
- Private Equity

{This includes companies in transition}
The challenges of Transition complexity

Traditional SAA Start Point → Overlay IPR Assumptions → Flexible Portfolio Approach → High / low carbon asset split → High-Carbon Companies with no transition plan → Possible divestment

Companies / assets with credible transitions → New transition benchmarks → Active Transition selection funds

IPR consistent green companies → Add to manager mandate universe → Select hold price

IPR Consistent Portfolio
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