

- *'The Climate Policy Acceleration-Outlook & Impacts for Investors'*
- Joint IPR, Climate Bonds Initiative & PRI Webinar Event

Inevitable Policy Response

A climate transition forecasting consortium

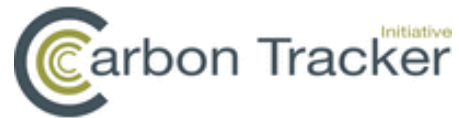
Preparing financial markets for climate-related policy and regulatory risks

March 2021 Policy Forecasts

Mark Fulton, Program Director, IPR

29/07/2021

IPR Consortium partners



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

Extreme weather events

Counting the cost 2020
A year of climate breakdown

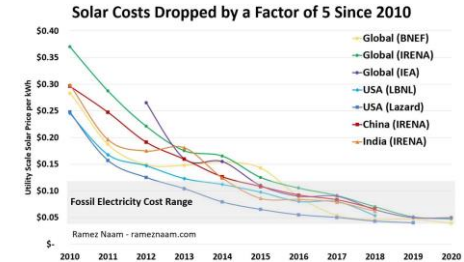
December 2020



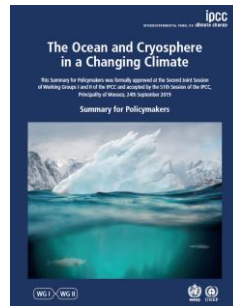
Impacts on security



Cheaper renewable energy



New climate research



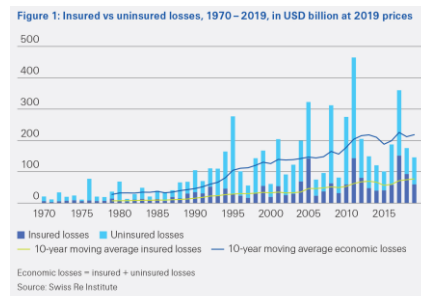
Civil society action



Financial regulator warnings on stability



Uninsurable world



Influence shifting



New geopolitics of energy



The Inevitable Policy Response was established to help the financial sector prepare for policy, technology and market risks related to the climate transition

The inevitable policy response to climate change is not well-understood in today's markets

These policies will continue interacting with new technologies to deeply disrupt established industries and economies

Financial institutions need to deepen their understanding of this unfolding environment to manage their assets effectively

Many scenarios currently available provide limited intelligence about the realistic risks and opportunities most critical to the financial sector and omit the land sector

The Inevitable Policy Response (IPR) Programme provides a **high conviction policy-based forecast and estimates its impacts:**

- What policies are likely to emerge across major economies and sectors in the near and long term?
- How will these accelerate new technologies and drive economic and market disruptions?
- In which sectors and geographies will these risks and opportunities manifest?
- How does this drive value?

IPR's Forecast Policy Scenario (FPS) provides distinctive intelligence to financial institutions seeking to better understand the climate transition



A high conviction policy-based forecast, anchored in realistic policy and technology expectations rather than hypothetical 'optimal' pathways



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



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



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



Applicable to TCFD reporting and regulatory stress testing, with a 1.5°C Required Policy Response scenario being developed for late 2021

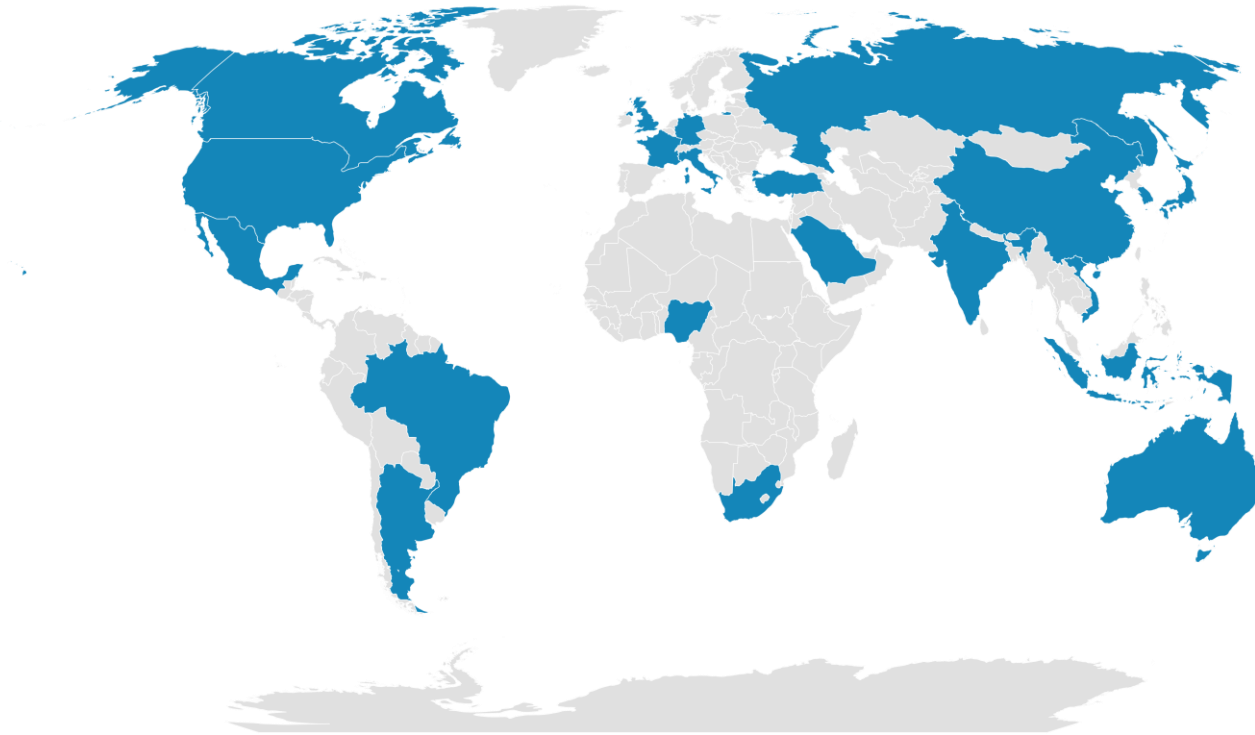


Fully integrating land-use to examine the full system impacts of policies, and highlight the critical role of land

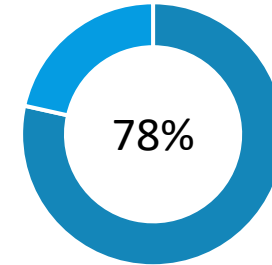
A 1.5°C '**Required Policy Scenario**' (RPS) will also be developed, building on the IEA NZE by deepening analysis on policy, land use, emerging economies, NETs and value drivers

The IPR 2021 March policy forecast covers 21 major economies accounting for the majority of world economic activity, energy use and CO₂ emissions

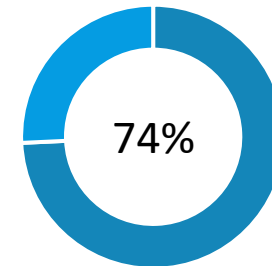
IPR Policy Forecast country coverage



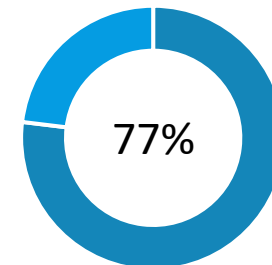
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of economic activity

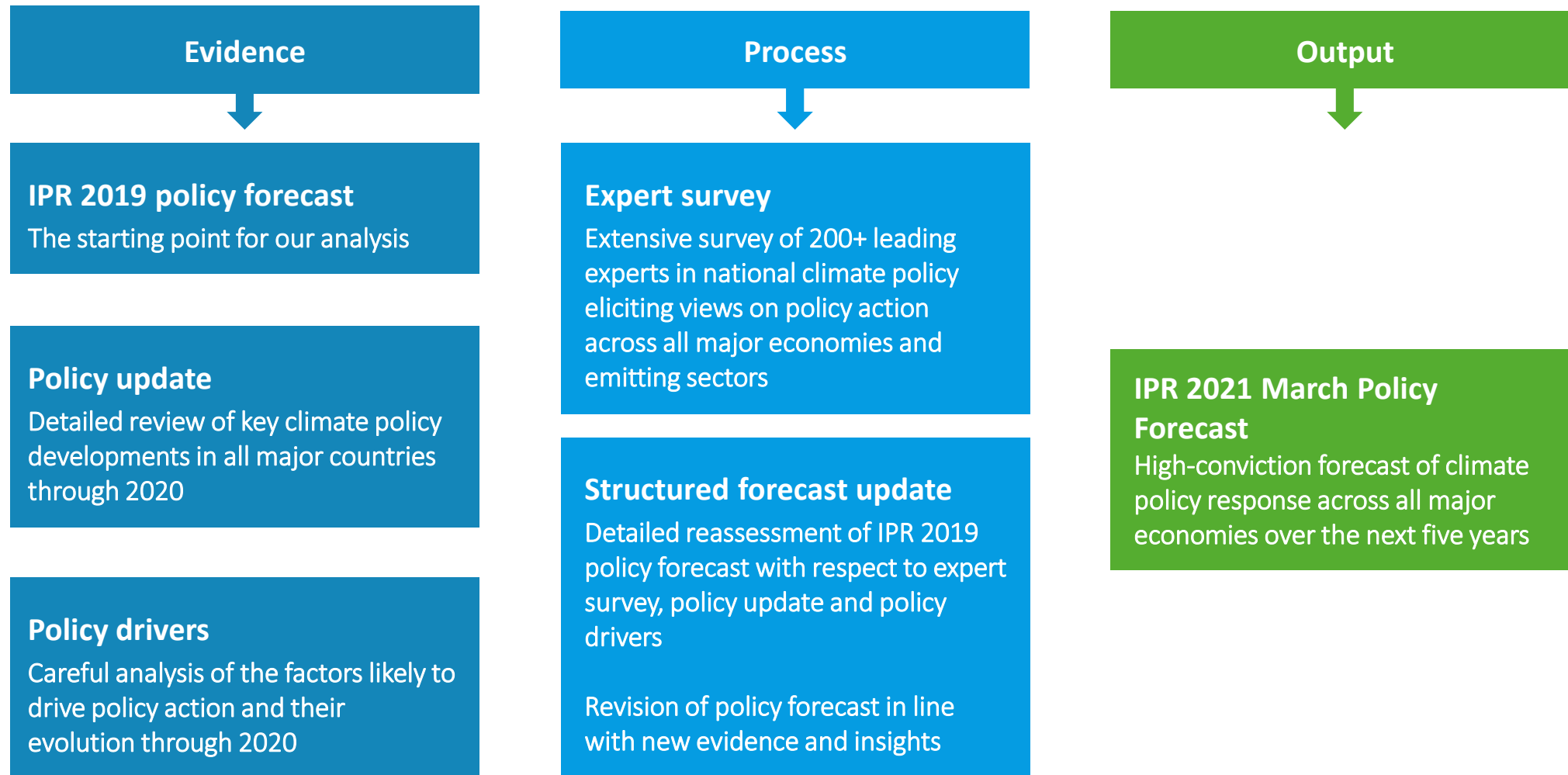


of energy use



of CO₂ emissions

The IPR 2021 March Policy Forecast was informed by a rigorous evidence review and large-scale survey of country climate policy experts



What drives our forecasts (1)



Current policy ambition

Current long-term targets, decarbonisation strategies and emissions reduction policies. Progress in these areas is an indicator of current policy commitment to climate action and likelihood of further policy action.



Track record of policy action

Historical track record of setting long-term targets, developing and implementing decarbonisation strategies and implementing policies to reduce emissions. A track record in these areas is an indicator of sustained policy commitment to climate action.



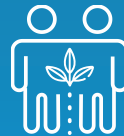
Status of transition

Historical track record of rolling out climate solutions and reducing emissions. Progress in these areas is an indicator of policy commitment to climate action and likelihood of further policy action.



Investment pipeline

Current pipeline of new fossil investments that are planned or under construction. Investment pipeline is an indicator of policy commitment to phase out new fossil investments.



Civil society

Direction and magnitude of citizen attitudes towards climate action, indicating civil society support for new policies



Consumer preferences

Size and trends in early adopter market for new energy technologies. High consumer demand for new energy technologies suggests likely consumer support for policy action, while low consumer demand suggests likely consumer resistance.

What drives our forecast (2)



Techno-economics

The likely economic costs and benefits of policy action, driven by the cost and maturity of available climate solutions



Just transition

Likely socio-economic impacts of policy action, and prospects to support communities affected by these impacts. Presence of traditional energy and energy-intensive sectors creates social challenges for climate action.



Industrial strategy

Prospects for policy action to support internationally competitive export industries in new energy technologies. Policy action can support domestic industries to achieve success in international markets for climate solutions.



Industrial competitiveness

Relative risks of policy action reducing the competitiveness of traditional energy and energy-intensive sectors. Substantial economic contribution of traditional energy and energy-intensive sectors creates political and economic challenges for climate action



Trade exposure









Trading patterns with countries forecast to take leading action to safeguard competitiveness and prevent carbon leakage. High reliance on leading countries for export markets increases incentives to take action domestically.



Energy security

Relative reliance on domestic production and import of fossil fuels to secure current energy needs. Strong climate action typically reduces reliance on imported fossil fuels.

IPR 2021 March forecasts higher policy ambition across eight key policy levers

 <p>Carbon pricing</p> <ul style="list-style-type: none"> • Carbon taxes • Emissions trading systems • Border carbon adjustments 	 <p>Coal phase-out</p> <ul style="list-style-type: none"> • Prohibiting regulations • Emissions performance standards • Electricity market reforms 	 <p>100% clean power</p> <ul style="list-style-type: none"> • 100% clean power targets • Renewables capacity auctions and other support policies 	 <p>Zero emission vehicles</p> <ul style="list-style-type: none"> • 100% zero emission vehicle (ZEV) sales legislation • Manufacturer ZEV obligations • ZEV consumer subsidies
 <p>Low-carbon buildings</p> <ul style="list-style-type: none"> • Prohibiting regulations for fossil heating systems • Purchase subsidies for low-carbon heating systems • Thermal efficiency regulations for new build and retrofit • Minimum energy performance standards for new appliances 	 <p>Clean industry</p> <ul style="list-style-type: none"> • Emissions performance standards for industrial plant • Subsidy for new or retrofit clean industrial process 	 <p>Low-emissions agriculture</p> <ul style="list-style-type: none"> • Methane or nitrous oxide emissions tax or cap-and-trade system • Subsidy for low-emissions agricultural practices and technologies • Farmer education and technical assistance programmes 	 <p>Forestry</p> <ul style="list-style-type: none"> • Strong policy action against deforestation, such as monitoring and penalties, supported by consumer pressure • Incentives for reforestation and afforestation via domestic action and carbon markets

 'Just Transition' lens to ensure social and political feasibility

Overall, we forecast substantially higher policy ambition relative to IPR 2019

Revisions to previous forecasts

- Overall, we forecast higher policy ambition, with higher ambition accounting for almost 50% of forecasts and lower ambition for under 10%

	Number of forecasts		
	Lower ambition	Unchanged	Higher ambition
Carbon pricing	0	1	20
Coal phase out (new capacity)	2	12	6
Coal phase out (all generation)	4	6	10
ICE phase out (LDVs)	1	16	4
ICE phase out (HGVs)	0	16	5
Ending deforestation	0	7	14
% of policies	6%	47%	48%

New policy areas

Clean power

- Policy framework to end all unabated fossil generation

Low-carbon buildings

- New building and product standards targeting an end to the sale of fossil-based appliances, phasing out use of fossil fuels in heating and cooking

Clean industry

- Ending installation of new unabated fossil-based industrial plant, putting energy-intensive industry on a clear decarbonisation pathway

Low-emissions agriculture

- New policies driving low-emissions practices for crops and livestock.

IPR 2021 March Top ten policy forecasts: 1-5

Carbon pricing	<p>1. 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.</p>
Coal	<p>2. 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.</p> <p>3. In India, rapidly evolving Indian policy and prospects for market reforms and pricing has already ended further investment in new coal.</p> <p>4. 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.</p> <p>5. 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.</p>

IPR 2021 March Top ten policy forecasts: 6-10

Clean power	6. The United States will implement a binding and credible 100% clean power standard for 2040, ending unabated fossil electricity generation.
Zero emission vehicles	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.
Industry	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.
Agriculture	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.
Land use	10. Major tropical forest countries will end deforestation by 2030, with domestic policy responding to international climate finance and corporate supply chain pressures.

The Inevitable Policy Response (IPR) seeks to drive better investor action to avoid and manage climate-related policy risks & identify opportunities

While a policy response to climate change is highly likely, financial markets are not adequately prepared

- The need to act on climate is rising in the policy agenda.
- Climate action will create substantial shifts in global investment needs, driving down demand for assets that increase emissions, and driving up demand for assets that avoid or reduce them.
- Financial markets today have not adequately prepared for the likely policy response to climate change.

Guidance on likely evolution of climate policy and its impacts on markets is limited

- Future energy scenarios typically provide either business-as-usual trends or idealized futures in which climate action is immediate, gradual, and coordinated.
- While investors agree that the policy response will be delayed, abrupt and disruptive, few scenarios map out the implications of such a future.

The IPR seeks to drive better investor action to avoid and manage these climate-related policy risks

- A high-conviction policy-based forecast of forceful policy response to climate change and implications for energy, agriculture and land use
- Identifies key sources of climate policy-driven opportunity and risk in these sectors
- Prepares investors to better manage exposure to these risks in their portfolios

Next release: Forecast Policy Scenario (FPS) & for COP26



IPR Q3/Q4 Timetable & Contacts

Q3/Q4 2021 Timetable:

Late October: Launch of full 2021 Forecast Policy Scenario (FPS)

& Summary 1.5C Required Policy Scenario (RPS)

November: Underlying data and full RPS

Key Contacts:

[Mark Fulton](#) – Program Director

[Julian Poulter](#) – Head of Investor Relations

[Andrew Whiley](#) – Communications Manager

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Acknowledgements

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