What is the Inevitable Policy Response (IPR)?

A Climate Transition Forecasting Consortium

IPR overview

December 2021

IPR was commissioned by the Principles for Responsible Investment (PRI) and supported by world class research partners and leading financial institutions

PRI Principles for Responsible Investment

PRI commissioned the Inevitable Policy Response in 2018 to advance the industry's knowledge of climate transition risk, and to support investors' efforts to incorporate climate risk into their portfolio assessments

:vivideconomics putting economics to good use

Energy Transition Advisors ETA

A research consortium led by Energy Transition Advisors and Vivid Economics conducts the initiative's policy research and scenario modelling and includes 2Dii, Carbon Tracker Initiative, Climate Bonds Initiative, Quinbrook Infrastructure Partners and Planet Tracker

The consortium was given the mandate to bring leading analytic tools and an independent perspective to assess the drivers of likely policy action and their implications on the market

Planet Tracker

quinbrook infrastructure PARTNERS

2° Investing Initiative

Carbon Tracker Initiative

Climate Bonds Initiative

Who supports the Inevitable Policy Response ?

Leading financial institutions joined the IPR as Strategic Partners in 2021 to provide more in-depth industry input, and to further strengthen its relevance to the financial industry

BLACKROCK FitchRatings nuveen A TIAA Company ROBECO The Investment Engineers BNP PARIBAS ASSET MANAGEMENT Goldman Sachs Asset Management NewForests

Core philanthropic support has been provided since 2018. The IPR is funded in part by the Gordon and Betty Moore Foundation through The Finance Hub, which was created to advance sustainable finance, and the ClimateWorks Foundation striving to innovate and accelerate climate solutions at scale

GORDON AND BETTY MOORE FOUNDATION THE FINANCE HUB climateworks FOUNDATION

The Inevitable Policy Response helps the financial sector navigate the climate transition

Markets inconsistently price transition risk

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

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The IPR offers a range of applications to help navigate the climate transition

IPR Policy Forecast

A **high-conviction policy-based forecast** of forceful policy response to climate change and implications for energy, agriculture and land use

IPR Forecast Policy Scenario (FPS)

A **fully integrated climate scenario** modelling the impact of the forecasted policies on the real economy up to 2050, tracing detailed effects on all emitting sectors

IPR 1.5°C RPS Scenario

A '**1.5°C Required Policy Scenario'**(1.5°C RPS) building on the IEA NZE by deepening analysis on policy, land use, emerging economies, NETs and value drivers. This can be used by those looking to align to 1.5°C

IPR value drivers

A set of publicly available **outputs from the FPS and 1.5°C RPS** that offer significant granularity at the sector and country level allowing investors to assess their own climate risk

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IPR's Forecast Policy Scenario (FPS) value add

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

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'** (1.5°C RPS) has been developed, building on the IEA NZE, deepening analysis on land use, and deriving polices required to reach a rapid net zero 2050 outcome

Note: IPR does not model physical risk

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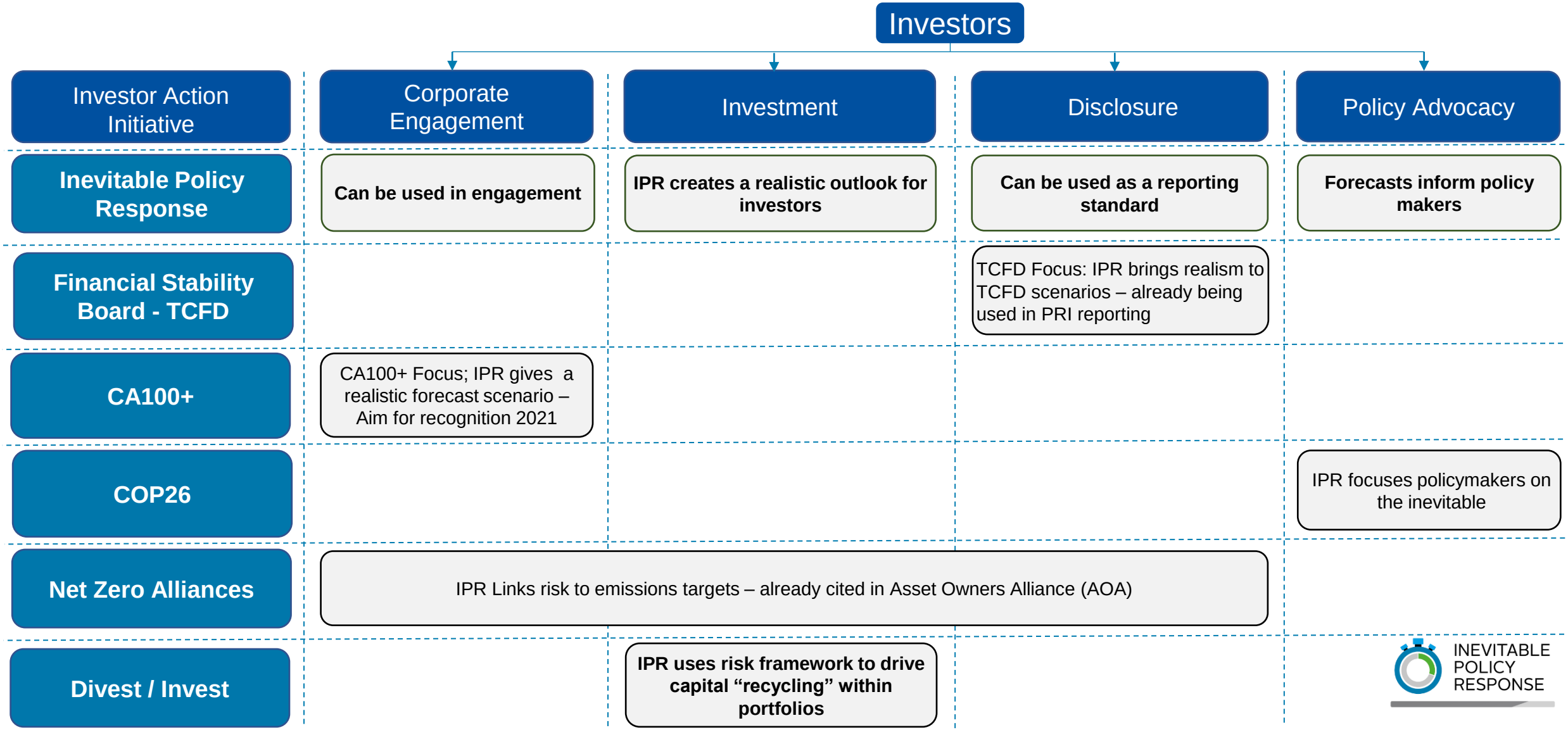
IPR role for investors in the climate landscape



We have benchmarked the FPS 2021 against four key IEA scenarios

IPR FPS uses used IEA NPS/STEPS as the key baseline

- Expectations of mainstream investors likely to be based on announced climate policies

IPR FPS uses IEA SDS as key comparator

- 1.5°C compatible
- 300GT of extra NETs beyond 2050

New IEA net zero report provides three distinct comparator scenarios:

- STEPS – base line starting comparison
- APC – new commitment based
- NZE – a 1.5°C no overshoot 2050 energy system scenario

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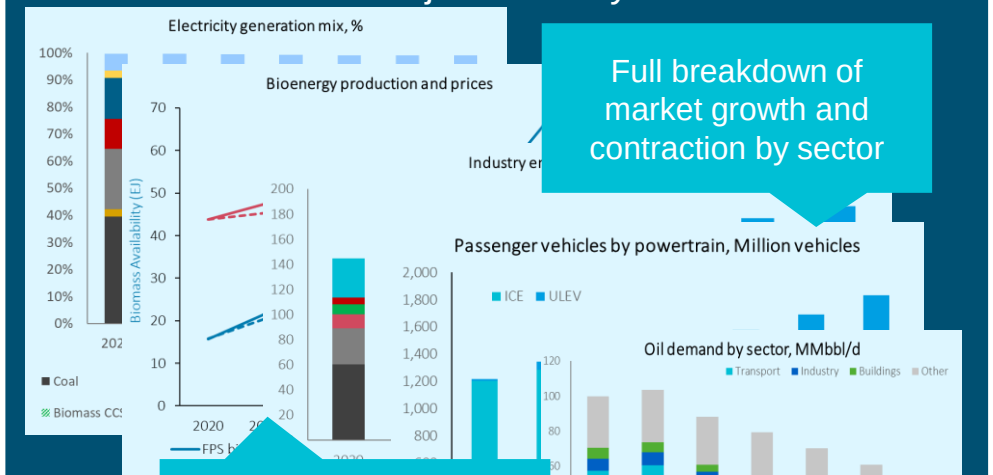
In 2021 the IPR FPS delivers a set of sector pathways, by major economy, with an expanded set of value drivers for financial analysis

Detailed sector-country pathways

The 2021 FPS will provide detailed sector specific pathways to decarbonisation, tailored for each major economy



Full breakdown of market growth and contraction by sector

Further disaggregation for all major economies

Expanded set of value drivers

The 2021 FPS will provide detailed sector specific pathways to decarbonisation, tailored for each major economy

Variable	IPR	IEA WEO	IEA NZE
GHGs	All Kyoto GHGs	CO2 only	CO2 only
CO2 removals	Yes	No	Yes
Temperature outcome	Yes	No	Yes
New technology deployment	Yes	No	No
New technology investment	Yes	No	No
Technology stock profile	All sectors	Power only	No
Fuel demand	Regional	Regional	World only
Commodity production by technology	Yes	No	No
Energy prices	Yes	Yes	Yes

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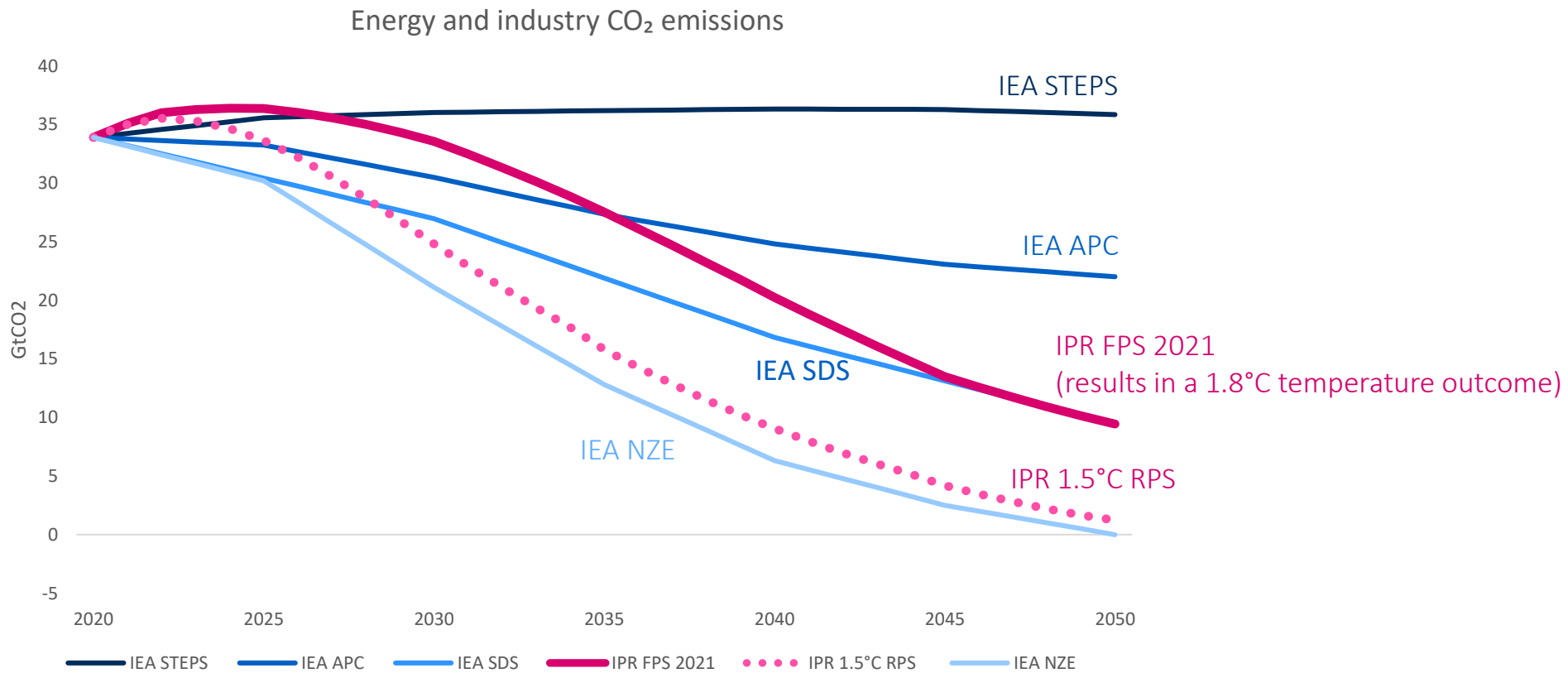
The 2021 IPR scenarios related to key IEA scenarios



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* Data on IEA CO_2 pathways are published in 5-year intervals ** IPR FPS 2019 was modelled in 5-year increments
Note: IEA scenario data based on May 2021 Net Zero Emissions report; in WEO2021, IEA APC is renamed Announced Pledges Scenario (APS), with a slightly modified emissions pathway

IPR is becoming a reference standard scenario for the financial sector

Significant uptake by investors

- **128 PRI signatories** reported using an IPR consistent scenario
- **120 funds engaged** in 1:1 IPR briefings
- **Fitch Ratings** base case in new ratings framework
- Core climate scenario in **BlackRock** 2020 TCFD report
- **US Commodity Futures Trading Commission** primary forecast resource
- Recognition by the **Bank of England's Climate Financial Risk Forum**

Strong media coverage of IPR product launches

- Regular coverage by leading media outlets including **The FT, Economist, Bloomberg and Investor Daily**
- NETs and the importance of land use paper covered by **FT, Bloomberg Green, Business Green, RI and more**

INEVITABLE POLICY RESPONSE

IPR is becoming a reference standard scenario for the financial sector

ESGCLARITY

UN PRI study finds investment opportunities in nature-based solutions

Expectations high for carbon pricing in updated PRI policy forecast

Latest Inevitable Policy Response also has high hopes for Biden

responsible investor

BusinessGreen

'Forceful and accelerated': Top investor body predicts global climate policy response

IPE

NEWS

US carbon price scheme announced by 2025 in new IPR-for-PRI forecast

BY SUSANNA RUST | 29 MARCH 2021

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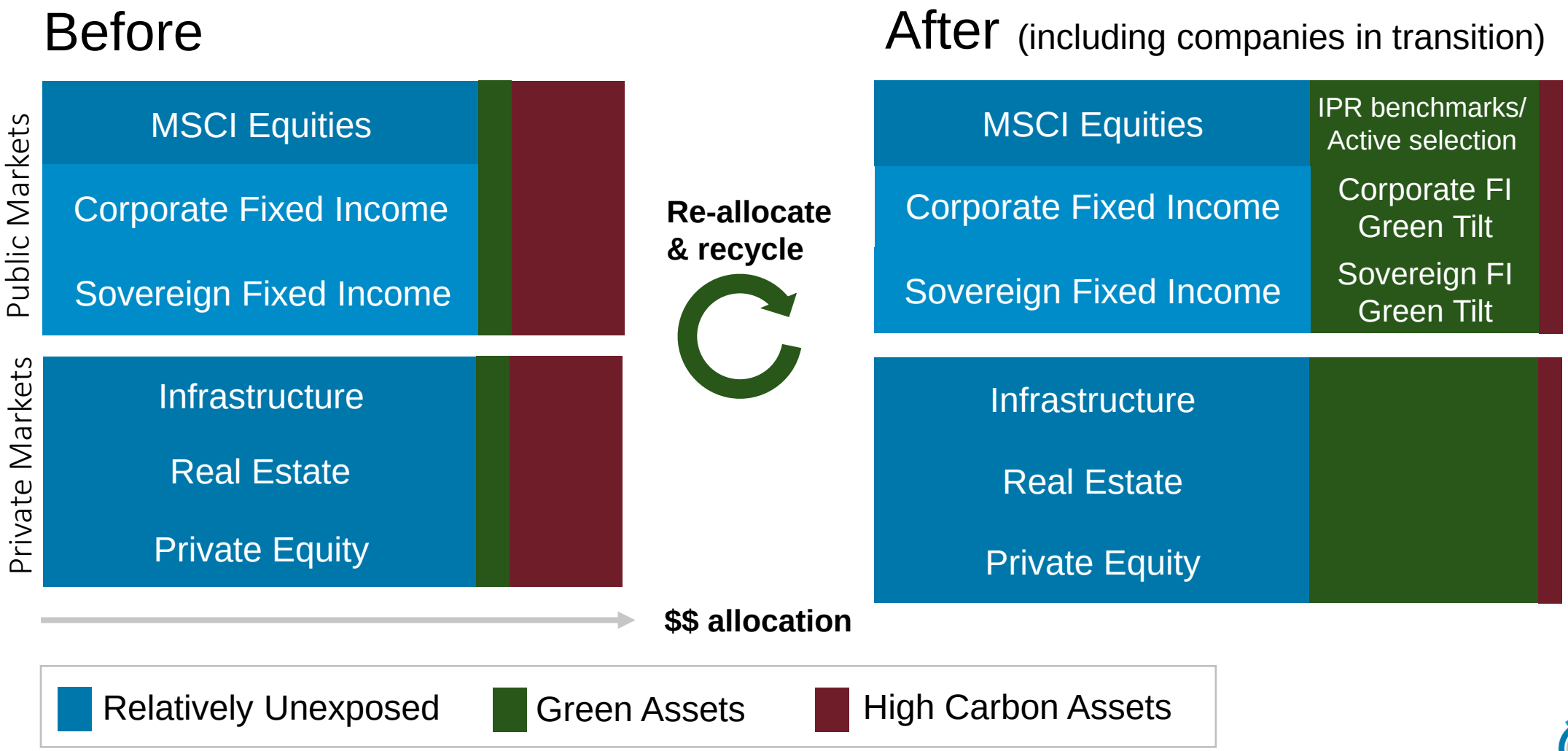
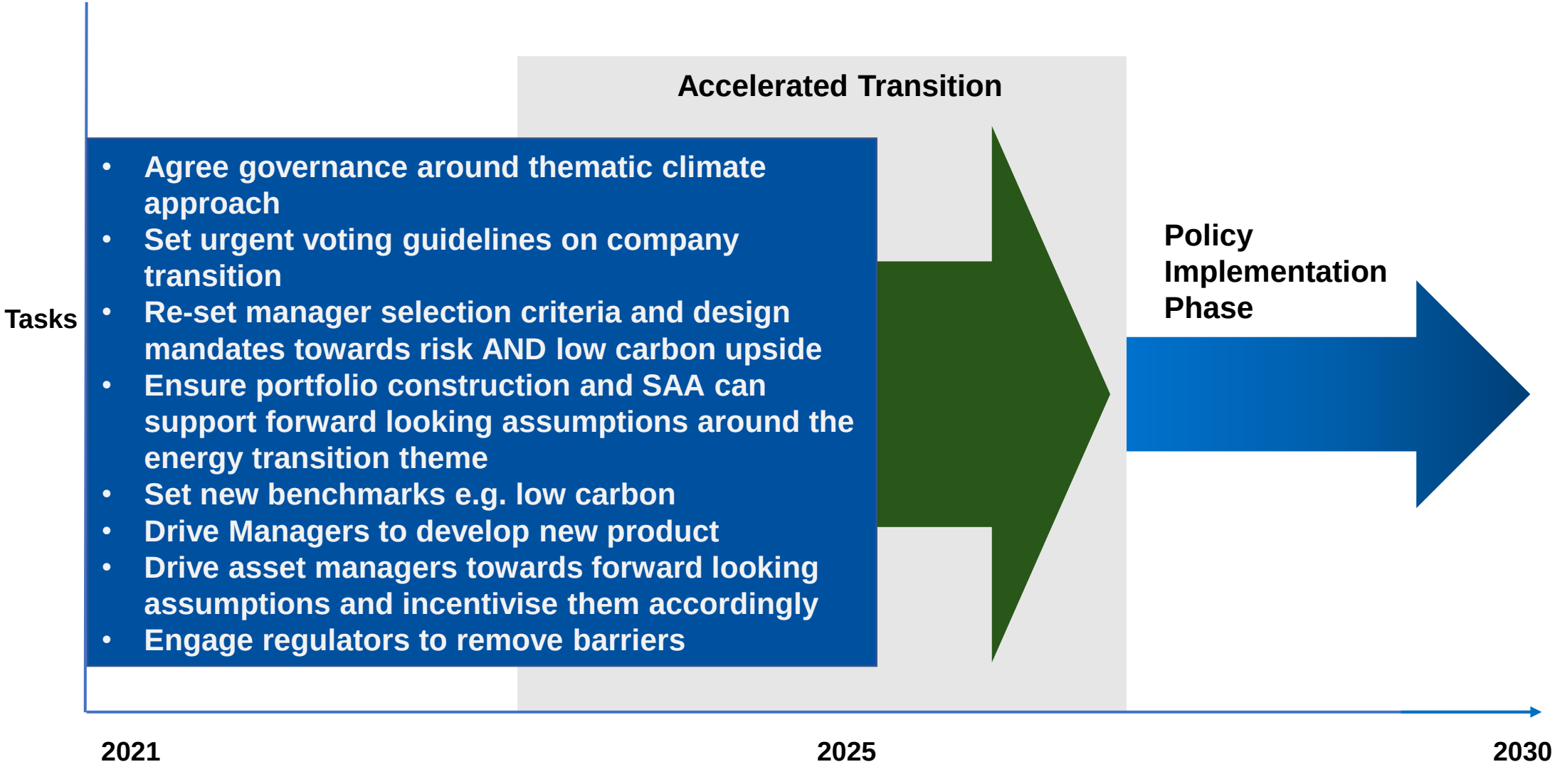
Stick to the fundamentals - Recycle capital from high to low carbon assets now



Asset Owner IPR Transition Tasks – Almost every core process impacted



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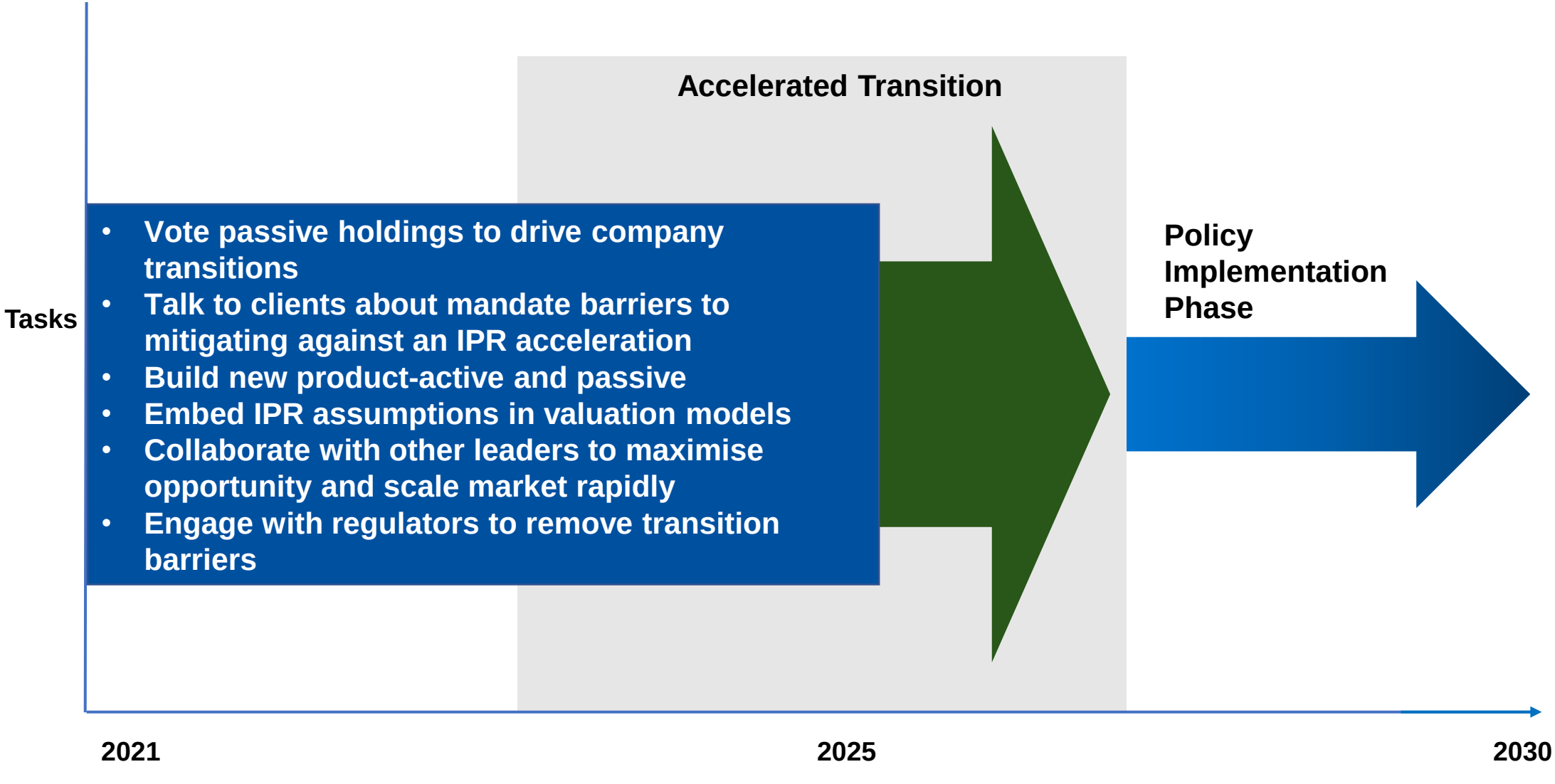

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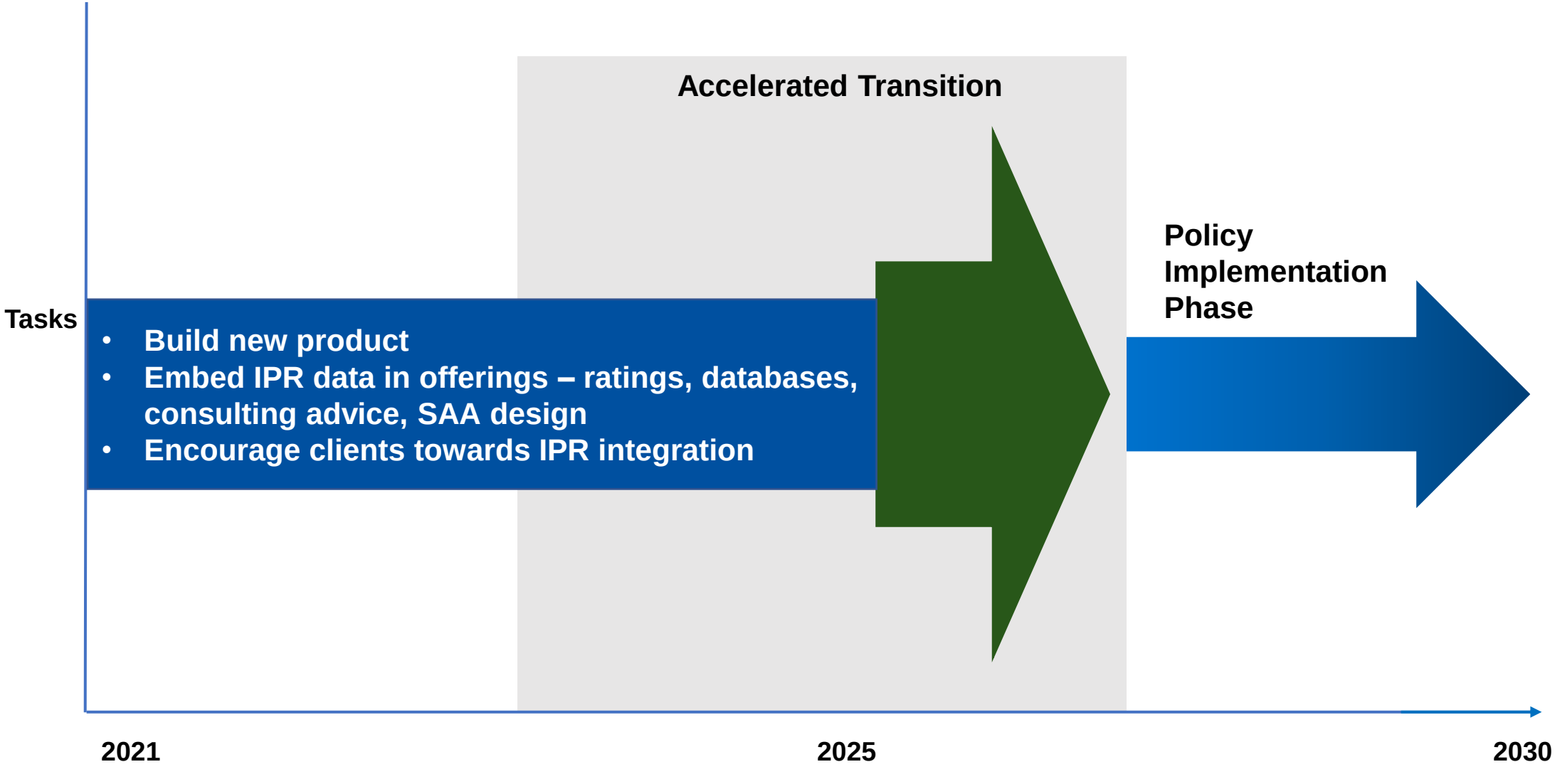


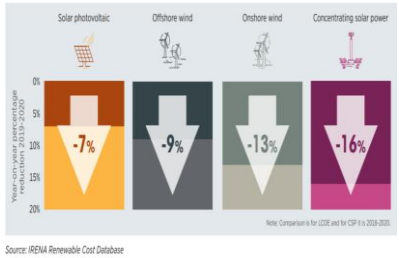
IPR FPS 2021 Policy Forecasts

Drivers of momentum makes an accelerated forceful policy response more likely

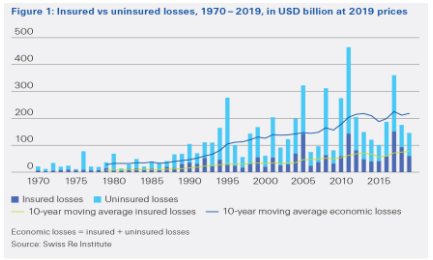
Extreme weather events

Impacts on security

Cheaper renewable energy



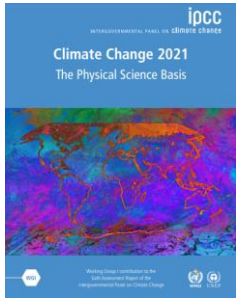
Uninsurable world



Civil society action

Financial regulator warnings on stability

New climate research



Influence shifting

Climate Action 100+
Global Investors Driving Business Transition

New geopolitics of energy

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Timing: Paris Ratchet process triggers a cumulating policy response into 2025

2021

Countries communicate their updated or 2nd round of climate pledges

2023

Global stocktake on climate, mitigation and finance

2025

Countries submit their 3rd round of climate pledges (NDCs)

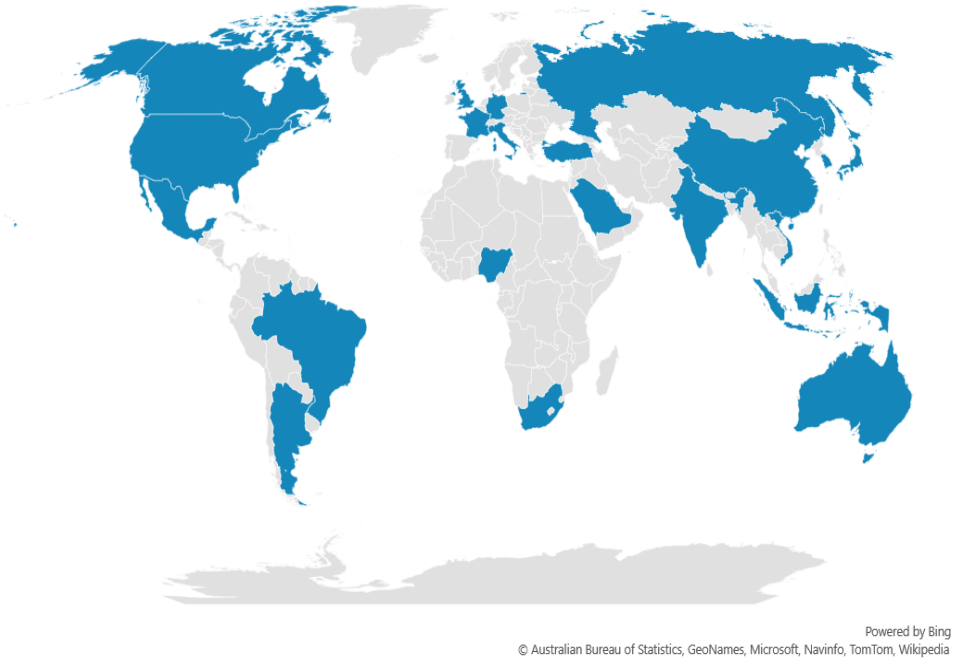
2028

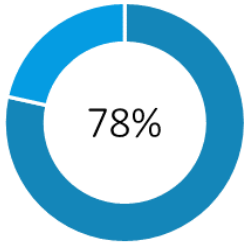
Second global stocktake

Policy announcements are expected to accelerate in 2023-2025

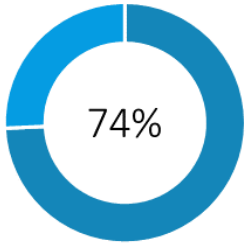
INEVITABLE POLICY RESPONSE

The IPR Forecast Policy Scenario (FPS) covers 21 major economies

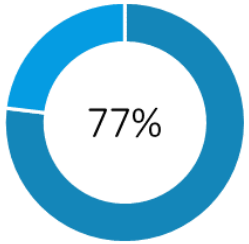




of economic activity



of energy use



of CO_2 emissions

- EU, China and US setting the global tone on many policies
- Carbon border adjustment mechanisms (CBAM) that help to transmit policies across countries
- Realistic catch-up trajectories for followers and laggards, including emerging markets
- Key markets: G20 countries plus Nigeria

Note: the Forecast Policy Scenario has full global coverage, informed by the policy forecast in 21 major economies

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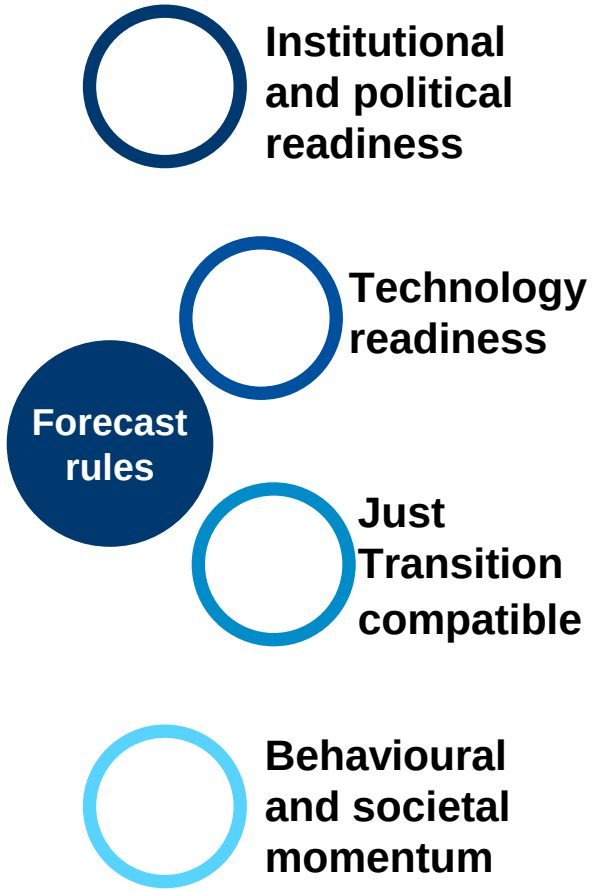
The IPR FPS covers key economic sectors

The IPR FPS is a realistic forecast accounting for key constraints

Realistic policy impacts → no carbon or temperature constraint → no hidden assumptions about negative emissions



- Based on momentum of recent action and existing commitments
- Expects significant but not fully coordinated international collaboration

- Only technologies that are at the beginning of commercial deployment are considered for at-scale ramp-up by 2025-2035

- Policies in the FPS are not expected to create sudden shifts in food prices, or government-forced stranding of assets in poor countries

- Behavioral barriers are accounted for in the FPS
- Degree of urgency puts IPR at leading edge of past behavioral transitions

INEVITABLE POLICY RESPONSE

What drives our Forecast (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

INEVITABLE POLICY RESPONSE

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

INEVITABLE POLICY RESPONSE

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

Structured evidence driven process

IPR 2019 policy forecast

The starting point for our analysis

Expert survey

Extensive survey of 200+ leading experts in national climate policy eliciting views on policy action across all major economies and emitting sectors

Policy update

Detailed review of key climate policy developments in all major countries through 2020

Policy drivers

Careful analysis of the factors likely to drive policy action and their evolution through 2020

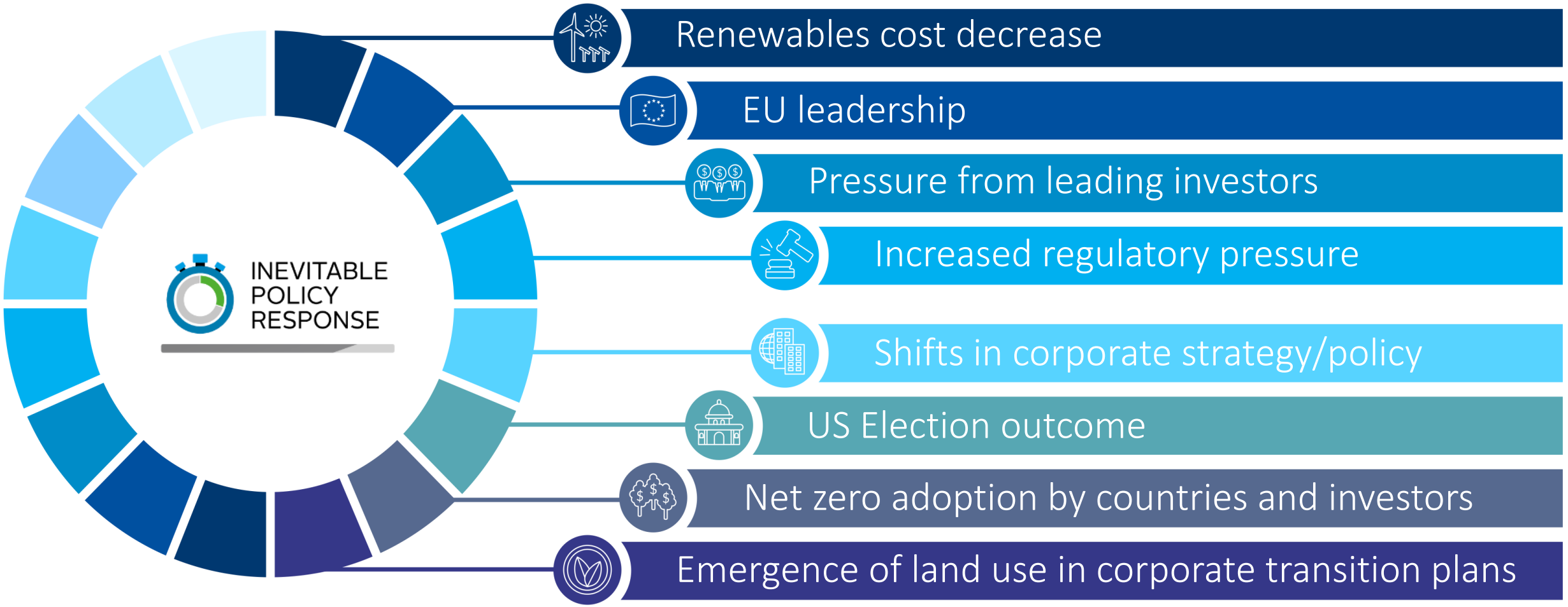
Outputs

IPR 2021 Policy Forecast update

High-conviction forecast of climate policy response across all major economies over the next five years

INEVITABLE POLICY RESPONSE

How has the IPR 2019 Forecast been validated?



INEVITABLE POLICY RESPONSE

IPR 2021 forecasts higher policy ambition across eight key policy levers

Carbon pricing

- Carbon taxes
- Emissions trading systems
- Border carbon adjustments

Coal phase-out

- Prohibiting regulations
- Emissions performance standards
- Electricity market reforms

100% clean power

- 100% clean power targets
- Renewables capacity auctions and other support policies

Zero emission vehicles

- 100% zero emission vehicle (ZEV) sales legislation
- Manufacturer ZEV obligations
- ZEV consumer subsidies

Low-carbon buildings

- Prohibiting regulations for fossil fuel heating systems
- Purchase subsidies for low-carbon heating systems
- Thermal efficiency regulations for new build and retrofit
- Minimum energy performance standards for new appliances

Clean industry

- Emissions performance standards for industrial plant
- Subsidy for new or retrofit clean industrial processes

Low-emissions agriculture

- 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

Forestry

- 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

Source: Vivid Economics

INEVITABLE POLICY RESPONSE

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%**

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What's new since March 2021

The IPR seeks to better drive investor action to avoid and manage climate-related policy risks by providing a high-conviction policy-based forecast of forceful policy response to climate change and implications for energy, agriculture and land use across major global economies

- In March 2021 we published a thoroughly revised and updated set of policy forecasts (IPR 2021 Policy Forecast – Detailed Resource), reflecting detailed research on current and proposed policies, with input from a global survey of experts to form the basis for the new Forecast Policy Scenario released in October 2021
- Since we published our main updates to our policy forecasts in March 2021 there have been a number of policy announcements and other considerations (e.g. assessment of level of ambition in updated NDCs) we have incorporated into our Forecast Policy Scenario results (policy forecast update)
- Notably, we believe that for many emerging and developing countries 2060 is the more likely date for full 100% clean power deployment and coal phase out, in line with any 2060 net zero year targets if they emerge
- Of our Top 10 Forecasts, only the phase out of coal in the US has been extended to 2035 from 2030 on further reflection. There is no significant impact on emissions
- At the time of publishing, the outcome of the US budget reconciliation is still in the balance. We believe if it is watered down, regulatory and state level action as well as cost competitiveness of key technologies (e.g. renewables and electric vehicles) still support our overall expectations for the US pathway to net zero

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We have added four new policy areas into the FPS for 2021

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

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IPR 2021 top ten policy forecasts: 1-5

Carbon pricing	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 by 2025 and signal a strong carbon price path to reach a backstop of $65 by 2030.
	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.
Coal	3.	In India, rapidly evolving Indian policy and prospects for market reforms and pricing has already ended further investment in new coal.
	4.	China will end construction of new coal fired power production after 2025, driven by new policies to facilitate its 2060 net zero target, geopolitical trends and risk considerations*
	5.	The United States will end all coal-fired power generation by 2035, through a combination of emission performance standards and carbon pricing at the Federal and State levels, combined with market forces.

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*Reinforced by China's recent announcement, along with Japan and Korea, to end financing of overseas coal projects

IPR 2021 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 2035, with domestic policy responding to international climate finance and corporate supply chain pressures.

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IPR RPS 2021 Policy Requirements Highlights

Policy methodology for the IPR 1.5°C RPS

Our analysis allows us to pinpoint what key sectors require to achieve an outcome consistent with 1.5°C

- We assume carbon prices to be similar to IPR FPS 2021 levels, as the extremely rapid transition required to achieve 1.5°C RPS will be challenging to achieve through carbon pricing mechanisms beyond what is already expected in the IPR FPS 2021
- What drives the additional impact of the RPS is performance standards (bans) or more direct subsidies driven by policymakers rather than higher carbon pricing or more rapid development of carbon markets
- These further policies would need to be announced as quickly as possible and certainly by the 2023 stocktake
- Implementation is required immediately upon announcement

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Policies with the greatest 2020-2050 Gt reduction between IPR 1.5°C RPS and IPR FPS 2021

Rank	Policy	Country	IPR 1.5°C RPS vs IPR FPS 2021 Gt reduction
1	Coal phase out	China	40.0
2	End deforestation and NBS	Sub-Saharan Africa, South East Asia and Latin America	19.0
3	100% clean industry	China	19.0
4	Coal phase out	India	14.1
5	100% clean industry	India	8.3
6	100% clean industry	MENA	7.2
7	100% clean power	MENA	6.7
8	Fossil vehicle phase out	China	6.3
9	Coal phase out	Indonesia	5.4
10	100% clean industry	South East Asia	5.2

Reduction is substantial for OECD countries e.g. for the United States accelerated 1.5°C RPS policies deliver:

- 20 $GtCO_2$ reduction beyond FPS across all policies
- 4.9 $GtCO_2$ reduction beyond FPS for 100% clean industry policy

Reduction is substantial for methane and nitrous oxide emissions that result from accelerated 1.5°C RPS policies related to animal protein demand:

- 24 $GtCO_2eq$ reduction beyond FPS across all countries
- 4.3 $GtCO_2eq$ reduction beyond FPS in India alone

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Note: Emissions reductions are approximate and include some additional sector-specific CO_2 reductions such as energy efficiency

Global coal phase out by 2045 requires immediate policy action

Phase out of existing unabated coal

	Timeline									annual reduction*	
	2020	2025	2030	2035	2040	2045	2050	2055	2060	RPS	FPS
AU			RPS		FPS					10%	5%
BRA				RPS		FPS				7%	4%
CAN		RPS	FPS							20%	10%
CHI				RPS		FPS				7%	4%
CSA				RPS		FPS				7%	4%
EEU			RPS		FPS					10%	5%
EURA						RPS			FPS	4%	3%
GCC						RPS			FPS	4%	3%
IND						RPS			FPS	4%	3%
INDO						RPS			FPS	4%	3%
JAP				RPS		FPS				7%	4%
MENA						RPS			FPS	4%	3%
RU						RPS			FPS	4%	3%
SA						RPS			FPS	4%	3%
SAF				RPS	FPS					7%	5%
SEAO						RPS			FPS	4%	3%
SK				RPS		FPS				7%	4%
SSA						RPS			FPS	4%	3%
UK		Both								20%	20%
USA			RPS	FPS						10%	7%
WEU			RPS		FPS					10%	5%

** reduction in coal generation as a share of 2020 levels*

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100% clean power can be achieved with immediate policy action if taken now

100% clean power

	Timeline									annual reduction*	
	2020	2025	2030	2035	2040	2045	2050	2055	2060	RPS	FPS
AU					RPS		FPS			5%	3%
BRA					RPS		FPS			5%	3%
CAN			RPS	FPS						10%	7%
CHI					RPS		FPS			5%	3%
CSA					RPS		FPS			5%	3%
EEU				RPS		FPS				7%	4%
EURA						RPS			FPS	4%	3%
GCC						RPS			FPS	4%	3%
IND						RPS			FPS	4%	3%
INDO						RPS			FPS	4%	3%
JAP				RPS		FPS				7%	4%
MENA						RPS			FPS	4%	3%
RU						RPS			FPS	4%	3%
SA						RPS			FPS	4%	3%
SAF				RPS	FPS					7%	5%
SEAO						RPS			FPS	4%	3%
SK				RPS		FPS				7%	4%
SSA						RPS			FPS	4%	3%
UK				RPS	FPS					7%	5%
USA				RPS	FPS					7%	5%
WEU				RPS		FPS				7%	4%

** reduction in power CO2 emissions as a share of 2020 levels*

INEVITABLE POLICY RESPONSE

Light duty vehicles: new fossil vehicles must be phased out between 2030 and 2045, five years earlier than under IPR FPS 2021 policies

Fossil vehicle phase out (light duty)

	Timeline									annual reduction*	
	2020	2025	2030	2035	2040	2045	2050	2055	2060	RPS	FPS
AU				RPS	FPS					7%	5%
BRA					RPS	FPS				5%	4%
CAN			RPS	FPS						10%	7%
CHI			RPS	FPS						10%	7%
CSA				RPS	FPS					7%	5%
EEU			RPS	FPS						10%	7%
EURA					RPS	FPS				5%	4%
GCC					RPS	FPS				5%	4%
IND				RPS	FPS					7%	5%
INDO				RPS	FPS					7%	5%
JAP				RPS	FPS					7%	5%
MENA				RPS	FPS					7%	5%
RU					RPS	FPS				5%	4%
SA						RPS	FPS			4%	3%
SAF				RPS	FPS					7%	5%
SEAO				RPS	FPS					7%	5%
SK			RPS	FPS						10%	7%
SSA						RPS	FPS			4%	3%
UK			Both							10%	10%
USA				RPS	FPS					7%	5%
WEU			RPS	FPS						10%	7%

** reduction in fossil vehicle sales as a share of 2020 levels*

INEVITABLE POLICY RESPONSE

Heavy duty vehicles: new fossil vehicles must be phased out between 2035 and 2050, five years earlier than under IPR FPS 2021 policies

Fossil vehicle phase out (heavy duty)

	Timeline									annual reduction*	
	2020	2025	2030	2035	2040	2045	2050	2055	2060	RPS	FPS
AU					RPS	FPS				5%	4%
BRA					RPS	FPS				5%	4%
CAN					RPS	FPS				5%	4%
CHI				RPS	FPS					7%	5%
CSA					RPS	FPS				5%	4%
EEU				RPS	FPS					7%	5%
EURA						RPS	FPS			4%	3%
GCC						RPS	FPS			4%	3%
IND					RPS	FPS				5%	4%
INDO					RPS	FPS				5%	4%
JAP				RPS	FPS					7%	5%
MENA					RPS	FPS				5%	4%
RU						RPS	FPS			4%	3%
SA							RPS	FPS		3%	3%
SAF					RPS	FPS				5%	4%
SEAO					RPS	FPS				5%	4%
SK				RPS	FPS					7%	5%
SSA							RPS	FPS		3%	3%
UK				Both						7%	7%
USA					RPS	FPS				5%	4%
WEU				RPS	FPS					7%	5%

** reduction in fossil vehicle sales as a share of 2020 levels*

INEVITABLE POLICY RESPONSE

Industry: the sector has a 30-year transition opportunity to net zero

100% clean industry

	Timeline									annual reduction*	
	2020	2025	2030	2035	2040	2045	2050	2055	>2060	RPS	FPS
AU							RPS		FPS	3%	2%
BRA								RPS	FPS	3%	2%
CAN							RPS		FPS	3%	2%
CHI								RPS	FPS	3%	2%
CSA								RPS	FPS	3%	2%
EEU							RPS		FPS	3%	2%
EURA								RPS	FPS	3%	2%
GCC								RPS	FPS	3%	2%
IND								RPS	FPS	3%	2%
INDO								RPS	FPS	3%	2%
JAP							RPS		FPS	3%	2%
MENA								RPS	FPS	3%	2%
RU								RPS	FPS	3%	2%
SA								RPS	FPS	3%	2%
SAF							RPS		FPS	3%	2%
SEAO								RPS	FPS	3%	2%
SK							RPS		FPS	3%	2%
SSA								RPS	FPS	3%	2%
UK							RPS		FPS	3%	2%
USA							RPS		FPS	3%	2%
WEU							RPS		FPS	3%	2%

** reduction in industry CO2 emissions as a share of 2020 levels*

INEVITABLE POLICY RESPONSE

Buildings: new fossil heating systems must be phased out globally by 2040, and by 2030 in regions with large heating needs

New fossil heating system phase out

	Timeline									annual reduction*	
	2020	2025	2030	2035	2040	2045	2050	2055	2060	RPS	FPS
AU			RPS	FPS						10%	7%
BRA					RPS		FPS			5%	3%
CAN			RPS	FPS						10%	7%
CHI					RPS	FPS				5%	4%
CSA				RPS	FPS					7%	5%
EEU			RPS	FPS						10%	7%
EURA					RPS		FPS			5%	3%
GCC					RPS		FPS			5%	3%
IND					RPS		FPS			5%	3%
INDO					RPS		FPS			5%	3%
JAP				RPS	FPS					7%	5%
MENA					RPS		FPS			5%	3%
RU					RPS		FPS			5%	3%
SA					RPS		FPS			5%	3%
SAF			RPS	FPS						10%	7%
SEAO					RPS		FPS			5%	3%
SK				RPS	FPS					7%	5%
SSA					RPS		FPS			5%	3%
UK			RPS	FPS						10%	7%
USA				RPS	FPS					7%	5%
WEU			RPS	FPS						10%	7%

** reduction in fossil heating system sales as a share of 2020 levels*

INEVITABLE POLICY RESPONSE

The 1.5°C RPS is designed to keep global warming below 1.5°C and incorporates more aggressive assumptions driven by stronger policies

Main message

- IPR 1.5°C RPS is driven by stronger interventions than the IPR FPS 2021
- **Strong government intervention anticipated in the meat market,** with substantial support for the cellular agriculture industry (e.g. subsidies) alongside regulation which limits animal protein consumption
- Environmental impact expected to be a primary concern for consumers when making consumption choices, following government education programs

Demand shape	Consumer preferences	Technology availability	Regulation
Peak animal meat 2030, substantial fall by 2050 globally	Strong consumer preference for lower environmental impact influenced by government education leads to shift away from animal meat consumption	High rate of technological progress driven by government intervention, with plant-based meat reaching cost parity with low grade meat in 2025 and cell-based meat becoming price competitive in the 2030s	Highly interventionist regulation, approval of cellular agriculture globally

INEVITABLE POLICY RESPONSE

Ending deforestation by 2025 in 1.5°C RPS and 2030 in IPR FPS 2021 will require immediate policy action

Deforestation of natural forest halted through strong and effective command and control policy

Countries/region like CAN, GCC, JAP, SA, SK, UK have virtually zero net deforestation

End of deforestation				Change in forest cover 2020-2050 (m ha)	
	2020	2025	2030	IPR FPS 2021	IPR 1.5C RPS
AU		FPSRPS		3	3
BRA		RPS	FPS	12	16
CAN	FPSRPS			1	1
CHI		RPS	FPS	92	92
CSA		RPS	FPS	10	14
EEU		FPSRPS		4	4
EURA		RPS	FPS	1	2
GCC	FPSRPS			0	0
IND		RPS	FPS	13	13
INDO		RPS	FPS	2	6
JAP	FPSRPS			0	0
MENA		RPS	FPS	-1	1
RU		RPS	FPS	1	2
SA	FPSRPS			0	0
SAF		RPS	FPS	0	1
SEAO		RPS	FPS	3	11
SK	FPSRPS			0	0
SSA		RPS	FPS	0	15
UK	FPSRPS			1	1
USA		FPSRPS		17	17
WEU		RPS	FPS	11	12

Carbon pricing and NDC commitments combine to stop net deforestation by 2030

INEVITABLE POLICY RESPONSE

Achieving 1.5°C RPS animal meat consumption reductions requires a shift in policy acceleration of five years compared to the IPR FPS 2021

						Reduction in per capita meat consumption* 2020-2050 (%)	
	2020	2025	2030	2035	2040	IPR FPS 2021	IPR 1.5C RPS
AU		RPS	FPS			42	51
BRA		RPS	FPS			38	48
CAN		RPS	FPS			43	52
CHI				FPSRPS		35	45
CSA		RPS	FPS			34	45
EEU		RPS	FPS			40	50
EURA			RPS	FPS		30	42
GCC			RPS	FPS		25	37
IND			RPS	FPS		0	14
INDO			RPS	FPS		18	31
JAP		RPS	FPS			40	50
MENA			RPS	FPS		28	39
RU		RPS	FPS			36	46
SA			RPS	FPS		6	22
SAF			RPS	FPS		-13	6
SEAO			RPS	FPS		20	33
SK		RPS	FPS			40	50
SSA					FPSRPS	-13	6
UK		RPS	FPS			41	50
USA		RPS	FPS			42	51
WEU	RPS	FPS				40	50

*kcal per person

Large drop in SSA happens post 2035

INEVITABLE POLICY RESPONSE

Thank you!

Please see PRI website for further details:

https://www.unpri.org/climate-change/what-is-the-inevitable-policy-response/4787.article

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