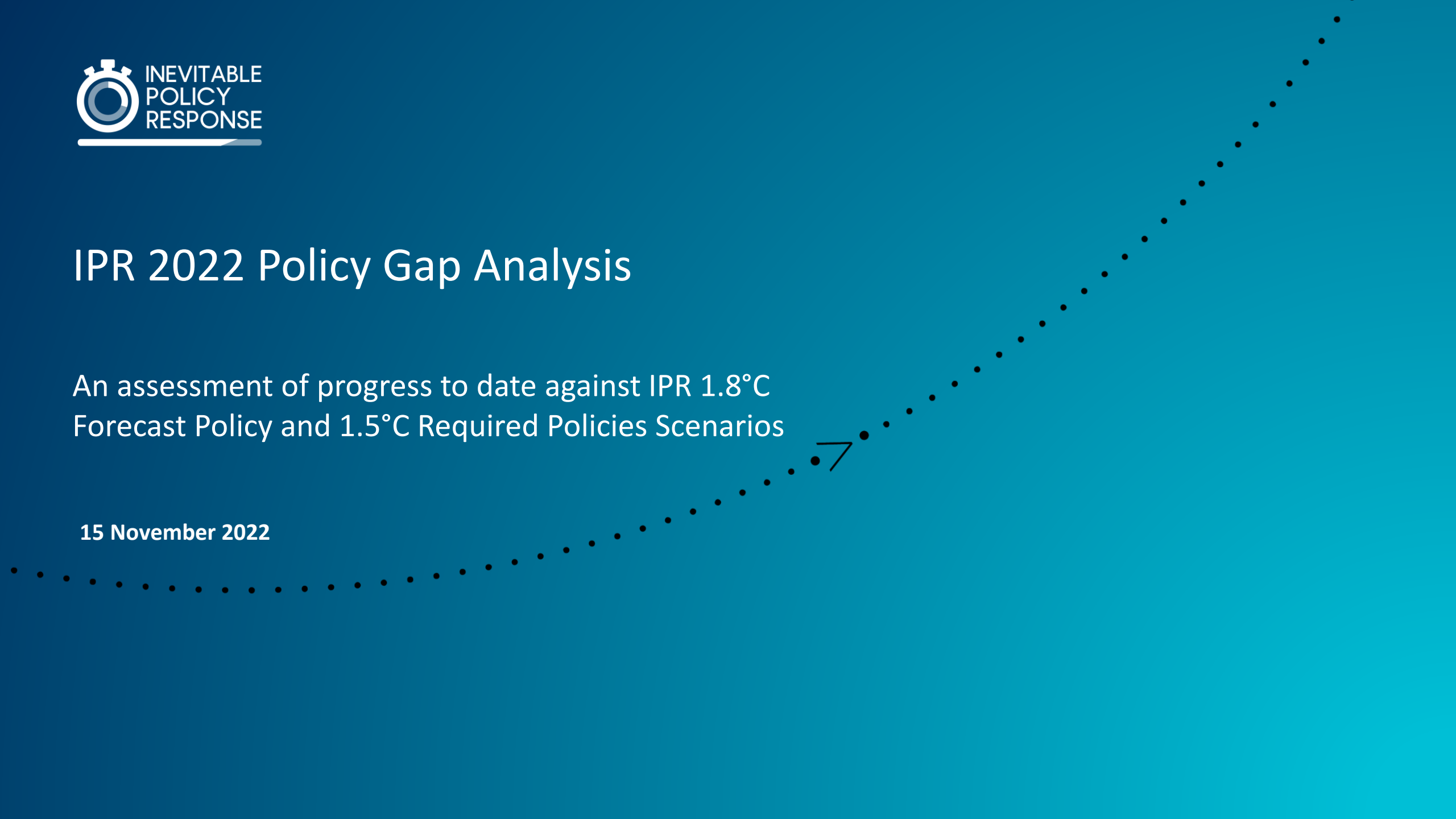


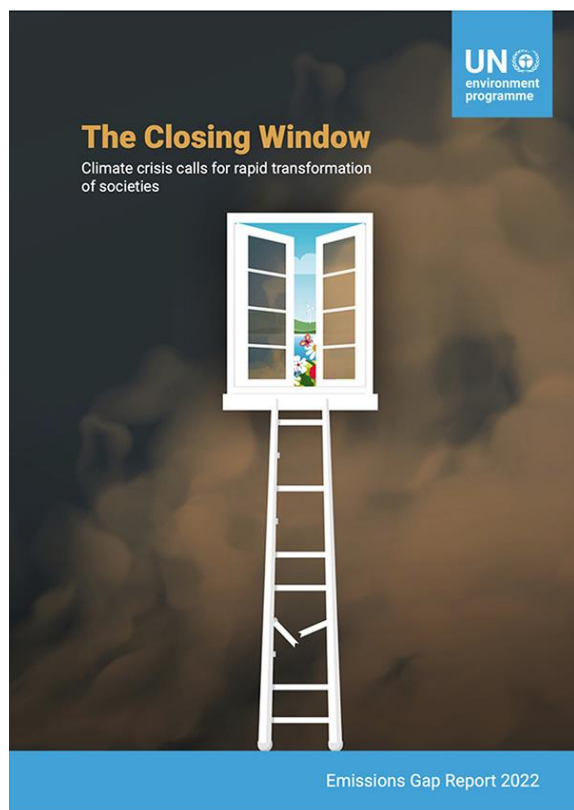
IPR 2022 Policy Gap Analysis

An assessment of progress to date against IPR 1.8°C
Forecast Policy and 1.5°C Required Policies Scenarios

15 November 2022



No 'credible pathway' to 1.5°C limit, UNEP warns^{1 2 3}



UNEP Emissions Gap report shows countries' new and updated nationally determined contributions (NDCs) submitted since COP 26 reduce projected global greenhouse gas (GHG) emissions in 2030 by only 0.5 gigatons of CO₂ equivalent (GtCO₂e), compared with emissions projections based on mitigation pledges at the time of COP 26.

This year's report tells us that unconditional NDCs point to a 2.6°C increase in temperatures by 2100, far beyond the goals of the Paris Agreement. Existing policies point to a 2.8°C increase, highlighting a gap between national commitments and the efforts to enact those commitments.

"In the best-case scenario, full implementation of unconditional NDCs and additional net-zero emissions commitments point to only a 1.8°C increase, so there is hope. However, this scenario is not currently credible based on the discrepancy between current emissions, short-term NDC targets and long-term net-zero targets," UNEP said.

Specifically, the IPCC *Mitigation of Climate Change* report (2022b)⁴ finds that GHG emissions levels by 2030 associated with the implementation of NDCs, imply that mitigation after 2030 can no longer establish a pathway that limits global warming to 1.5°C during the twenty-first century without significant overshoot, and that returning to below 1.5°C in 2100 is infeasible for some scenarios (IPCC 2022b).

To get on track to limiting global warming to 1.5°C, we would need to cut 45 per cent off current greenhouse gas emissions by 2030. "It is a tall, and some would say impossible order, to reform the global economy and almost halve greenhouse gas emissions by 2030, but we must try," said UNEP Executive Director Inger Andersen. "Every fraction of a degree matters: to vulnerable communities, to species and ecosystems, and to every one of us."

Rapid and lasting emissions cuts are needed in food production industries too, as this accounts for about a third of greenhouse gases, UNEP continued.

It noted that action in four areas - protection of natural ecosystems, dietary changes, improvements in farm food production and decarbonization of food supply chains – would reduce food system emissions by 2050 to around a third of current levels.

1. <https://news.un.org/en/story/2022/10/1129912>

2. UNEP (2022). Emissions Gap Report 2022: The Closing Window — Climate crisis calls for rapid transformation of societies. Nairobi. <https://www.unep.org/emissions-gap-report-2022><https://www.unep.org/resources/emissions-gap-report-2022>

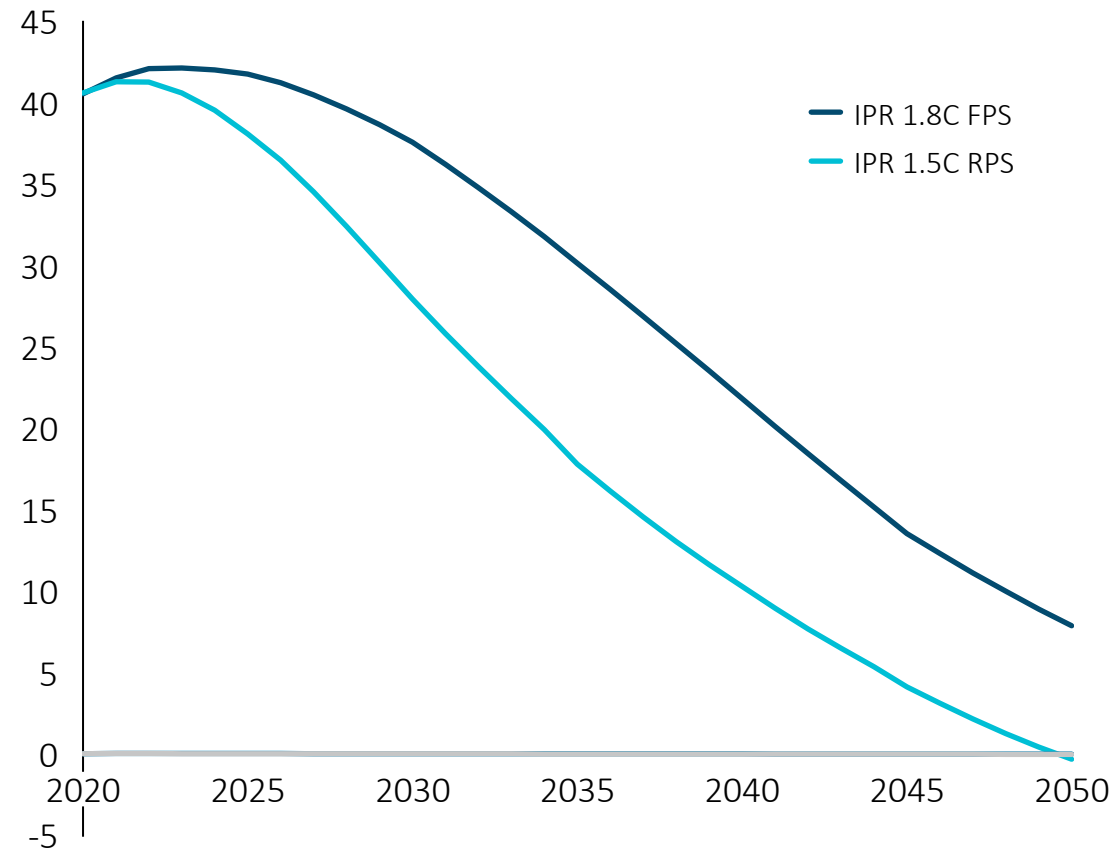
3. Note UNEP report uses 66% to convey the probability of meeting temperature limits

4. Intergovernmental Panel on Climate Change (2022b). Climate Change 2022: Mitigation of Climate Change. Working Group III Contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Geneva. <https://www.ipcc.ch/report/ar6/wg3/>

IPR Policy Gap Analysis assesses progress to date against the Inevitable Policy Response scenarios in the years preceding the 2025 Ratchet

Inevitable Policy Response 1.8°C FPS and 1.5°C RPS scenarios (based on 50% probability)

Billion metric tons CO₂-equivalent (MtCO₂e)



This report builds upon IPR [2022 Quarterly Forecast Trackers](#) which assess quarterly global policy, technology and land use developments driving the energy and land transition. The QFT will form the basis along with this document for a full policy review in 2023.

This analysis provides a sector-by-sector assessment of policy developments across the G20+ economies.

Progress is assessed against the **IPR 1.8°C Forecast Policy Scenario**, a high-conviction policy-based forecast of forceful policy response and implications for energy, agriculture and land use where global emissions fall by 80% in 2050 to hold warming well below 2°C.

The **IPR 1.5°C Required Policy Scenario (no overshoot)**, requires a massive acceleration in policy ambition particularly in the non-OECD. While technically feasible, no political pathway is currently evident that would deliver “1.5°C no overshoot”.

Key messages: The FPS 1.8°C scenario¹, where policy ambition will be ratcheted up by 2025, is still in reach



Policy developments

- Since the revised IPR policy scenarios were published a year ago, several significant policies have emerged that are largely supportive of the **1.8°C FPS trajectory**, where policy announcements accelerate between 2023-2025 in advance of countries submitting the 3rd round of NDCs.
 - With the **EU Fit for 55 package**, the passage of the **US Inflation Reduction Act** and **recent legislation in Australia** there is now increased confidence in momentum towards a IPR 1.8°C FPS path in majority of OECD economies. Under the IPR **1.8°C FPS**, the **OECD reaches net zero in 2050**.
 - In **non-OECD countries** emission reductions are forecast to be slower due to rapid growth in energy demand and later net zero target timelines. Even so policy ambition continues to build in China along with new supportive announcements from India, Mexico and Nigeria. Where gaps exist, increased international climate finance will need to be mobilized to unlock further climate action.
- While tracking momentum towards 1.8°C based on the IPR methodology, given the situation in the non-OECD, international climate policies and action are **falling well short of 1.5°C RPS** (no overshoot). IPR believes that currently it remains politically feasible to deliver on well below 2°C.



Technology and land use developments

- Multiple announcements confirm or suggest an **acceleration in innovation and technology adoption** particularly in low-carbon power generation. EV deployment continues to outpace IPR forecasts as battery costs fall. Major new investments in green hydrogen have also been announced.
- **Hard-to-abate sectors** such as **heavy industry** are **lagging** although expanded incentives and ambition for CCUS and hydrogen could unlock significant investment in low-carbon plant this decade. Policy action, including via pricing mechanisms, may need to be more aggressive to offset costs.
- Recent deforestation trends in Brazil have reduced prospects for a 1.5°C aligned end to net deforestation by 2025. The end to net deforestation by 2030 from major tropical forest countries and deployment of nature-based solutions are crucial for limiting warming being held well below 2°C. The election of Lula De Silva in Brazil is a crucial positive outcome.

1. 1.8 ° C with 50% probability. At 66% this equates to around 2°C

IPR Quarterly Forecast Tracker methodology



IPR categorizes policy announcements according to the following:

- **Legislated** covers any enforceable or funded policy from policymakers or regulators¹
- **Announced** but not yet legislated
- **FPS policy gap** indicates that specific forecast has not been addressed to date



Legislated or announced policies can:

- **Be supportive** of IPR policy forecasts, but where further strengthening of policies may be required
- **Be confirmatory**, or align closely with 1.8°C FPS forecast thereby moving the forecast into current policies
- Signal an **acceleration** or **deceleration** in policy forecast



In addition to legislated policy, IPR policy forecasts rest on a view that selected announced policies that are supportive or confirmatory will either become directly legislated or impact the real-world economy.

On top of this the IPR 1.8C FPS forecasts policies expected but not yet announced.

The IPR FPS Policy Forecast therefore goes beyond NDCs, and current policy commitments and ambitions.

1. This includes significant announcements from governments such as China

Policy developments supporting IPR 1.8°C FPS across G20+ economies¹

- Under IPR scenarios, ambitious policies accelerate between 2023-2025
- Policy response is more delayed in non-OECD economies, reflecting rapid energy growth and later net zero targets
- Any observable gaps to be closed by 2025 Paris Ratchet



	Carbon markets	Coal phase-outs	Clean power	Clean LDVs	Clean HDVs	Zero-carbon heating	Clean industry	Agriculture	Forestry
China	Announced	FPS policy gap	Announced	Legislated	Legislated	Announced	Announced	Announced	Announced
United States	FPS policy gap	FPS policy gap	Legislated	Legislated	Announced	Announced	Announced	Announced	Announced
European Union	Legislated	Announced	Legislated	Legislated	Legislated	Legislated	Announced	Announced	Announced
India	Announced	Announced	Legislated	Legislated	Announced	n/a	Announced	Announced	Announced
Russia	FPS policy gap	FPS policy gap	FPS policy gap	Announced	FPS policy gap	FPS policy gap	FPS policy gap	FPS policy gap	Pledged
Japan	Announced	Announced	Announced	Legislated	Announced	FPS policy gap	Announced	Announced	Pledged
Canada	Legislated	Legislated	Legislated	Legislated	Announced	Announced	Legislated	Announced	Announced
South Korea	Legislated	Announced	Announced	Announced	Announced	FPS policy gap	FPS policy gap	FPS policy gap	Legislated
Indonesia	Announced	Announced	FPS policy gap	Announced	FPS policy gap	n/a	FPS policy gap	Pledged	Pledged
Saudi Arabia	FPS policy gap	n/a	Announced	Announced	FPS policy gap	n/a	FPS policy gap	n/a	n/a
Brazil	Announced	FPS policy gap	Legislated	Announced	FPS policy gap	n/a	FPS policy gap	Pledged	Announced
Mexico	Announced	FPS policy gap	FPS policy gap	Announced	FPS policy gap	n/a	FPS policy gap	Announced	Announced
Australia	Announced	Announced	Announced	Announced	Announced	Announced	Announced	Legislated	Legislated
South Africa	Legislated	Announced	Announced	FPS policy gap	FPS policy gap	FPS policy gap	FPS policy gap	FPS policy gap	FPS policy gap
Turkey	FPS policy gap	FPS policy gap	Announced	FPS policy gap	FPS policy gap	FPS policy gap	FPS policy gap	Announced	Announced
United Kingdom	Legislated	Legislated	Announced	Announced	Announced	Announced	Announced	Announced	Announced
Vietnam	Announced	Announced	Legislated	FPS policy gap	FPS policy gap	n/a	FPS policy gap	Announced	Announced
Argentina	Legislated	FPS policy gap	FPS policy gap	Announced	FPS policy gap	FPS policy gap	FPS policy gap	Pledged	Announced
Nigeria	Announced	Announced	Announced	FPS policy gap	FPS policy gap	n/a	FPS policy gap	Pledged	Announced

1. Based on major announcements and developments tracked in IPR 2021 Policy Forecast Detailed resource (March 2021) and 2022 QFTs: <https://www.unpri.org/inevitable-policy-response/the-inevitable-policy-response-2022-quarterly-forecast-trackers/9910.article>
 Notes: Countries/regions ranked by current emissions (EDGAR, IEA). n/a indicates sectoral policy forecast not relevant to regional forecast (e.g. for zero-carbon heating, space heating less relevant in certain jurisdictions). See slides 21-28 for a detailed sector-by-sector assessment. While this table focuses on policy developments, IPR scenarios also account for technology and economic drivers of low-carbon technology uptake and behavior change.

Policy design: incentives are center place

Observations from Kaya Advisory

- National action on climate policy continues to play out in an accelerated fashion in key geographies including the US, China, the EU, and Australia. While not surprised at this development, we are intrigued and sometimes surprised at the diverse approaches being taken. These approaches very much reflect what *is possible* in the respective countries.
- The US is pursuing an industrial policy and incentive-driven approach. The Inflation Reduction Act from August 2022 is the single most significant climate legislation in US history. When combined with the Infrastructure and Investment Jobs Act and the CHIPS & Science act, we calculate nearly a trillion USD in government funding is now available for the transition. Carbon pricing is still not a reality at the federal level, but the IRA carries with it green tax credits, resulting in implicit carbon pricing.
- EU policy continues to be largely driven by a regulatory approach to climate policy with new energy efficiency and performance standards coming out of Brussels. Increased focus on transparency on ESG factors and emissions including supply chains are important drivers for increased climate finance. Geopolitical tensions have resulted in an increased readiness to use industrial policy and state aid to promote energy policies and build European supply chains. The price of emissions under the EU ETS continues to increase. If reform plans are carried through, carbon pricing will be extended to buildings and transport as well as shipping but full implementation of a CBAM without free allowances will experience turbulence given the economic headwinds facing European industry
- China is making huge headway on renewable capacity build out. Flexibility remains a top priority as economic pressures mount. Chinese industry has been incentivized by significant state aid support and tax measures to spur the green transition and some of this support is waning. A recent announcement points to performance standards being a further focus by 2025¹. Carbon pricing is being rolled out while allowances are still distributed for free.

1. <https://carbon-pulse.com/177797/>

Drivers of momentum makes an accelerated forceful policy response more likely

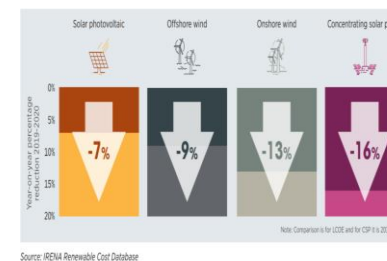
Extreme weather events



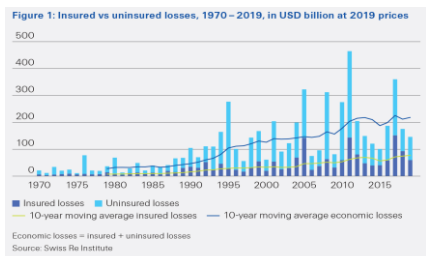
Impacts on security



Cheaper renewable energy



Uninsurable world



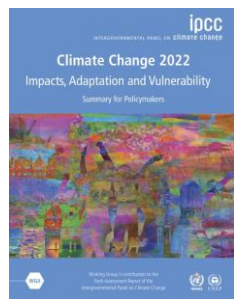
Civil society action



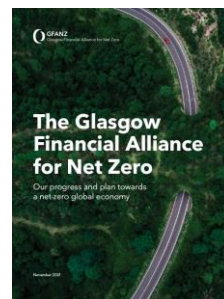
Financial regulator interventions



New climate research



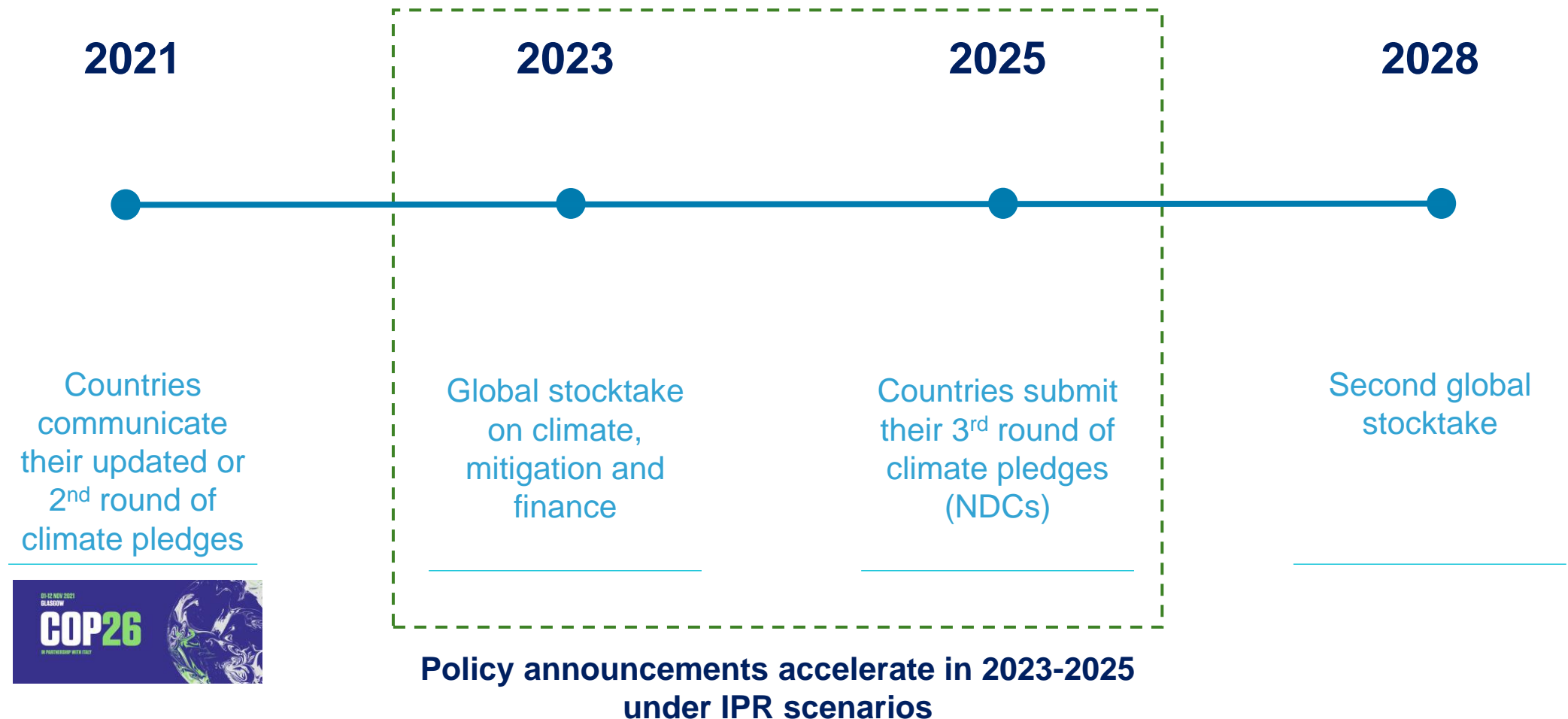
Influence shifting



New geopolitics of energy



The Paris Ratchet process triggers a cumulating policy response into 2025 under the IPR 1.8C FPS



Multiple 2022 announcements suggest an acceleration in innovation and technology adoption, supporting and in some cases accelerating IPR 1.8°C FPS pathway

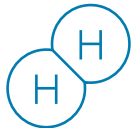
Innovation and significant technology deployment are reflective of supportive policy frameworks and improved cost competitiveness of low-carbon technologies



Wind and solar deployment continues to grow, with new large-scale projects (e.g. in China) and auctions announced



EV sales are increasingly rapidly, exceeding IPR forecasts for growth in certain regions such as China; charging infrastructure will need to grow at pace



Hydrogen strategies are advancing across major economies, electrolyze innovation continues to grow, and major investments in green hydrogen have been announced (e.g. in the EU and Australia).



Advances in lab-grown meat continue, raising prospects for agriculture emissions reductions



Brazil continues to experience **high deforestation levels but the election of Lula is a major positive**

COP27 announcements - as of 9th November

COP27 kicks off during the week of November 7, with the following initial observations and developments¹:

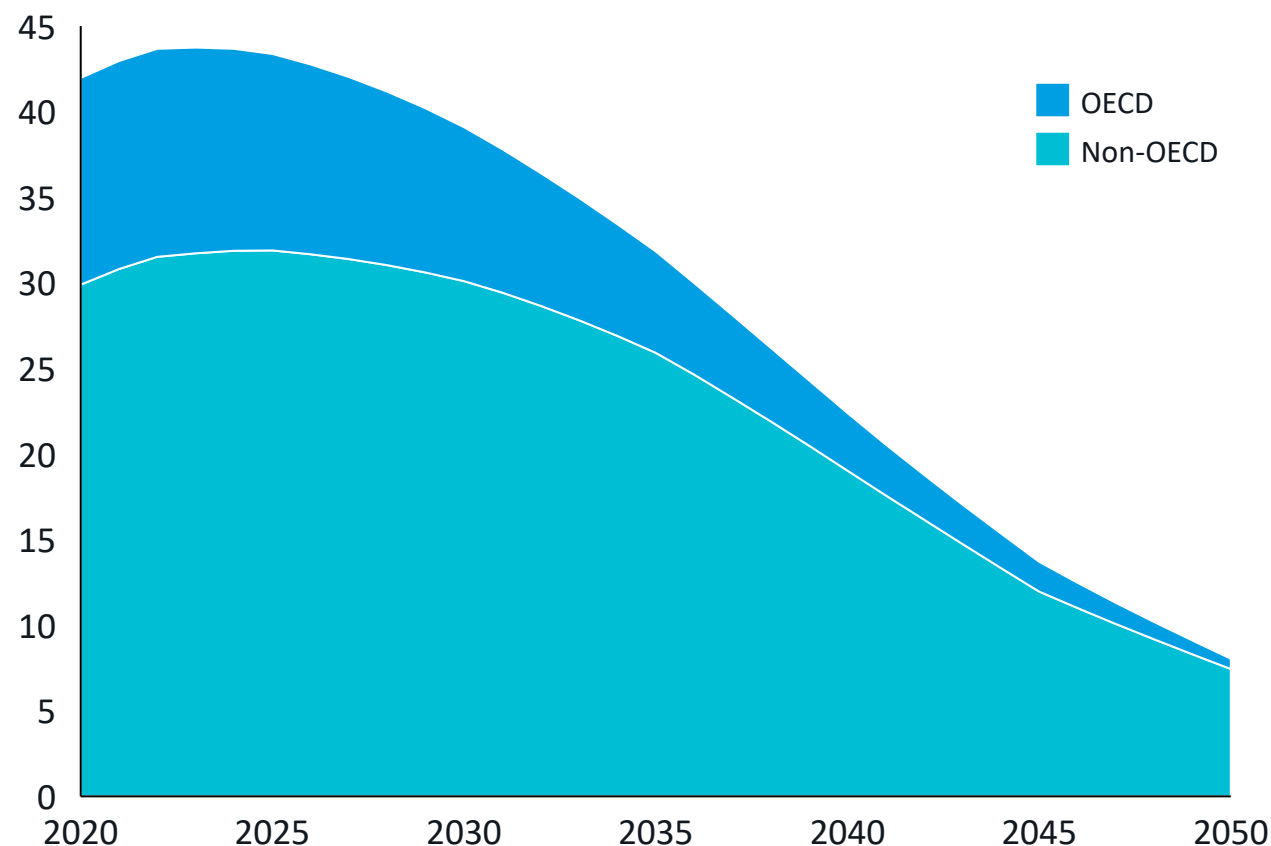
- Climate finance for poorer countries high on the agenda, with many OECD economies falling billions short on climate funds.
- Some countries (e.g. UK) supporting discussions around scaling up compensation fund for losses/damages
- Tropical rainforest nations deliberating strategic alliance on carbon markets and finance to fund conservation efforts
- US working on plan to leverage funds from large companies (e.g. via purchase of offsets) to finance fossil fuel transition in developing countries
- First Movers Coalition, launched last year at COP26 to commercialize clean technologies through procurement commitments, announces new commitments for purchasing near-zero carbon cement and concrete by 2030

1. IPR's Q4 2022 Quarterly Forecast Tracker will include a further assessment of COP27 developments.

Growing policy momentum around 1.8°C FPS tracked for bulk of OECD countries, with the most residual uncertainty for the pace of change in non-OECD countries

Inevitable Policy Response 1.8°C Forecast Policy Scenario

Billion metric tons CO₂-equivalent (MtCO₂e)



Under IPR's Forecast Policy Scenario (FPS), **OECD countries**, emissions reductions are rapid due to 2050 net zero targets, falling from around 12 Gt in 2020 to 9 Gt in 2030 and **near zero in 2050**

In **non-OECD countries**, emissions reductions are slower due to rapid growth in energy demand and later net zero targets, rising in the 2020s and falling back to 2020 levels by 2030 before falling to 8 Gt in 2050.

In **non-OECD countries**, policy ambition builds in China along with supportive announcements from India, Mexico, Nigeria and South Africa. However, policy gaps remain particularly regarding firm commitments to phase out coal generation over time.

For the transition to accelerate, **international finance from the private sector and multilateral institutions will be key**. The South Africa approach (joint package of grants and concessional finance) could offer a model for scaling (e.g. to Indonesia and other countries).

Countries will also benefit from **low-carbon innovation** in OECD countries and **technology transfer**.

The war in Ukraine: The implications for energy and climate policy

We express our sympathies with all those suffering in this war.

Since the beginning of the war in Ukraine, three key meta developments have been observed:

- 1. Reinforcement of medium (3-5 Years) and long term IPR renewable energy and green hydrogen policies and sector forecasts**
- 2. Short term (1-2 Years) energy supply crisis for EU** with many uncertainties, local gas and coal use and sourcing of fossil fuel supplies outside of Russia which points at least short term to an all of the above approach – a security back up could leave fossil fuels in the system longer. At the same time, there is historic momentum to pursue policies which significantly scale renewable energy and supply chains to achieve independence from unstable suppliers of energy
- 3. To achieve current IPR forecasts, policy makers will need to avoid lock in of actual generation or high-capacity utilization of these fossil fuel assets.** Energy security likely come at short-term emission costs but there does not have to be a trade-off with climate policy

For the **IPR Forecast Policy Scenario (FPS)** this means that the **fossil fuel sector supply dynamics will need reassessing** e.g. split between piped natural gas and LNG, geography of origin etc.

No divergence from trend in demand side sectors is emerging, if anything, in the **medium term**, there could be an eventual acceleration towards more green outcomes*

Link to IPR Q1 2022 paper: [Ukraine War: The new geo-politics of energy and implications for climate policy](#)

* Recent green index report for example finds financial market interests converging with EU decarbonization power sector in context of Russia-war in Ukraine: <https://www.1in1000.com/russia-ukraine-war>



Progress against IPR 2021 Top Ten Policy Forecasts

Sector-by-sector gap analysis

Appendix

Progress against IPR 2021 top ten policy forecasts (1-5)¹: Global action on carbon pricing and coal phase outs






Outside EU, there has been little action on CBAMs although G7 economies have endorsed open/cooperate Climate Clubs. EU continues to face delays to CBAM and expansion of ETS as part of Fit for 55 negotiations. Carbon pricing is absent from US climate policy but an incentive-based approach is likely to deliver significant emissions reductions. China announced plans to expand its ETS in 2023 and Brazil, India, Mexico, Nigeria have all announced plans for introducing/expanding carbon pricing. Countries committed to a coal ‘phase down’ at COP26 but uncertainty remains on hard timelines under energy crisis.

Sector	2021 IPR Forecast	Evidence of deceleration, support, acceleration of policy forecast
Carbon price 	<p>1 Carbon Border Adjustments Mechanisms (CBAMs) will become increasingly a policy option. This could lead the United States to announce a national carbon pricing system as early as 2023, and IPR forecasts by 2025, and signal a strong carbon price path to reach a backstop of \$65 by 2030.</p> <p>NOTE THIS HAS BEEN NOW SUPERCEDED BY AN INCENTIVE APPROACH IN THE IRA CREATING IMPLICIT CARBON PRICES</p>	<p>Mixed evidence with gaps observed In the EU, the CBAM policy proposal is moving through the legislative process, but headwinds remain. In U.S., the IRA is based on implicit rather than explicit carbon prices through a package of strong incentives to drive decarbonization in key sectors. Thirteen states have carbon pricing policies; subsequent action on climate clubs, still in exploratory phase, to be monitored. China announced plans to expand ETS to cover sectors outside power and Brazil, India, Mexico and Nigeria have announced plans for carbon pricing.</p>
	<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>Announced and supportive but with potential policy headwinds. EU continues to advance negotiations on a reform of the EU ETS set to introduce road transport and buildings. However, against the backdrop of the energy crisis, the reform continues to face delays and challenges. Proposal for inclusion of shipping also still under negotiations.</p>
Coal phase outs 	<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>Announced and supportive. India affirmed intention to phase down coal without providing details on timing and scale. Growth in electricity demand coupled with energy crisis could delay plans to close 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 liberalization.</p>	<p>Mixed evidence. No explicit plans to phase out coal as yet but proposals for further greening of its Belt and Road Initiative includes plans for retrofitting coal/making it more efficient. Energy security emphasis could prolong coal on system. China is continuing to build more efficient coal plants.</p>
	<p>5 The United States will end all unabated 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.</p>	<p>Mixed evidence. Although US has yet to announce and is unlikely to introduce performance standards and carbon pricing, support for renewable power and clean energy expansion including CCUS (e.g. in Inflation Reduction Act) market forces will make unabated coal even more uncompetitive. The real issues will be at the systems level.</p>

1. <https://www.unpri.org/inevitable-policy-response/the-inevitable-policy-response-2021-policy-forecasts/7344.article>

Progress against IPR 2021 top ten policy forecasts (6-10)¹: Advances in power, transport, industry, agriculture and land use

Policies reinforcing 100% clean power and ICE bans continue to be announced. Bold statements to decarbonize industry, agriculture (e.g. methane emissions) and land use were made at COP26 but are lacking in supportive national policies. Brazil appears to be back-tracking on forestry commitments.

Sector	2021 IPR Forecast	Evidence of deceleration, confirmation, acceleration of policy forecast
Clean power	 <p>6 The United States will implement a binding and credible 100% clean power standard for 2040, ending unabated fossil electricity generation. SUPERCEDED BY INCENTIVES IN IRA.</p>	<p>Gaps but with complementary policies. Although the US is unlikely to implement a clean electricity standard, low-carbon generation incentives in IRA could put US on path for 80% clean power by 2030, consistent with the 1.8°C FPS policy outlook for the pace of decarbonization.</p>
Zero emission vehicles	 <p>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.</p>	<p>Supportive but mixed. Many jurisdictions are imposing bans or substantial EV purchase subsidies. EU legislators have agreed on a proposal to ban ICE sales by 2035, China and Korea have not legislated but China continues to lead in EV deployment globally. In the US, IRA tax credits are supportive of the ZEV transition and California has legislated a 2035 ICE phase out.</p>
Industry	 <p>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. INCENTIVES AGAIN PLAYING A LARGER ROLE</p>	<p>Some positive momentum with gaps observed. Clean Energy Ministerial Deep Decarb Initiative (IDDI) and First Movers Coalition announcements at COP26. US is exploring hydrogen hubs and has introducing expanded and new CCUS /hydrogen credits. EU has announced ambition for green hydrogen production and to set up a green hydrogen bank. Major hydrogen projects (Hy2Tech and Hy2Use) granted access to state aid and recognized as Important Projects of European Interests (IPCEI's). China has announced plans to reduce iron/steel emissions. Japan has made no announcements. Germany has announced intentions to procure low-carbon iron/steel.</p>
Agriculture	 <p>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.</p>	<p>Mixed evidence/gaps. Minimal evidence of confirmatory policies. US Inflation Reduction Act includes \$25B+ to protect forecasts/promote climate-smart agriculture practices. Ukraine war has led to increased emphasis on food security.</p>
Land use	 <p>10 Major tropical forest countries will end deforestation by 2030, with domestic policy responding to international climate finance and corporate supply chain pressures.</p>	<p>Mixed evidence, evidence of deceleration. Although all 100+ countries including Brazil pledged to end deforestation by 2030 latest, Brazil continues to experience high levels of deforestation likely tied to weakening of enforcement/compliance entities. The election of Lula De Silva in Brazil is a crucial positive outcome. Nigeria has targeted afforestation. EU proposal on deforestation/forest degradation could increase scrutiny around supply chains for agricultural commodities such as beef and coffee.</p>

1. <https://www.unpri.org/inevitable-policy-response/the-inevitable-policy-response-2021-policy-forecasts/7344.article>

Progress against IPR 2021 Top Ten Policy Forecasts

Sector-by-sector gap analysis

Appendix

Carbon pricing IPR Policy Scenario Forecast

IPR Policy Scenario Forecast¹

■ Acceleration
 ■ Confirmatory
 ■ Supportive
 ■ Deceleration
 ■ FPS policy gap











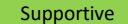


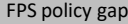





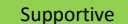


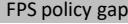


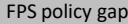


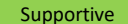














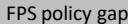







	2030 forecast	Evidence	Commentary ²
Canada	US\$85/t	Confirmatory	Announced: Canada has introduced cap on oil and gas emissions in addition to high federal benchmark carbon price (\$170/t in 2030)
EU	US\$75/t	Supportive	Announced: EU ETS reform as part of the Fit for 55 package advances with introduction of road transport and buildings but against backdrop of energy crisis continues to face delays. Proposal for inclusion of shipping still under negotiations.
UK	US\$75/t	Supportive	Legislated: No material announcements in 2022 but UK Emissions Trading scheme continues with auctions held every two weeks
USA	US\$65/t	FPS policy gap	The IRA is based on implicit rather than explicit carbon prices through a package of strong incentives to drive decarbonization in key sectors. Thirteen states have carbon pricing policies. A lack of carbon pricing may provide insufficient incentives to discourage fossil fuel investment and tackle difficult to abate sectors down the line (e.g. heavy industry). Subsequent action on climate clubs and outcomes of mid-term elections (e.g. implications for EPA ruling on methane) to be monitored.
China	US\$60/t	Supportive	Announced: China proposed to cut carbon quotas in January 2022 and is likely to introduce ETS reforms in 2023 to expand sectoral coverage
Australia	US\$60/t	Supportive	Announced: New climate minister proposes changes to carbon market safeguard mechanism
Japan	US\$60/t	Supportive	Announced. Limited carbon pricing policy in place to date (covering import/extraction of fossil fuels) but has announced plans to introduce a carbon pricing system by 2026, with more details to be released by the end of the year on specific pricing measures and an emissions trading system.
South Korea	US\$60/t	Supportive	Legislated: South Korea's ETS Phase 3 is set to end in 2030 and in August 2022 announced a consultation process to guide on reform, including consideration of how country can meet EC CBAM proposal requirements.
India	US\$50/t	Supportive	Announced: India considering introduction of carbon market, introducing blueprint for phased introduction and passing in July 2022 a bill that provides a legal basis for establishing a voluntary carbon trading scheme
Mexico	US\$50/t	Supportive	Announced: Mexico announced that its emissions trading scheme will begin in 2023, freely distributing all allowances before reducing this over time
South Africa	US\$50/t	Supportive	Legislated: South Africa's Carbon Tax Act came into effect in 2019 and was extended in 2022 to include carbon tax until 2025
Turkey	US\$50/t	FPS policy gap	No policies or strategies in place
Argentina	US\$45/t	Supportive	Legislated: Carbon tax implemented in 2018, covering 20% of national GHG and is currently too low to drive significant technological or behavioral change
Brazil	US\$45/t	Supportive	Announced: Brazil proposes multisectoral emissions trading scheme beyond power sector, phasing out free allowances, but with limited details
Indonesia	US\$45/t	Supportive	Announced: In 2021, Indonesia announced new rules on carbon trading to set up a market mechanism to reduced emissions by 2030. Will continue to monitor developments
Vietnam	US\$45/t	Supportive	Announced: In January 2022, Vietnam's revised Law on Environmental Protection established the legal basis for introduction of a carbon market
Nigeria	US\$35/t	Supportive	Announced: In Q3 2022, Nigeria announced first step towards national cap-and-trade system
Russia	US\$35/t	FPS policy gap	No policies or strategies in place
Saudi Arabia	US\$35/t	FPS policy gap	No policies or strategies in place
Global	n/a	Supportive	At COP 26, Article 6 rules to create a framework for a global carbon market were approved

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Phase out of existing unabated coal generation

IPR Policy Scenario Forecast Timelines¹

	2025	2030	2035	2040	2045	2050	2055	2060	Evidence	Commentary ²
UK										Legislated: The UK continues to deliver on commitment to phase out coal power by 2024. In 2022, demand for coal generation continues to decline but against backdrop of energy crisis, mothballed plants will be available for generation during the winter.
Canada										Legislated: Canada has introduced new policies to deliver on 2030 coal phase out target (e.g., clean electricity standard by 2030).
USA										Legislated: The Inflation Reduction Act (August 2022) will support ambitious renewables build out but contains no explicit plans to phase out coal (e.g. no clean electricity standard). IRA also includes new and expanded CCUCS incentives, allowing for more abatement of coal. Impact of incentives in pushing coal off the system remain unknown.
Western Europe										Legislated, announced: While energy crisis has led to shorter term gas and coal use, longer term prospects for renewables increased with REPower EU plan. In 2021, Germany announced a coalition agreement to bring forward coal phaseout to 2030 from 2038 which has yet to be legislated. German utility have restarted mothballed coal plants in response to energy crisis. France committed in 2019 to phasing out of coal by 2022, however has reserved option this year to restart coal plants in response to energy crisis
Eastern Europe										Legislated: As above, longer term prospects for renewables increased with REPower EU plan. Romania, Slovakia, Slovenia and Czech Republic have announced coal exit plans. Poland has committed to phasing out coal by 2049, having joined international agreement but subsequently backing out.
Australia										Announced, policy tailwinds: In February 2022, Australia's biggest coal plant announced plans to close seven years earlier than planned. In September 2022, Queensland, one of the top coal-producing states, announced it will convert its coal-fired plants to renewable hubs by 2035.
South Africa										Legislated, policy tailwinds: South Africa approves USD\$8.5bn energy transition investment plan to support transition away from coal. Full details to be announced at COP27 but offers model/roadmap for ending reliance on coal in other regions.
Central and South America										No policies or strategies in place
Brazil										In January, Brazil extended coal use to 2040 under new 'just transition' law where the government will buy, at a set cost, energy generated in Santa Catarina. Brazil relies on coal for 3% of power but it originally intended to end subsidies by 2027.
South Korea										Announced: South Korea has pledged to phase out coal-fired power generation by 2050.
China										Announced: China approved coal mining extensions in March. No explicit plans to phase out coal but proposals for further greening of its Belt and Road Initiative includes plans for retrofitting coal/making it more efficient. Energy security emphasis could prolong coal on system. China is continuing to build more efficient coal plants although it has announced it will not build plants post-2025. In a recent speech (October 2022), President Xi Jinping emphasized commitment to accelerate development of a new energy system and play an active role in global governance against climate change.
Japan										Announced: In January 2022, Japan announced it will gradually phase out coal-fired plants over the next two decades, but without a specific date for phase outs. In June 2022, Japan issued an interim clean energy strategy, to be finalized by end of the year.
India										Announced: India affirmed intention to phase down coal without providing details on timing and scale. Growth in electricity demand coupled with energy crisis could delay plans to close coal.
Indonesia										Announced: Indonesia has signaled it could introduce coal phase outs with foreign aid (e.g. based on South Africa \$8.5bn finance package proposal)
Sub Saharan Africa										No policies or strategies in place
Russia										No policies or strategies in place
Gulf States										No policies or strategies in place
Global										Announced: G7 commits to achieving predominantly decarbonised electricity sectors by 2035 and ending fossil fuel financing by end 2022. More than 40 countries pledge to phase out coal at COP26.

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100% clean power

IPR Policy Scenario Forecast Timelines¹

■ Acceleration
 ■ Confirmatory
 ■ Supportive
 ■ Deceleration
 ■ FPS policy gap
 ◆ 1.5°C Required Policy Scenario model timeline

	2025	2030	2035	2040	2045	2050	2055	2060	Evidence	Commentary ²
Canada	◆	FPS							Confirmatory	Legislated, announced: 2030 Emissions Reduction Plan confirmatory of IPR forecast to achieve 100% clean power by 2035. April budget proposed a new investment tax credit for CCUS.
UK			◆	FPS					Confirmatory	Announced: Aim for 50GW offshore wind by 2030, increase in solar capacity by up to five times by 2035, and announced infrastructure upgrades for new off-shore wind deployment centers. Announced plans to loosen onshore wind planning restrictions.
USA			◆	FPS					Supportive	Legislated, policy tailwinds: IRA passed, including \$180bn for clean power, which followed supply chain import restrictions and restriction of EPA's authority to regulate emissions. IRA estimated to put US on a path for 80% clean power by 2030 (aligning with 100% by 2030 outlook).
South Africa			◆	FPS					Supportive	Legislated, policy tailwinds: South Africa approves USD\$8.5bn energy transition investment plan to support transition away from coal towards low-carbon
EU			◆		FPS				Supportive	Announced: REPower EU focus on ramp up of solar, wind and green hydrogen. Germany has legislated an 80% renewables target for 2030; putting it on a path to achieve 100% clean power by 2045. France accelerating renewables buildout alongside new nuclear plans.
Japan			◆		FPS				Supportive	Announced: Proposal announced to restart nuclear power plants beginning in summer 2023 and considering a new generation of plants, to address a structural challenge facing Japan such as electricity shortages and decarbonization delays
South Korea			◆		FPS				Supportive	Announced: Plans for nuclear to account for 30% of total energy generation, in reverse from previous movement away from nuclear
Australia				◆		FPS			Supportive	Announced, policy tailwinds: \$20B plan for upgrading electricity grid, deploying offshore wind, of which \$1.5bn available for renewable projects in Victoria
Central and South America				◆		FPS			FPS policy gap	No policies or strategies in place
China				◆		FPS			Acceleration	Announced: Policy documents issued in June confirm ambitious plans for clean energy, with potential to overachieve. Large amount of renewable capacity being added, increasing non-fossil power generation to 39% by 2025. Plans for national power market by 2030 to boost decarbonization efforts announced in December 2021.
Brazil				◆		FPS			Acceleration	Advancing on installed solar capacity outpacing forecasts
India					◆		FPS		Supportive	Announced: India has announced plans and strategies for clean power. In July, India approved an updated national climate plan confirming its 50% by 2030 target for electricity generation. In August, India approved an energy conservation bill in its lower house which mandates that large residential and commercial buildings use a minimum portion of clean energy for their needs but these lack clear implementation plans and detail.
Indonesia					◆		FPS		FPS policy gap	No policies or strategies in place
Russia					◆		FPS		FPS policy gap	No policies or strategies in place
Sub Saharan Africa					◆		FPS		Supportive	Announced: Nigeria announced gas-led transition plan published in September in line with its 2060 net zero target
Gulf States					◆		FPS		Supportive	Announced: In March, Saudi Arabia committed to generate 50% of energy from renewable sources by 2030
Global									Supportive	Announced: G7 commits to achieving predominantly decarbonized electricity sectors by 2035 and ending fossil fuel financing by end 2022

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Fossil vehicle sales phase out (light duty)

IPR Policy Scenario Forecast Timelines¹

■ Acceleration
 ■ Confirmatory
 ■ Supportive
 ■ Deceleration
 ■ FPS policy gap
 ◆ 1.5°C Required Policy Scenario model timeline

	2030	2035	2040	2045	2050	Evidence	Commentary ²
UK	▲ FPS					Confirmatory	Announced: UK has announced plans for the phase out of ICE vehicles by 2035. In 2022, EV sales substantially higher than IPR forecast suggesting accelerated pathway relative to forecast, however reaching 100% sales by 2030 will still be challenging.
China	◆	■ FPS				Supportive	Large EV uptake and production; electric vehicles accounted for 22% of all vehicle registrations in China in 2022, with 17% of these being fully electric
EU	◆	■ FPS				Confirmatory	Legislated: European legislators have reached an agreement to ban the sale of ICE vehicles by 2035. The new regulation still needs to be formally adopted. Germany announced goal to have at least 15m EVs on road by 2030 and is investing €6.3bn in charging stations over three years.
South Korea	◆	■ FPS				Supportive	Announced: South Korea has a 2030 target for 4.5m 'eco-friendly' vehicles and 3.62m EVs. In April 2022 SK announced plans to expand EV recharging and hydrogen refueling networks.
Canada	◆	■ FPS				Confirmatory	Announced: In February of 2022, Canada announced its 2030 Emissions Reduction Plan including a sales mandate of 20% new LDV sales to be zero emissions by 2026, 60% by 2030, and 100% by 2035. This signaled an acceleration in policy ambition relative to FPS (which forecast a 2040 100% ZEV sales policy). Introduction of a clean fuel standard for transport fuels will further support Canada's ambition for clean transport.
Central and South America		◆	■ FPS			Supportive	Announced: In October 2022, Mexico announced that 50% of vehicles produced in 2030 will be ZEVs. Further details and articulation are still needed. Argentina put forward a law in 2021 to boost domestic production of EVs and ban new ICEs from 2041, which is yet to be implemented.
Australia		◆	■ FPS			Supportive	Announced: In 2022, Australia proposed cuts to EV taxation which could spur uptake
India		◆	■ FPS			Supportive	Some EV uptake in two-wheel vehicles, limited policy action
Indonesia		◆	■ FPS			FPS policy gap	Announced: Proposed cuts to EV taxation which could spur uptake
Japan		◆	■ FPS			Supportive	Legislated: Japan agreed a policy in 2021 to provide funding for EVs as well as charging and hydrogen infrastructure
South Africa		◆	■ FPS			FPS policy gap	No policies or strategies in place
USA		◆	■ FPS			Supportive	Legislated: EPA introduced tougher vehicle emissions requirements, California banning sale of ICE vehicles by 2035, Infrastructure bill includes \$7.5bn for EV infrastructure and \$5bn for zero-emission buses. \$40B in Inflation Reduction Act towards EV purchase incentives and infrastructure, could support achieving 42% EV sales by 2030. IRA also seeks to promote domestic critical minerals supply chains, including revising EV tax credit to require regional sourcing.
Brazil			◆	■ FPS		FPS policy gap	No policies or strategies in place
Russia			◆	■ FPS		Supportive	Announced: Russia announced plans to invest USD 10.5b into electric and hydrogen vehicle development by 2030
Gulf States			◆	■ FPS		FPS policy gap	No policies or strategies in place
Global						Supportive	Announced - COP 26 declaration on accelerating the transition to 100% zero emission cars and vans signed by 24 countries and major OEMs to commit to zero-emissions cars and vans by 2040, and by no later than 2035 in leading markets (US, Germany, China, Japan and South Korea did not sign pledge).
Sub Saharan Africa				◆	■ FPS	FPS policy gap	No policies or strategies in place

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End the sale of fossil fueled heavy goods vehicles

IPR Policy Scenario Forecast Timelines¹

■ Acceleration
 ■ Confirmatory
 ■ Supportive
 ■ Deceleration
 ■ FPS policy gap
 ◆ 1.5°C Required Policy Scenario model timeline

	2030	2035	2040	2045	2050	2055	Evidence	Commentary ²
UK		◆ FPS					Supportive	Announced: UK confirmed a 2040 mission pledge for HGVs; signed global MoU setting targets for 2030: new MDV and HDV 30% ZEV and 2040 100% MDV and HDV
China		◆	FPS				Legislated	Legislated: in 2018, China finalized standards to apply to new HDVs to enhance emissions compliance. Large EV uptake and production, including busses observed.
EU		◆	FPS				Supportive	Legislated: EU have set a target for reduction in HDV emissions of 15% from 2025 and 30% from 2030 and incentives for ZEV HDV in comparison to the EU average in the reference period, to be reviewed in 2022. In member states, Germany has provided EU 60 million to build hydrogen fuel stations with a focus on HDVs.
Japan		◆	FPS				Supportive	Announced: 2025 Fuel Economy Standard will require HDVs from 2025 to adhere to stricter efficiency standards
South Korea		◆	FPS				Supportive	Announced: HDVs have been subject to Euro V1 emissions standards since 2014
Central and South America			◆	FPS			FPS policy gap	No policies or strategies in place
Australia			◆	FPS			FPS policy gap	Announced: Australian emissions standards for heavy-duty vehicles are currently regulated by the Third Edition Australian Design Rules (ADRs), which are analogous to the Euro V Standards. The option to adopt the Euro VI standard for heavy-duty vehicles is currently under review
Brazil			◆	FPS			FPS policy gap	No policies or strategies in place
Canada			◆	FPS			Acceleration	Announced: Signed a global MoU setting targets for 2030: new MDV and HDV 30% ZEV and 2040 100% MDV and HDV
India			◆	FPS			Supportive	Legislated: Tender issued by state-run energy company in January for more than 5,500 electric busses
Indonesia			◆	FPS			FPS policy gap	No policies or strategies in place
South Africa			◆	FPS			FPS policy gap	No policies or strategies in place
USA			◆	FPS			Supportive	Legislated: EPA introduced tougher vehicle emissions requirements, California has a target of 100% zero-emission stock of HDV by 2045 through executive order and by 2029 all new busses will be 100% ZEV and by 2040, 100% ZEV fleet. Infrastructure bill includes \$7.5bn for EV infrastructure. \$40B in Inflation Reduction Act towards EV purchase incentives and infrastructure
Russia				◆	FPS		FPS policy gap	No policies or strategies in place
Gulf States				◆	FPS		FPS policy gap	No policies or strategies in place
Sub Saharan Africa					◆	FPS	FPS policy gap	No policies or strategies in place
Global							Supportive	Legislated: COP 26 declaration on accelerating the transition to 100% zero emission cars and vans signed by 24 countries and major OEMs to commit to zero-emissions cars and vans by 2040, and by no later than 2035 in leading markets (US, Germany, China, Japan and South Korea did not sign pledge). Requires national policies to achieve pledge.

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End the installation of fossil heating systems by 2045

IPR Policy Scenario Forecast Timelines¹

■ Acceleration
 ■ Confirmatory
 ■ Supportive
 ■ Deceleration
 ■ FPS policy gap
 ◆ 1.5°C Required Policy Scenario model timeline

	2030	2035	2040	2045	2050	Evidence	Commentary ²
UK	◆	FPS				Supportive	Heat and Buildings Strategy released October 2021 with deadlines for phasing out fossil fuel boilers by 2035, new long-term policies for low-carbon heat
EU	◆	FPS				Acceleration	Legislated: REPower EU plan targets 30 million heat pumps by 2030. Upcoming Energy Performance of Buildings Directive includes new standards/targets for new builds and is likely to pass. The EU ETS 2 will include emissions from buildings, but negotiations face delays. European Council position that all new buildings should be zero-emission by 2030 and existing buildings transformed into zero-emission buildings by 2050.
Canada	◆	FPS				Supportive	Legislated: 2030 Emissions Reduction Plan includes green building strategies and funding
South Africa	◆	FPS				FPS Gap	No policies or strategies in place
Australia	◆	FPS				Supportive	Legislative: Government offers incentives for small scale installers of renewable systems
USA		◆	FPS			Supportive	Legislated, tailwinds: IRA contains around \$53bn for buildings and energy efficiency. CHIPS Act includes heat pump incentives. California's carbon neutrality strategy targets electric appliances and heating by 2035
Japan		◆	FPS			FPS Gap	No policies or strategies in place
Central and South America		◆	FPS			FPS Gap	Minimal space heating needs due to warm climate
South Korea		◆	FPS			FPS Gap	No policies or strategies in place
China			◆	FPS		Supportive	Legislated: Policies in place (e.g. 2017 Clean Winter Heating Plan) to incentivize low-carbon heat
Russia			◆		FPS	FPS Gap	No policies or strategies in place
India			◆		FPS	n/a	Minimal space heating needs due to warm climate
Indonesia			◆		FPS	n/a	Minimal space heating needs due to warm climate
Brazil			◆		FPS	n/a	Minimal space heating needs due to warm climate
Saudi Arabia			◆		FPS	n/a	Minimal space heating needs due to warm climate

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100% zero carbon production facilities

IPR Policy Scenario Forecast Timelines¹

■ Acceleration
 ■ Confirmatory
 ■ Supportive
 ■ Deceleration
 ■ FPS policy gap
 ◆ 1.5°C Required Policy Scenario model timeline

	2050	2055	2060	Evidence	Commentary ²
UK	◆		FPS	Supportive	Announced: At COP26 the Clean Energy Ministerial IDDI meeting, UK announced intention to buy low carbon steel and concrete, setting targets for 2030 at the next meeting.
EU	◆		FPS	Acceleration	Announced: REPower EU focuses on green hydrogen (e.g. 30% steel production by 2030). New EU Hydrogen Bank proposed. IPCEI projects approved.
USA	◆		FPS	Supportive	Legislated: US has announced investments in clean hydrogen hubs and climate bill (IRA 2022) includes new and expanded tax credits for hydrogen and carbon capture.
Canada	◆		FPS	Supportive	Legislated: Introduction of tax credit for CCUS (2022-2030), At COP26 the Clean Energy Ministerial IDDI meeting, Canada announced intention to buy low carbon steel and concrete, setting targets for 2030 at the next meeting.
Japan	◆		FPS	Supportive	Announced: The Government's 2019 Long-term Strategy under the Paris Agreement sets the objective to establish 'new production processes to achieve decarbonised manufacturing with disruptive innovation'. Japan also provides funding for R&D and demonstration of CCUS in industrial facilities
South Korea	◆		FPS	FPS policy gap	No clean industry policies or strategies in place
South Africa	◆		FPS	FPS policy gap	No clean industry policies or strategies in place
Australia	◆		FPS	Supportive	Hydrogen Fuels Australia (H2FA) investing to create network of refueling stations for distribution of green hydrogen
Central and South America		◆	FPS	FPS policy gap	No clean industry policies or strategies in place
China		◆	FPS	Supportive	Announced, policy tailwind: Plan to guide carbon intensive industries to reach peak emissions by 2030 and plans to achieve carbon neutrality in the iron and steel sector with companies setting targets to achieve carbon neutrality in 2050. In October, implementation plan issued for developing green low-carbon products (e.g. chemicals, steel, non-ferrous metals, building materials)
Brazil		◆	FPS	FPS policy gap	No clean industry policies or strategies in place
India		◆	FPS	Supportive	Announced: At COP26 IDDI meeting, India announced intention to buy low carbon steel and concrete, setting targets for 2030 at the next meeting.
Russia		◆	FPS	FPS policy gap	No clean industry policies or strategies in place
Gulf States		◆	FPS	FPS policy gap	No clean industry policies or strategies in place
Middle East and North Africa		◆	FPS	FPS policy gap	No clean industry policies or strategies in place
Sub Saharan Africa		◆	FPS	FPS policy gap	No clean industry policies or strategies in place
Gulf States		◆	FPS	FPS policy gap	No clean industry policies or strategies in place

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Nationwide market incentives to encourage farmers to reduce emissions from crop production and livestock

IPR Policy Scenario Forecast Timelines¹

	2020	2025	2030	2035	2040	Commentary ²
EU	◆	FPS				Legislated: The Common Agricultural Policy (CAP) provides the framework legislation for EU agriculture and includes both direct payments and voluntary incentives while the EU's Farm to Fork Strategy sets a target to reduce fertiliser use by at least 20% by 2030. Focus on food security has delayed EU proposals for sustainable farming/nature, reincorporated fallow lands in production
UK		◆	FPS			Legislated; announced: Published a target to decarbonize agricultural emissions by a total of up to 6 million tonnes CO2 equivalent per annum in Carbon Budget 6 (e.g. from 2035 onwards). In June, published a Food Strategy to support objectives, including sustainability and food security.
USA		◆	FPS			Legislated: IRA provides \$31bn for climate smart agriculture but US has also introduced support for fertilizer production
Canada		◆	FPS			Legislated: 2030 Emissions Reduction Plan includes some funding for on-farm mitigation practices and research
Australia		◆	FPS			Legislated: The voluntary Emissions Reduction Fund scheme provides financial incentives for reducing emissions from fertiliser use and livestock management. Signatory to Global Methane Pledge.
Japan		◆	FPS			Announced: Japan's 2019 Fourth Biennial submission to the UNFCCC sets an objective to reduce the use of synthetic fertilisers and pesticides from conventional farming practices by more than 50%. Japan's 2019 Long-term Strategy under the Paris Agreement seeks to 'limit methane emissions with the improvement of feed and its use and the control of livestock numbers to go along with productivity improvement measures with the improved breed'
South Korea		◆	FPS			FPS policy gap No agricultural policies or strategies in place, not a participant of Global Methane Pledge
Central and South America		◆	FPS			Announced: Mexico aims to implement agricultural policies orientated towards the better use of fertilisers in the Climate Change Mid-Century Strategy. Argentina and Mexico are participants of Global Methane Pledge
Brazil		◆	FPS			Pledge: Participant of Global Methane Pledge
Russia		◆	FPS			FPS policy gap No agricultural policies or strategies in place, not a participant of Global Methane Pledge
India			◆	FPS		Legislated: India's Ration Balancing Programme aims to reduce emissions from livestock.
Indonesia			◆	FPS		Pledge: Participant of Global Methane Pledge
South Africa			◆	FPS		FPS policy gap No agricultural policies or strategies in place, not a participant of Global Methane Pledge
Gulf States			◆	FPS		Pledge: Saudi Arabia participant of Global Methane Pledge
China				◆	FPS	Announced, tailwinds: China's Five-Year Agricultural Plan includes mention of cultivated meat for the first time which signals a potential upgrade of IPR forecasts.
Sub Saharan Africa					◆	FPS Pledge: Nigeria participant of Global Methane Pledge
Global						Announced: Global Methane Pledge launched, with 110 countries committing to reduce methane emissions by 30% between 2020 and 2030, Global Methane Hub launched with \$340M in grants and technical support to implement pledge

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End net deforestation/deliver afforestation at scale by 2025

IPR Policy Scenario Forecast Timelines¹

■ Acceleration
 ■ Confirmatory
 ■ Supportive
 ■ Deceleration
 ■ FPS policy gap
 ◆ 1.5°C Required Policy Scenario model timeline

	2050	2055	2060	Evidence	Commentary ²
South Korea	▲ FPS			■ Supportive	Announced: South Korea has set an ambition to ‘establish and implement measures for prevention of deforestation’. Supporter of COP26 Global Forest Finance Pledge
Canada	▲ FPS			■ Supportive	Legislated: Continued funding support for 2 billion trees program. Supporter of COP26 Global Forest Finance Pledge
Japan	▲ FPS			■ Supportive	Pledge: Supporter of COP26 Global Forest Finance Pledge and Signatory of Glasgow Leaders’ Declaration On Forests And Land Use
UK	▲ FPS			■ Supportive	Announced: The UK aims to increase tree planting to 30,000 hectares per year by 2025. Supporter of COP26 Global Forest Finance Pledge
USA	▲ FPS			■ Supportive	Legislated: IRA includes funding for forestry protection/carbon sequestration. Supporter of COP26 Global Forest Finance Pledge
Australia		▲ FPS		■ Supportive	Announced: Australia aims to plant a billion new plantation trees; afforestation projects can qualify for emissions offsets. Signatory of Glasgow Leaders’ Declaration On Forests And Land Use
EU		◆	■ FPS	■ Supportive	Announced: EU proposal to hinder deforestation/forest degradation is advancing (increases due diligence on supply chains with implications for imports).Supporter of COP26 Global Forest Finance Pledge
China		◆	■ FPS	■ Supportive	China continues to increase forest coverage through planting programs to reach carbon neutrality by 2060. Signatory of Glasgow Leaders’ Declaration On Forests And Land Use
Russia		◆	■ FPS	■ Supportive	Pledge: Signatory of Glasgow Leaders’ Declaration On Forests And Land Use
Sub Saharan Africa		◆	■ FPS	■ Supportive	Announced: Nigeria has set a target to ‘increase forest cover by 20% by 2030 compared to 2015’. Signatory of Glasgow Leaders’ Declaration On Forests And Land Use
India		◆	■ FPS	■ Supportive	Announced: India has set a long-term target to bring 33% of its land area under forest cover
Central and South America		◆	■ FPS	■ Supportive	Announced: Argentina has set the objective to increase the forested area to 2 million hectares by 2030. several C&SA countries signed Glasgow Leaders’ Declaration On Forests And Land Use
Brazil		◆	■ FPS	■ Deceleration	Announced, headwind: Evidence of deceleration in policy ambition. High level commitments imply that Brazil is committed to meeting the 2030 target and while it has issued decrees on higher fines for illegal deforestation, additional legislation (e.g. proposed bill to allow mining on indigenous lands) and rates of deforestation are implying moves in the opposite direction. Kaya June 2022 paper explores how election outcome in October crucial for forestry objectives. Signatory of Glasgow Leaders’ Declaration On Forests And Land Use
South Africa		◆	■ FPS	■ FPS policy gap	No deforestation policies or strategies are in place; did not sign COP 26 forestry pledge
Indonesia		◆	■ FPS	■ Supportive	Pledge: Indonesia reached lowest level of palm-oil attributed deforestation since 2017, however food estate program legislation could allow for clearing additional forest area in Papua. Signatory of Glasgow Leaders’ Declaration On Forests And Land Use
DRC			■ FPS	■ Supportive	Pledge: DRC also signatory to COP pledge but no policies have emerged; international financial incentives likely critical for forest protection.
Global				■ Acceleration	Announced: Over 100 countries, including Brazil, pledged to end deforestation by 2030, in line with IPR forecasts of leading countries ending deforestation by 2025, with remaining countries to follow by 2030. This is a stronger statement on ending deforestation than made in past COPs, however the impact of forecasts is not yet clear, as supportive national policies will need to emerge.

1. See Inevitable Policy Response 2021 Policy Forecast - Detailed resource (March 2021) (<https://www.unpri.org/download?ac=12954>) and 1.5C Required Policy Scenario Policy Summary (<https://www.unpri.org/download?ac=14914>) for more details. Countries/regions like Canada, Gulf States, Japan, South Korea, UK have virtually zero net deforestation.

2. See Inevitable Policy Response: 2022 Quarterly Forecast Trackers (<https://www.unpri.org/inevitable-policy-response/the-inevitable-policy-response-2022-quarterly-forecast-trackers/9910.article>) for more details on developments and announcements tracked in 2022.

Progress against IPR 2021 Top Ten Policy Forecasts

Sector-by-sector gap analysis

Appendix

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