The Inevitable Policy Response – the value of nature-based solutions

June 2020
Financial markets are underprepared for climate-related policy risks

A forceful policy response to climate change is not priced into today’s markets.

Yet it is inevitable that governments will be forced to act more decisively than they have so far, leaving investor portfolios exposed to significant risk.

The longer the delay, the more disorderly, disruptive and abrupt the policy will inevitably be.

In anticipation, PRI, Vivid Economics and ETA are building a landmark forecast of the financial impact of this Inevitable Policy Response (IPR), including a Forecast Policy Scenario:

• How will it affect the economy?
• Which asset classes will be impacted?
• Which sectors are most at risk?
The Forecast Policy Scenario (FPS) is meant to facilitate discussion around a business planning case to fully value climate-related policy risk.
Timing: Paris Ratchet process triggers a cumulating policy response into 2025

2020
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
We drew key policy levers from current trends

- **Coal phase-out**: The UK has committed to phase out unabated coal use by 2025, and support for a just transition is starting to emerge.
- **ICE sales bans**: All new cars to be emissions-free in the Netherlands by 2030, and other countries have announced intentions.
- **Carbon pricing**: 57 carbon pricing initiatives around the world cover 20% of global emissions and discussion of BCAs.
- **CCS and industry decarbonisation**: Only two large scale CCS power projects in operation at the end of 2018, and no proven policies ready for ensuring scale-up.
- **Zero-carbon power**: Nuclear, hydro, solar PV, wind and other renewables represented 36% of electricity generation globally in 2018.
- **Energy efficiency**: A coalition of 8 European cities have pledged to completely decarbonise their existing building stocks by 2050.
- **Land use-based greenhouse gas removal**: National and bilateral payment systems trialled and planned to support nature-based solutions, including re/afforestation and bioenergy production.
- **Agriculture**: Historic rates of agricultural improvement very high, and large investment in agricultural technologies and infrastructure remains a priority.

**Enabling a green economy**

*‘Just Transition’ lens to ensure social and political feasibility*
IPR resources for PRI signatories

• Policy – what, when, where
  — Policy forecasts, databook
  — Policy region tool
  — PRI country briefings

• Results – winners and losers
  — Macroeconomic
  — Equities
  — IPR Portfolio sensitivity tool

• Briefings – deep dives
  — Trillion-dollar windfall
  — Just transition
  — Business support
  — Water finance
  — Forest Finance

Our key message to investors: ACT NOW

• Prepare for The Inevitable Policy Response
• Advocate for faster policy action
• Understand the opportunities – including nature-based solutions
The Inevitable Forest Finance Response
The IPR will change how the world uses land

1. Deep and rapid changes agriculture sector
   - Productivity increases of 58% globally to 2050, driven by rapid catch up in developing countries
   - Increasing investment in regenerative systems that sequester carbon
   - Shifts in food consumption patterns

2. Water stress drives large shifts in water infrastructure
   - Water stress puts increasing pressure on the bottom lines of exposed businesses
   - Irrigated area expands by 39% in 2050, bringing new investment opportunities

3. Forests emerge as a new asset class
   - Deforestation virtually eliminated by 2030, with pressures on supply chains
   - Large opportunities to invest in nature-based solutions as forests expand

- Business risks across supply chains, particularly related to deforestation – PRI has good resources to start
- Water risks and investment opportunities – the subject of another IPR paper release
- Forests emerge as a new asset class – the focus of discussion today
The forest sector represents the leading edge of the IPR

The Paris ratchet is expected to accelerate forest policy commitments, but emerging policies suggest that is already starting.
Forest expansion drives a need for huge increases in forest finance

• Forest finance, to the extent it has existed, has historically been small and largely the purview of the public sector

• Policy has advanced for forests to begin emerging as a new asset class, and for the private sector to take an increasingly leading role in finance

• Forest-based carbon stocks can generate nearly US$7.7 trillion in net present value through 2050

• Natural forest restoration is expected to be taken up first as a very low-cost mitigation strategy, generating US$2.8 trillion through 2050

• Avoided deforestation represents an additional US$4.8 trillion to 2050 if emissions reductions versus business-as-usual activity are fully compensated
Opportunities will emerge globally, but may mature at different times

- NBS opportunities are geographically concentrated in regions with both dense carbon sinks and high existing rates of deforestation

- All regions realise net benefits in the IPR FPS, with the highest benefits found in developing countries across the global south

- NPVs are indicative of market size, but some areas of high potential mature later than others. Brazil is a good example – opportunities may be commercially ready earlier in neighboring Peru or Colombia

<table>
<thead>
<tr>
<th>Region</th>
<th>Net Present Values of forestry (bn USD)</th>
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Investors can apply innovative business models to forests as a new asset class

- Carbon markets will unlock the revenue streams necessary to shift finance to new mechanisms for sustainable forest management practices more suitable for private investment, supercharging financing models that to date have had limited application in forestry.
- These include distressed asset models, stewardship models, carbon farming agreements, green bonds, forest insurance provision, and carbon off-taker guarantees, to name a few already being explored by investors of all sizes.

Indicative cash flow for a hectare of pasture or cropland converted to forest

- $1600/ha initial CAPEX required for land conversion and replanting. Costs range from $1000-$2500 depending on land characteristics.
- 5-year breakeven. Annual carbon benefits for tropical forests average ~$340/ha, depending on carbon prices and storage capacity.
- Internal rates of return reach commercial levels by Year 15.
Investors can act now to unlock forest value

Move early

Investors can develop experience in a space expected to grow rapidly. In addition to developing an investment track record in the space, this helps investors hedge their exposure to markets that are carbon exposed.

Support market development

Working with policy makers will help ensure that the expanding NBS market is designed to work well for private financing. Support to the market as it develops will ultimately ensure that a greater share of future opportunities are accessible to private finance.

Engage with us

Available resources include:

• The Forest Finance paper, available on the PRI website, explores these ideas further
• IPR programme and PRI investor tools are available
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