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# Bridging the policy gap: Catalytic collaboration for green growth

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**Optimising industrial policy requires countries to adopt an ecosystem-wide view.**

**In many countries, green industries are booming, and policymakers are seeking to simultaneously stimulate their domestic development and make climate progress while also carving out a competitive edge for their country. But there are big gaps to bridge in finance, generation capacity, materials and policy if the world is to meet its 2050 emissions-reduction targets.**

Green industrial policies have a vital role to play in the global effort to decarbonise. They drive economic growth, productivity and competition while prioritising environmental sustainability and social welfare. Bold actions taken by some of the largest economies have ushered in a new era for green industrial policy, with examples that include the European Union's Net-Zero Industry Act and the European Commission's US\$270 billion Green Deal Industrial Plan in 2023, and the US Inflation Reduction Act in 2022. But many countries are struggling to develop such policies and related financial incentives due to the complexity of the elements involved, including geopolitics, the low maturity and high costs of innovative technologies, the huge investment requirements of green transition plans, and inconsistency across countries in green ambitions.

Closing the policy gap requires governments to become catalytic collaborators. That means partnering with other governments, institutions, and the private sector to strategically set policies and drive initiatives that catalyse progress on climate goals while promoting equitable growth and sustainable development. It also means reinventing internal processes to become more effective partners within the ecosystem.

## Government as catalytic collaborator

Catalytic collaborators set industrial, technological and national security policies in a strategic way, enabling innovation and competitiveness and ensuring there's harmony and inclusivity in their approach. They use a wide variety of tools to drive progress and move quickly and effectively—such as deploying grants for developing technologies—and make investments in processing and skills development to encourage businesses and other players in the ecosystem.

Critically, catalytic collaborators do not remain siloed. They partner across borders and sectors with private sectors and even competitors.

- **Private-sector collaboration:** The scale of change needed for green transformation, and its pace, demands major policy adjustments and a stronger role for the state. It's vital that governments engage and collaborate with the private sector, which is facing a more fragmented market landscape, and with broader civil society to develop new policies. The aim of catalytic government is not to replace private economic activity, but to support and accelerate it, creating a continuous learning process on policy experimentation. Collaborative examples include EU industrial alliances such as the European Battery Alliance (EBA) and the United Nations Environment Programme Finance Initiative. Such alliances promote public-private partnerships while directing funds towards strategically important value chains and supporting overall competitiveness.
- **Competitive cooperation:** Catalytic collaborators also partner across geographies and with countries at different stages of development—even, at times, with territories they may see as competitors. Some encouraging examples of this are the UK-Japan semiconductor partnership and the so-called Chip 4 Alliance, in which the US, Japan, South Korea and Taiwan are developing a semiconductor supply chain. In Europe, there's the planned Critical Raw Materials Act, which establishes a strategy to diversify imports by allying with

developing economies. Such cooperation is critical not only for climate change mitigation but also for building supply chain resilience and trade competitiveness.

## Creating effective green industrial policy

Governments that want to be catalytic collaborators must think strategically about both supply and demand policies. Ultimately, it is the combination of policy and financial rewards that will successfully incentivise new business behaviours.

**Supply-side policies:** Policies designed to enable growth in sustainable products, in line with the green goals of the country, are key in attracting new private investments. Supply-side policies can be divided into direct and indirect measures.

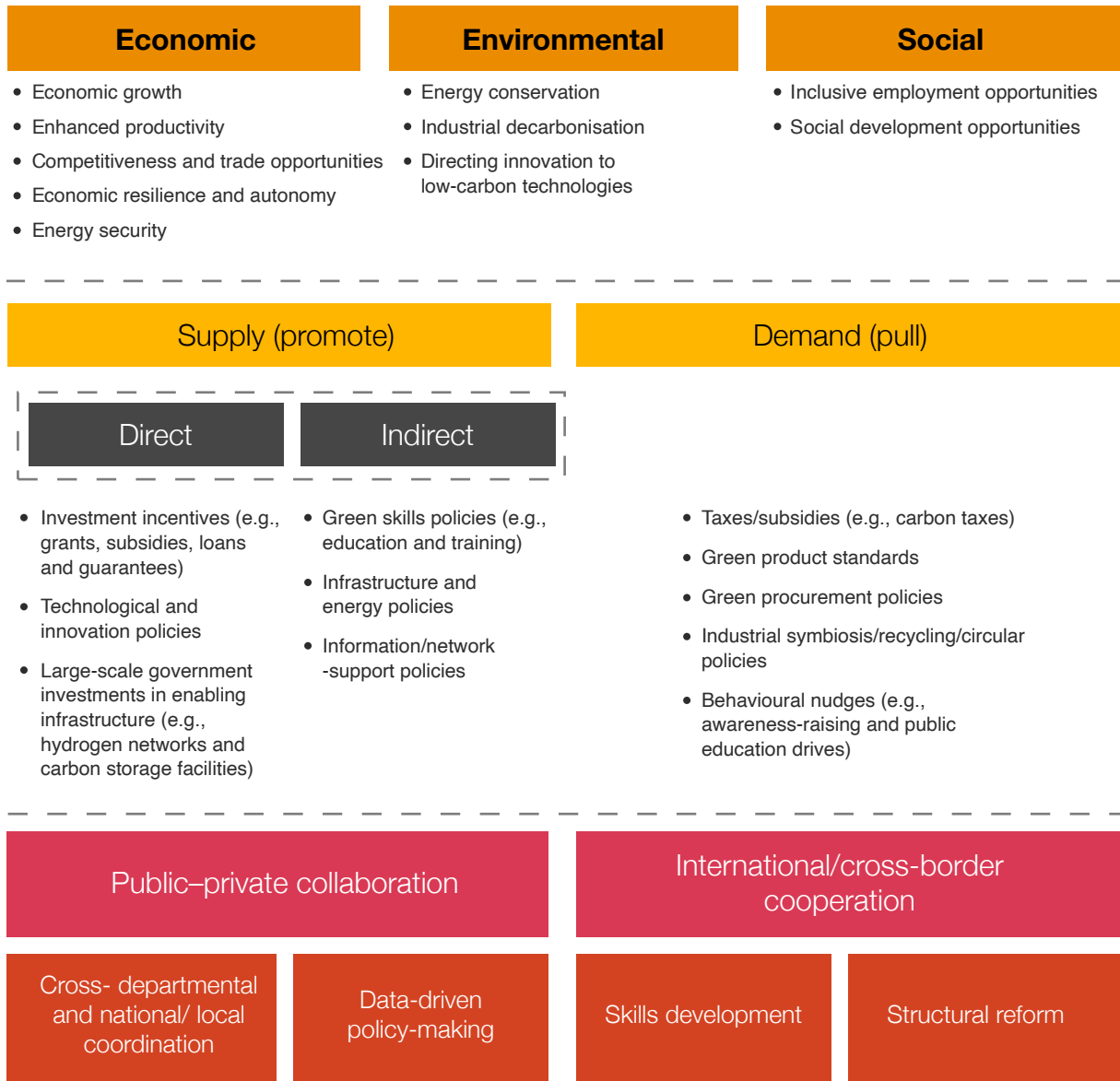
- **Direct measures** typically involve specific policies, regulations, incentives or investments aimed at promoting the production of and investment in environmentally friendly practices and technologies. For instance, India recently announced an ambitious US\$2 billion green hydrogen production and electrolyser manufacturing subsidy programme to turn its companies into leading producers and exporters of green gas.
- **Indirect measures** may not target sustainability explicitly, but they still can have significant effects on environmental outcomes by addressing underlying economic, social or institutional factors. Examples include support for start-ups through, investments in education and the provision of infrastructure. The Netherlands, for example, is investing in enabling infrastructure, such as a basic hydrogen network and capacity for carbon capture, utilisation and storage, including CO<sup>2</sup> pipelines.

**Demand-side policies:** Policies should look to reduce energy demand and overall energy consumption at both the industry and consumer level. Such measures make the energy transition more affordable and support economic growth and

competitiveness by enhancing productivity in a more sustainable way. Governments can also help drive behaviours to follow the principles of resource efficiency and circularity. For example, they could execute policies that foster the uptake of industrial symbiosis (turning waste from one industry into feedstock for another one). The issue of energy demand is a good starting point for a government's objective analysis of its green policies, for example, predicting consumer demand for products such as energy, steel and computer chips. In addition, using methods such as societal cost-benefit analyses based on consumption-based accounting can help leaders make more informed decisions about investing in new industries, especially when they are considering long-term infrastructure choices. It is worth noting, however, that changing demand policies (e.g., instituting carbon taxes) might drive some companies to relocate, potentially leading to increased environmental impact and disruptions in investment in the energy sector and infrastructure transition.

# The green industrial policy framework

■ Objectives   
 ■ Policy instruments\*   
 ■ Ecosystem partnerships   
 ■ Internal reconfiguration



\*Non-exhaustive  
Source: PwC

## Supporting the ecosystem in a new way

Ecosystems are playing an increasingly crucial role in the green energy transition, bringing together stakeholders from various sectors, including renewable energy developers, technology providers, utilities, policymakers and financial institutions. Governments can become ecosystem enablers by focusing on three key areas.

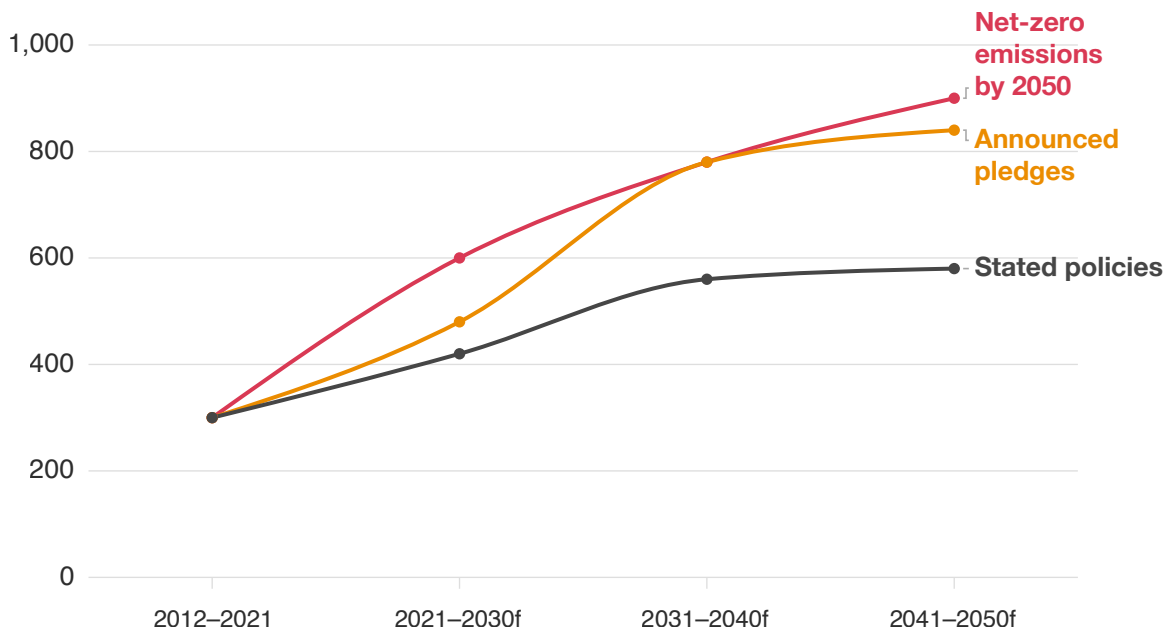
**1. Providing catalytic investment/finance:** The International Monetary Fund recently estimated that low-carbon investments need to rise from US\$900 billion in 2020 to US\$5 trillion annually by 2030 to reach net zero by 2050. Developing countries face a growing funding gap due to higher risk profiles and therefore lower appetite from investors. According to the International Energy Association (IEA), developing economies account for two-thirds of the world's population but only one-fifth of investment in clean energy. Tapping into the power of blended finance—the combination of public- and private-sector capital—can help bridge the risk gaps and accelerate progress through new types of financial instruments and by engaging various stakeholders.

There must be a close coupling between policy intent and financial incentives. To date, private capital investment in areas such as the US, China and the EU has strongly favoured renewable power-generating assets (wind and solar). Over time, similar investment will be needed in less-proven efforts such as industrial decarbonisation and transmission and storage. Governments that can evolve their market mechanisms while managing risk profiles for investors—who value predictability—will likely be more successful in delivering on their goals.

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## The rate of investment in the world's electricity transmission and distribution systems needs to triple

### Investment in transmission and distribution grids (US\$ billions per year—real terms, 2021)



Source for net-zero emissions by 2050: BNEF

Source for announced pledges and stated policies: IEA, "World Energy Outlook 2022"

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**2. Supporting innovation, especially from new players:** Policies must prioritise innovation and a competitive landscape that allows space for high-potential new entrants or incumbents to scale innovative solutions. The IEA estimates that 50% of emissions reductions will have to come from technologies that are not yet on the market to meet net-zero goals by 2050. Meanwhile, PwC's [State of Climate Tech 2023](#) report found that equity investment in start-ups had declined for a second year. Governments must use novel and varied tools to support new entrants and must scale promising technologies while helping to reduce risk for investors—for



example, by providing fast regulatory support (such as sandboxes and reforms) and innovative financial instruments. Hydrogen clusters that establish localised supply chains of hydrogen producers, users and distributors offer a test environment for early-stage innovative technologies and new business models, catalysing activity where it is most needed.

**3. Building green skills:** *Green skills* is an umbrella term for knowledge and capabilities that enable the environmental sustainability of economic activities, such as green energy and environmental remediation. Globally, there is an urgent need for policymakers and the energy industry to work together to promote reskilling and upskilling of the workforce at scale while encouraging diversity. A recent PwC study revealed a shortfall of approximately 200,000 green skills jobs in the UK alone. Strategically targeting the geographic locations that have the greatest need for catalytic support and drawing from a more diverse talent pool will also help support broader social and economic agendas. The EU Just Transition Mechanism, which aims to mobilise substantial public and private investment to support just-transition efforts in Europe, includes provisions for such upskilling and reskilling mandates, with measures aimed at benefitting disadvantaged groups and young people.

## Internal government reconfiguration

To be effective in the long term, energy and environmental policy must be integrated with broader policies, including economic, innovation and digital policies. That requires governments to reconfigure how they work internally. To that end, it's critical to prioritise the following.

- **Stronger cross-departmental coordination and responsibilities** with clearly defined governance. Climate encompasses factors that cross the boundaries of traditional government departments on both local and national levels. When developing policy, local and cross-departmental priorities and needs must be

taken into consideration in order to align strategies and actions. A cohesive approach, coupled with strong governance (including defined metrics and KPIs) can also help support broader ecosystem engagement, building trust through a more consistent vision on the direction and actions being taken.

- **Skills development among public officials and civil servants:** PwC's Global Workforce Hopes and Fears Survey 2023 found only 32% of government respondents viewed green skills as being important for their job over the next five years. To help deliver the speed and scale of workforce upskilling required, governments can work with strategic partners to deliver training programmes to civil servants, who can then learn how to integrate climate change considerations into their work and develop sustainable policies and programmes. France, for instance, has launched a programme to educate its senior civil servants and government executives on the topics of climate change and ecological transition.
- **Institutional and structural reforms:** New institutions may be needed to create independent bodies that have the freedom and power to pursue long-term climate objectives, rather like a central bank, and that work closely with policymakers to monitor and shape policies in real time. For instance, the Dutch Ministry of Economic Affairs and Climate Policy takes action on these issues in combination to promote sustainable growth. Many countries have yet to seriously discuss or implement such institutional changes, a reflection of where they are in their journey towards sustainability.
- **Data-driven insights:** Leveraging data and advancements in generative AI, policymakers can develop options and strategies and then apply analytic techniques to assess the effectiveness and impact of such interventions. The UK government—which has an ambitious target to reduce carbon emissions by 68% by 2030 from 1990 levels—is using extensive datasets to track and measure its progress towards its net-zero ambitions.

## Moving forwards: Choosing the right catalytic measures

The first step in closing the green policy gap is to determine the direction in which a given country needs to move. Policymakers must scrutinise the very foundations of their economies. If a country has developed a large industrial sector based on the availability of cheap fossil fuels, the first question isn't necessarily 'How do we lower this sector's energy consumption?' Instead, leaders must be willing to dig deeper and ask, 'What strategies are there for this industry going forwards and what is its role in a greener economy? What new industries are emerging? How can we use our comparative advantage to remain competitive in a new green reality?' An example of this is Saudi Vision 2030—a comprehensive blueprint for Saudi Arabia to build a greener and more diversified globally competitive economy.

After determining direction, governments can take steps to define their role as catalytic collaborators by adopting an ecosystem-wide view. As you scope these roles, consider public-sector factors, such as legislation, education and skills, public investments in enabling technology, and the promotion of new or early-stage clean tech. Consider, too, factors stemming from private companies, such as taxes and grants.

Finally, governments can look to make any necessary internal reconfigurations to avoid dispersed policy tools and incentives and to support effective engagement with the broader ecosystem, including a strong governance model with more formalised collaboration mechanisms.

If the world is to reach net zero, governments will need to work in new ways. By collaborating across conventional industry boundaries and national borders, they can help close the green industrial policy gap—and build a more sustainable future.

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