



UNITED NATIONS  
INDUSTRIAL DEVELOPMENT ORGANIZATION

---

Progress by innovation

# Experiences of best practices and actionable solutions of mitigation action in industries

**Addressing challenges and barriers, including the enablers of ambition and implementation**

Tomasz Pawelec

Sydney, 28 September 2026

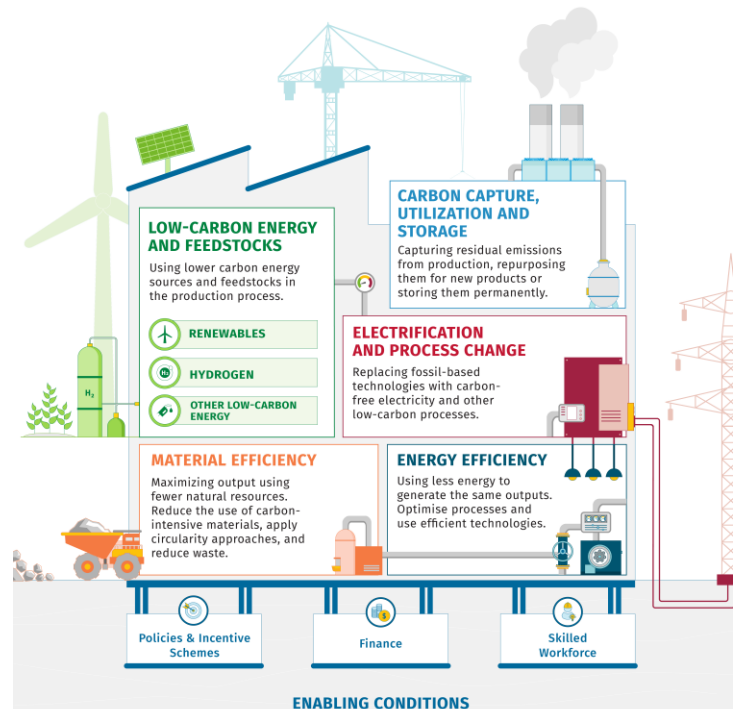


## From industrial decarbonisation options to implementation at scale

- Industry is essential for development, jobs, infrastructure and competitiveness, yet remains a major source of emissions.
- **Technology solutions** for industrial decarbonization **are already available** - energy and material efficiency, electrification, renewable energy, circularity, low-carbon materials, hydrogen and carbon management.
- Technical availability does not automatically lead to deployment.
- The **implementation gap** is especially significant where industrial demand is growing rapidly and institutional and financial capacity is constrained.
- The central challenge is **creating conditions** that enable countries and industry to **adopt, finance and scale the right solutions** in their circumstances.

## INDUSTRIAL DECARBONIZATION: 5 BUILDING BLOCKS

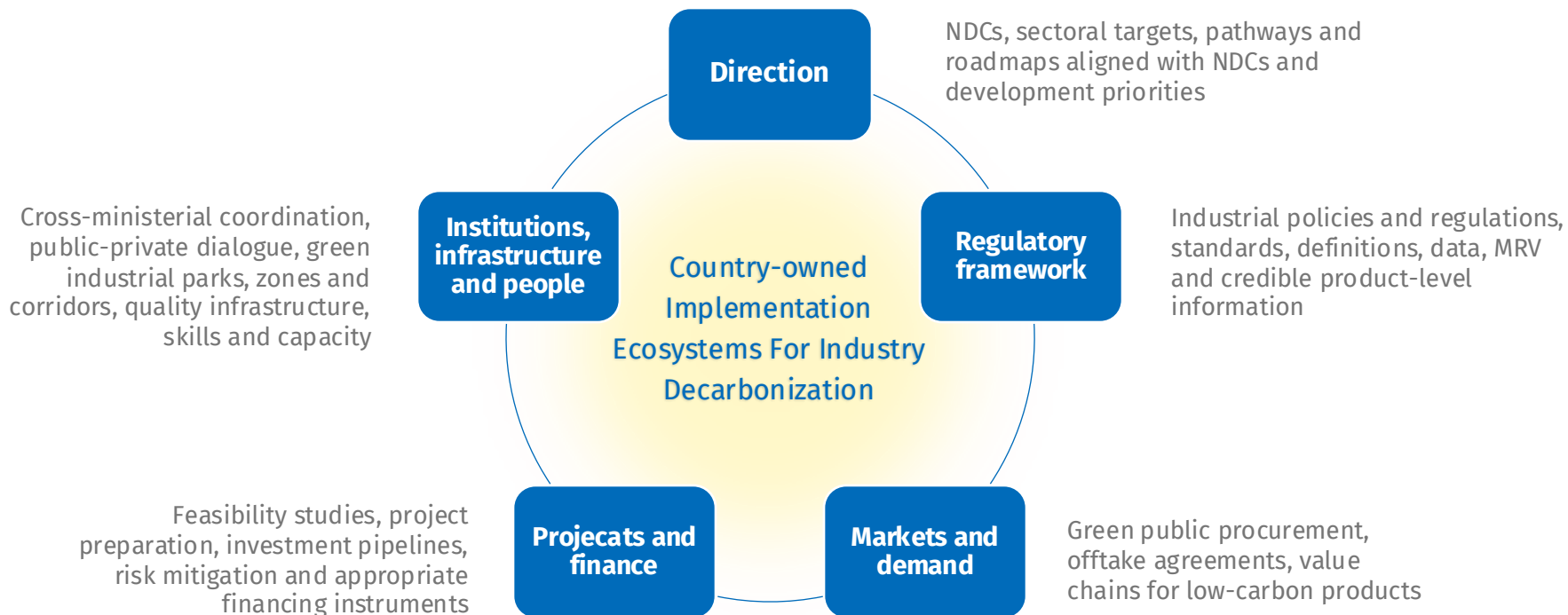
These five building blocks represent essential levers for industry to achieve net-zero. They should be pursued in ways that reflect each country's industrial landscape, workforce capacity and policy context, while also leveraging opportunities for optimisation through digitalisation and AI.



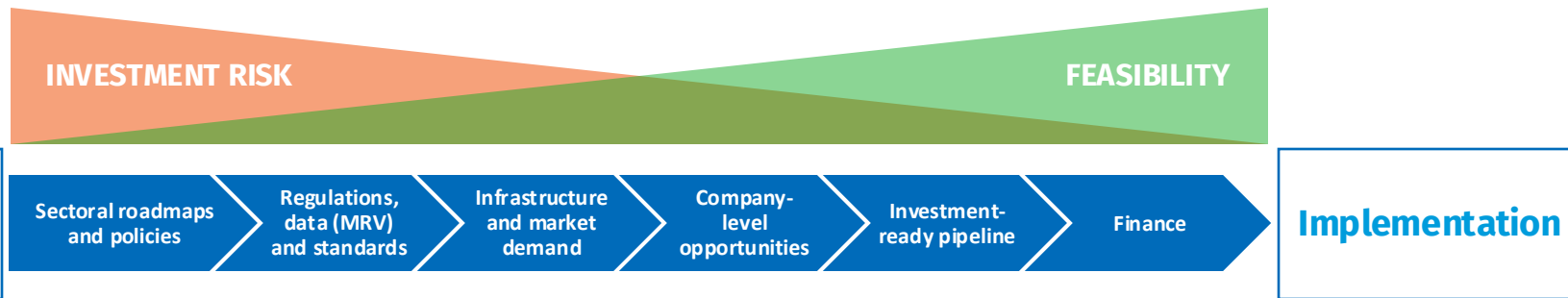


# An enabling environment is a system, not a single policy

**Technologies do not scale because of a single policy or a single investment. They scale when countries build implementation ecosystems that align these five elements**



## Country-led delivery: connect the full chain



- **Country-specific:** the technology mix and sequencing must reflect domestic resources, industrial structure and development priorities.
- **Integrated:** policy, infrastructure, technology and finance must be designed together.
- **Inclusive:** capacity and skills need to be developed by actors, with pathways for women and youth
- **Iterative:** implementation evidence should feed back into targets, policies and regulations and future investment decisions.

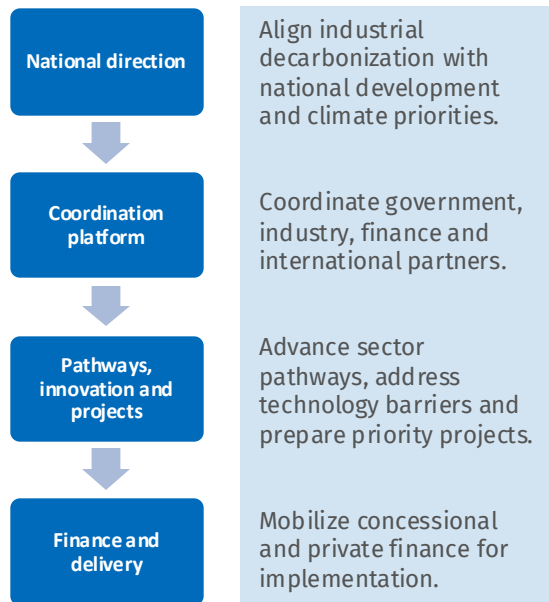


# Different pathways, one implementation ecosystem

## BRAZIL

### SYSTEM LEVEL

*cross-sector country platform*



**A national platform connects policies, innovation, project preparation and finance**

## KENYA

### SECTOR LEVEL

*cement and concrete transformation*

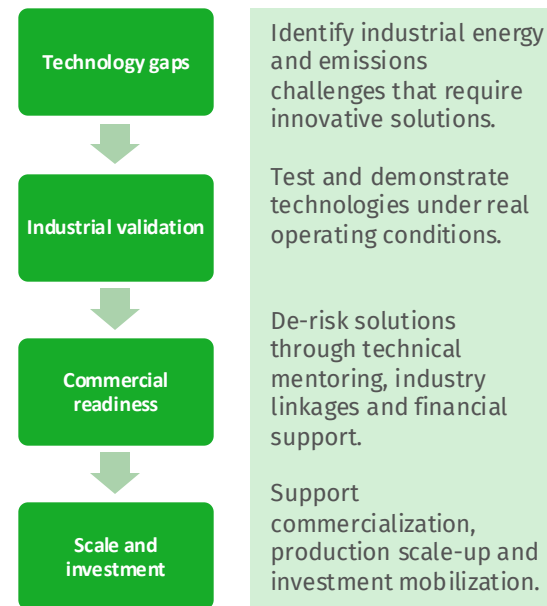


**A sector pathway connects national ambition with companies, markets and investable projects**

## INDIA

### TECHNOLOGY LEVEL

*bottom-up innovation and deployment*



**Local innovations move from industrial needs through validation to commercial deployment**



# Scaling industrial mitigation: three lessons for delivering global green industrialization

- **Anchor transformation in national development priorities**

To gain traction through competitiveness, energy security, resilient value chains, quality jobs and inclusive development.

- **Build markets while preparing investments**

Scale through standards, credible information, demand signals and project preparation.

- **Invest in institutions, people and coordinated delivery**

Building capacity for coordinating stakeholders, operating technologies, structuring projects and sustaining delivery over time.

The **Belém Declaration on Global Green Industrialization** connects industrial decarbonization with sustainable development, resilient supply chains, energy security, quality jobs and a just transition. The emerging **Global Green Industrialization Agenda (GGIA)** translates this ambition into stronger international coordination and country-led implementation.

The **GGIA** is a voluntary mechanism to support international collaboration that accelerates the deployment of clean technologies and solutions. It will work at both the thematic and sectoral levels and will involve both global- and regional-level coordination. It aims to:



**Analyze & Inform** - Addressing information and data gaps for policymakers and investors.



**Connect & Exchange** - Increase collaborative dialogue between stakeholders to track progress, share insights, and establish new partnerships.



**Strategy & Implementation** - Facilitate international collaboration and access to initiatives, partnerships and resources to support countries' green industrialization.



UNITED NATIONS  
INDUSTRIAL DEVELOPMENT ORGANIZATION

Progress by innovation



## Get in touch

Follow our activities through our **social media** channels and **get in touch via email** for more information and collaboration opportunities!



[t.pawelec@unido.org](mailto:t.pawelec@unido.org)



[UNIDO Industrial Decarbonization](#)



[www.decarbonization.unido.org](http://www.decarbonization.unido.org)

