

Accelerating Industrial Decarbonization under Thailand's Net Zero

Transforming Hard-to-Abate Industries
for a Competitive Low-Carbon Future



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Industrial competitiveness is being fundamentally reshaped

Global industries are entering a new era where carbon, energy, trade, infrastructure and competitiveness are deeply interconnected.



Carbon regulation
(CBAM, ETS)



Energy security



Supply chains



Supply chains



Industrial resilience

FROM:

LOW-COST
PRODUCTION

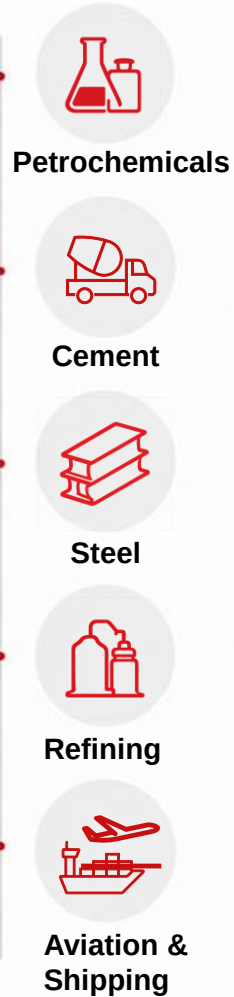
TO:

LOW-CARBON
COMPETITION
PRODUCTION

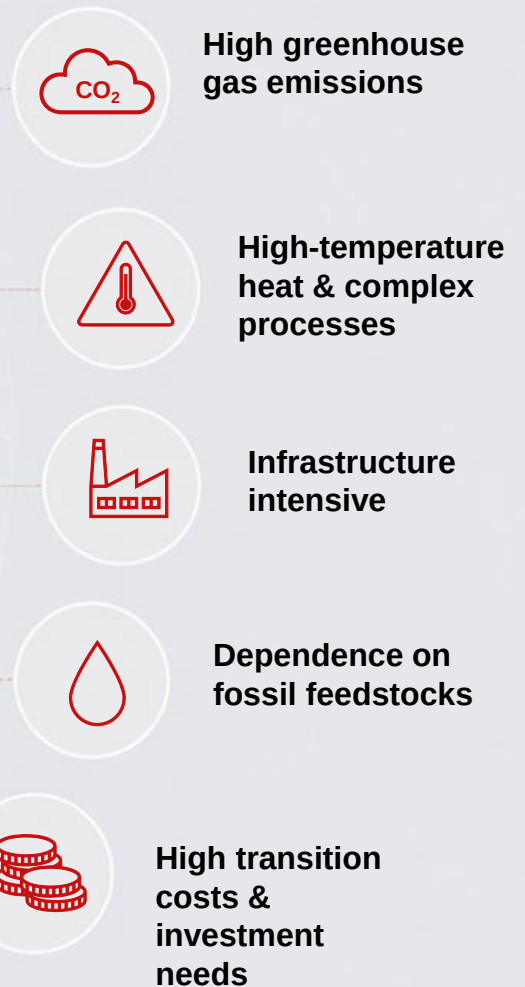
► The future of industry belongs to those who compete on **low-carbon**, not just low-cost.

Hard-to-abate industries are becoming the defining challenge

These sectors are essential to modern life—and among the most difficult to decarbonize.



KEY CHALLENGES



Future industrial systems will look fundamentally different

Future industrial systems will increasingly rely on:



Clean electricity



Electrification



Hydrogen



Digital optimization



Circular carbon systems



More connected



More intelligent



More flexible



More resilient



“ Industrial decarbonization is not only an energy transition — it is a **system transformation**. ”



Clean electricity is becoming strategic industrial infrastructure

Access to affordable low-carbon electricity will increasingly determine:

-  Industrial competitiveness
-  Investment attractiveness
-  Export readiness

“ Electricity is no longer just a utility issue — it is becoming **strategic industrial infrastructure**.



The challenge is no longer identifying technologies – **It is scaling transformation**

Many decarbonization technologies already exist. The real challenge is enabling **implementation at scale**.

SCALING REQUIRES:



Infrastructure Investment



Industrial financing



Enabling policy & markets



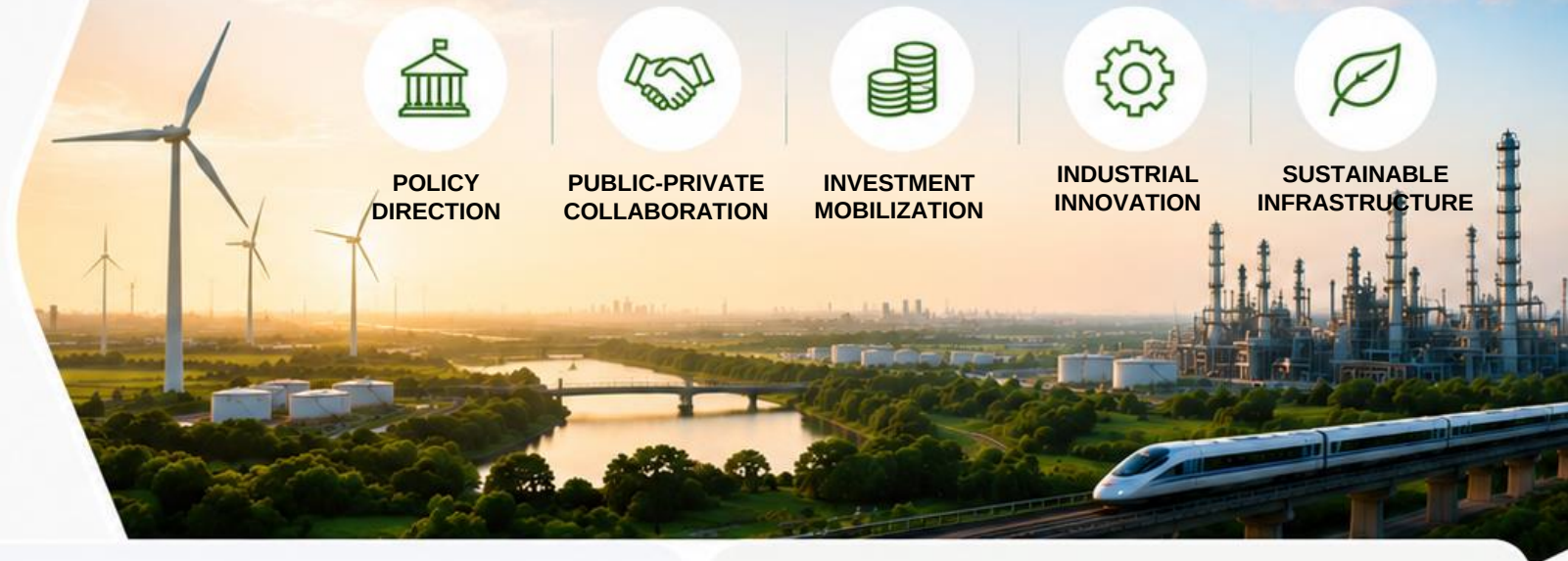
Implementation ecosystems



Governments are increasingly enabling industrial transformation

Industrial transition is increasingly supported through **coordinated public-private investment**, **enabling policy frameworks**, and **long-term infrastructure planning**.

ENABLING CONDITIONS FOR INDUSTRIAL TRANSFORMATION



GERMANY EXAMPLES

- Hydrogen economy development
- Industrial cluster transformation
- Carbon Contracts for Difference (CCfDs)
- Strategic infrastructure investment
- Public-private transition finance



INTERNATIONAL COOPERATION can help accelerate:

- Industrial transition planning
- Policy innovation
- Pilot implementation
- Public-private collaboration
- Investment readiness



TGC EMC CONTRIBUTES THROUGH

- Technical cooperation
- Policy and implementation support
- Industrial transition dialogue
- Pilot ecosystems and partnerships

“ System transformation requires **system-level coordination and investment**. ”

Thailand has the opportunity to become a regional leader in sustainable industry

Thailand's industrial transition is no longer only about reducing emissions — **it is about strengthening competitiveness, resilience, and future growth.**



Competitive industries



Low-carbon production



Future-ready industrial systems

“ The future industrial economy will belong to those who can **scale transformation together.** ”



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