



From Ambition to Action: How Countries Are Advancing Industry in their NDCs

A joint UNIDO–UNDP explainer on industrial decarbonization in the 2025 NDC cycle

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Introduction

The year 2025 marks the start of the third NDC enhancement cycle, a turning point for industry as countries begin giving significant attention to industrial decarbonization within their climate strategies. New analyses from the UNDP Climate Promise show that industry features prominently in most updated NDCs. Nearly all submissions (based on 67 NDCs analyzed as of 30 October 2025) identify industry as a priority mitigation area, 72 percent include quantitative targets as part of IPPU or broader economy-wide actions, and 31 percent feature quantified measures for hard-to-abate sectors such as steel, cement, and petrochemicals (Figure 1). This represents a major leap from the previous NDC cycle, when only around 40–50 percent of countries referenced industry at all.

Nearly all NDCs recognize industry as a priority sector — 72 percent include quantitative industry targets, and 31 percent feature quantified measures in hard-to-abate sectors.

FIGURE 1: NDC INDUSTRY ANALYSIS

Data as of October 30th, 2025

Mention industry as a mitigation area in the NDC



Include quantitative industry measures



Mention hard-to-abate industries (e.g., steel, cement, petro-chemicals)



Include quantitative measures for hard-to-abate industries



■ YES ■ NO

Source: UNDP analysis as of October 30th 2025

Why Industry Matters for Climate Action

Industry accounts for more than a quarter of global greenhouse gas emissions and is central to economic growth, trade, and job creation. Yet, it has historically

lagged behind energy, buildings, and transport in national mitigation strategies. Including industry in NDCs is critical for three reasons:



1. Scale of impact:

Heavy industries like steel, cement, and chemicals have high emissions intensity but also large abatement potential through technology and innovation.



2. Economic transformation: Industrial decarbonization supports competitiveness and future-proofs economies against shifting global trade rules and carbon border adjustments.



3. Social and environmental co-benefits: Cleaner industry improves air quality, creates skilled jobs, and stimulates innovation across sectors. It also supports gender equality by promoting women’s participation in emerging industries, empowers youth through new skills and employment opportunities, and advances a just transition by ensuring that industrial transformation benefits workers and communities equally.

Countries that move early are already seeing tangible benefits:



Stronger competitiveness by accessing growing low-carbon markets and avoiding trade penalties [Resources for the Future](#)



Job creation and retention in advanced manufacturing and clean technology sectors [Breakthrough Energy](#)



Health and environmental co-benefits through cleaner production and reduced local pollution [Columbia University](#)



Enhanced innovation ecosystems in materials science, green hydrogen, and carbon capture [World Resources Institute](#)

What's Changing in the 2025 NDC Cycle

Industry-specific mitigation measures are becoming more detailed and actionable. New submissions reflect: Broader coverage of industrial sectors, beyond energy efficiency.

- Increasing inclusion of heavy emitting industries (cement, steel, chemicals).
- More quantitative targets and measurable indicators.
- Growing reference to international cooperation and carbon market mechanisms.

Analysis of 67 updated NDCs submitted in the 2025 cycle¹ shows that countries are increasingly establishing measurable industrial mitigation targets. Over 90 percent of NDCs reviewed refer to the industrial sector as a priority for mitigation action, 72 percent include numerical or time-bound targets for emissions reduction or efficiency improvement (either within the industrial sector or as part of broader economy-wide goals) and 31 percent outline specific actions for hard-to-abate industries such as cement, steel, and petrochemicals (Figure 1).

Across regions, countries are translating climate ambition into quantifiable industrial pathways. In Africa, all submissions reference industry, and about 70 percent include quantitative objectives, reflecting the alignment between climate action, economic transformation, and just transition strategies. Arab States (100 percent) and Asia and the Pacific (81 percent) show strong integration of industrial measures, with between 67 and 75 percent of submissions including quantifiable targets. Latin America and the Caribbean (89 percent) and Eastern Europe (100 percent) demonstrate broad inclusion of industry within mitigation

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frameworks, though targets are often expressed at the economy-wide level rather than through sector-specific indicators. OECD members also exhibit high coverage: 100 percent of NDCs references industry, and 90 percent include quantifiable targets, supported by several policy instruments, financing approaches, and technology frameworks.

At the country level, a wide range of approaches are emerging. In Africa, examples include clinker substitution and energy-efficiency improvements in Nigeria, promotion of green growth and sustainable extractive sectors in Kenya and Angola, and measures for material efficiency and renewable integration into industrial process in Ethiopia. In Asia and the Pacific, Indonesia aims to increase the use of alternative material chemistry to reduce clinker-to-cement ratio and improve process efficiencies in the iron and steel industry, while Bangladesh supports cogeneration and waste-heat recovery in cement and steel plants. In Latin America and the Caribbean, Brazil highlights the adoption of new technologies for industrial processes, including carbon capture technologies in certain segments, while Belize promotes economic diversification through green manufacturing, waste-to-energy systems, and the reuse of industrial by-products. Among OECD countries, submissions reflect higher ambition,

1 Based on UNDP analysis of 67 NDC 3.0 submissions, as of 30 October 2025. Full list of NDC 3.0 submissions are available here: <https://unfccc.int/ndc-3.0>

particularly in deploying new technologies and policy instruments for hard-to-abate sectors. For example, the NDCs of Canada, the United Kingdom, and Switzerland reference carbon pricing, emissions trading systems,

and carbon capture, utilization and storage (CCUS), with the United Kingdom also noting the role of the Carbon Border Adjustment Mechanism (CBAM) in supporting competitiveness and leakage protection.

Country snapshots



Kenya's updated NDC strengthens its industrial focus, identifying energy efficiency and cleaner production as key mitigation levers to foster green growth and decarbonization across key sectors. Supported by UNIDO through the Net Zero Partnership for Industrial Decarbonization, Kenya is developing a sectoral decarbonization roadmap



and linking it to green growth and competitiveness strategies to drive private sector investment.

As part of this support, UNIDO has facilitated multi-stakeholder dialogues on industrial decarbonization options, conducted a rapid assessment of the industrial sector, and provided analytical input to inform national planning and NDC processes. These activities are complemented by the ongoing design of a sectoral Monitoring, Reporting and Verification (MRV) framework and capacity-building for national experts to strengthen data collection and monitoring. Work on the cement roadmap is helping define concrete pathways for low-carbon production, policy alignment, and private sector engagement.



supporting the implementation of the NDC by building a pipeline of investment-ready industrial decarbonization projects, strengthening in-country capacity to track progress through the Monitoring, Reporting and Verification framework, and advancing the decarbonization of the cement sector through harmonized standards and demand-side policies such as green public procurement.

(Source: UNIDO – [Kenya sharpens industry focus in new NDC](#))



MOROCCO

Under the Net Zero Partnership for Industrial Decarbonization, Morocco is applying the Mitigation Tool for Integrated Climate Analysis (MITICA) to assess emissions trends and identify policy options for industrial decarbonization. The tool supports national planning by linking economic and emissions data to evaluate how policies and measures can help achieve Morocco's climate targets.

Insights from this work are informing Morocco's implementation of its updated NDC, which sets an economy-wide target of reducing emissions by up to 45.5 percent by 2030 through conditional and unconditional measures, including actions in industry. The analysis is helping national institutions prioritize deeper decarbonization pathways and strengthen access to finance.



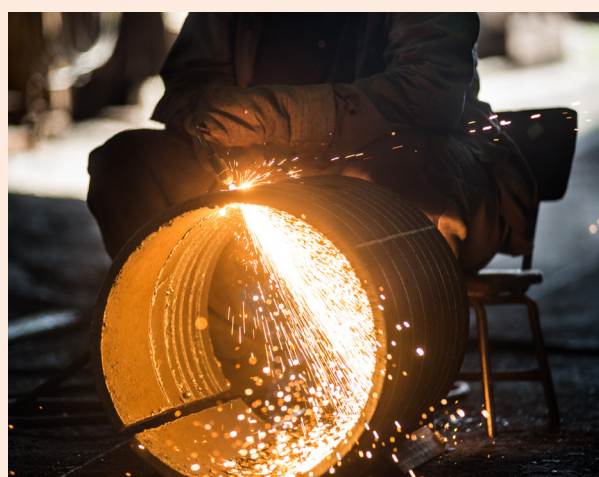
supporting Morocco in translating its NDC commitments for industry into measurable action by operationalizing an MRV framework for industrial mitigation measures, piloted in the cement and phosphate sectors. Looking ahead, there is also interest in supporting the development of a sectoral finance strategy for industrial decarbonization, including gap analysis, identification of funding sources, and resource mobilization to accelerate NDC implementation.



BRAZIL

Brazil's updated NDC includes an economy-wide target and outlines several industrial decarbonization measures. Under the Net Zero Partnership for Industrial Decarbonization, UNIDO and national partners are supporting the development of industrial decarbonization hubs to strengthen project preparation, innovation, and investment aligned with the country's climate goals.

This work complements the Plano Clima, Brazil's National Climate Change Plan, announced in 2023, and contributes to the implementation of the



industry-related targets set in the NDC. The hubs are structured around three pillars: developing conducive policy frameworks, enabling research

and innovation, and providing project preparation and delivery services. Together, these efforts aim to unlock financing opportunities and accelerate industrial transformation.



launch of Brazil's National Industry Decarbonization Strategy, supported by a suite of analytical studies and aligned with the Industry Mitigation Plan under Plano Clima, to further advance NDC implementation.

Source: UNIDO – [Brazil Industry Decarbonization Hubs](#)



COSTA RICA

UNDP is assisting Costa Rica to integrate mitigation targets for the cement and construction materials sector into its NDC 3.0, and to design a long-term Roadmap for Cement Sector Decarbonization toward 2050. Through a coordinated process led by the Directorate of Climate Change (DCC), national cement companies, the Costa Rican Chamber of Construction, and other partners, the project has promoted cross-sectoral dialogue and technical collaboration to align industrial decarbonization efforts with national climate goals. Confidentiality agreements were established with cement companies to facilitate access to technical data essential for the roadmap design, while the project also contributed to the country's Sustainable Construction Strategy.

As a result, Costa Rica's NDC 3.0² will explicitly include the decarbonization of the cement and construction materials industry as a key component under its industrial mitigation targets. The NDC sets specific milestones for 2027, 2030, and 2035, focusing on energy conversion, the

substitution of fossil fuels, and the adoption of low-carbon materials.

Building on this progress, the Climate Promise is supporting the DCC in the preparation of the Cement Industry Decarbonization Roadmap, which will set out the pathway to net-zero emissions by 2050, including intermediate milestones aligned with the NDC 3.0, such as the 2035 target. The process includes:

- Reviewing the National GHG Inventory and previous commitments (NDC 2020, National Decarbonization Action Plan) to establish a robust baseline;
- Hiring a cement industry expert to prepare the roadmap following Inter-American Cement Federation (FICEM) guidelines and integrating an MRV system; and
- Incorporating social inclusion, gender equality, and climate justice principles through a dedicated analysis of social and gender gaps.

2 Note that Costa Rica's 2025 NDC was not yet available online as of October 30, 2025.



The roadmap development phase is planned to start in October 2025 and conclude in April 2026, encompassing technical modelling, regulatory assessment, and participatory consultations, as well as a financing plan and resource mobilization strategy to enable implementation, exploring innovative instruments such as green bonds, carbon pricing, blended finance, and results-based finance.



INDONESIA

Indonesia is currently developing the Net Zero Emissions (NZE) 2050 Roadmap to decarbonize nine industrial sub-sectors, with projected emission reductions of 66.5 million tonnes of carbon dioxide equivalent (tCO₂e) by 2035 and 289.7 million tCO₂e by 2050.

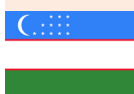
To support the industrial sector's emission reduction commitment under the NDC 2030 and NZE 2050, UNDP is providing technical assistance to Ministry of Industry in developing the regulatory framework for emission reduction and reporting in hard-to-abate industries (iron, steel, and cement) as well as in preparing the Industrial Emission Reporting System (INERS) for these sectors.



MOI has identified the need to align and synchronize emission data with other ministries (Ministry of Energy and Mineral Resources and Ministry of Environment) to ensure consistency in data formats, baselines, and methodologies, which are essential for effective planning toward industrial decarbonization. In addition, the Ministry has formulated broader “building blocks” for industrial decarbonization that map ongoing support from development partners to minimize duplication and enhance collaboration.



The next phase will define emission calculation methodologies for each industrial subsector based on international best practices. These methodologies will serve as references for implementing an emissions trading scheme (ETS) within Indonesia's industrial sector. Following this, the design of a greenhouse gas (GHG) reporting platform with modular integration capabilities will be undertaken. The platform will define technical requirements and system architecture capable of interfacing with existing platforms such as the Sistem Informasi Industri Nasional (SIINAS – National Industrial Information System), among others.



UZBEKISTAN

In Uzbekistan, the industrial sector plays an important role in the country's economic growth, especially manufacturing. However, industries are also among the sources of greenhouse gas (GHG) emissions, mostly from cement, glass, ceramics, and chemical industries. To reduce emissions, the Government now requires all new cement plants to use energy-saving dry-process technologies, which help to cut natural gas and coal use by about 35–40 percent per ton of cement.

In the new NDC 3.0, Uzbekistan³ sets specific targets to lower emissions in the industry sector. The focus is on using recycled materials, improving energy efficiency, and applying modern low-carbon technologies, including waste-heat recovery systems in cement production.

To support these efforts, UNDP is implementing the Cement Industry Decarbonization Project. The project includes a baseline GHG assessment, policy gap analysis, and a roadmap for a low-emission cement sector in line with NDC 3.0 and the long-term low-emission strategy. Currently, the project is in its beginning stage as stakeholder engagement and tender for conduction of the baseline GHG assessment are underway, including identifying emission hotspots, benchmarking Uzbekistan's



cement industry against regional and global averages, and providing recommendations for priority mitigation options.



Although the work is just beginning, the project is laying the foundation — assessing emissions, analysing policy gaps, recommending financing options, and planning a roadmap for the future. The results will inform evidence-based policy recommendations and identify priority investment areas for low-carbon technologies and energy-efficiency measures in the cement industry. These findings are expected to serve as the basis for developing a comprehensive roadmap, which can attract both public and private financing including through climate finance instruments.

³ Note that Uzbekistan's 2025 NDC was not yet available online, as of 30th October 2025.

What These Examples Tell Us

These examples show that ambitious industry inclusion in NDCs depends on three factors:



1. Tailored technical and financial support that helps countries set clear and achievable industry targets.



2. Evidence-based policy tools such as MITICA that connect emissions data with economic planning.



3. Cross-institutional coordination that links ministries, industry, and financiers for implementation.

What Still Needs to Happen

To move from ambition to measurable outcomes, further support is needed to implement these climate commitments:

- Mobilise **finance** for industrial transition in developing countries: While financial resources exist, many industrial decarbonization projects struggle to access them due to limited investment readiness. Support should focus on developing bankable pipelines: moving projects from concept to feasibility, supported by sound data, financial modelling, and institutional capacity. Concessional finance can play a key role in bridging gaps for projects that may not be commercially viable but offer strong environmental and economic benefits.
- Strengthen **implementation capacity** through national roadmaps and MRV systems.
- Facilitate **international matchmaking** for technologies and partnerships.
- Use **NDC 3.0 guidance tools** to monitor progress and align with long-term strategies

Further Reading: The NDC 3.0 Guidebook for Industrial Decarbonization

Volume 1 – A Framework for Action

Introduces the NDC 3.0 concept and provides a step-by-step framework to help countries identify entry points for industrial decarbonization in their national climate plans. It outlines how to integrate

industry into NDCs, design enabling policies, and align national ambitions with global net-zero goals.

Volume 2 – Turning Ambition into Implementation

Building on the foundation of Volume 1, the second volume serves as a practical tool to help countries translate industrial decarbonization commitments into action. It introduces a structured framework built around five essential building blocks — mate-

rial efficiency, energy efficiency, low-carbon energy and feedstocks, electrification and process change, and carbon capture, utilization and storage (CCUS). Through a series of decision trees, it guides policymakers in identifying the most relevant pillars, selecting and prioritizing policies and measures

(PAMs), and assessing their potential impact on emissions. Complemented by case studies and practical examples, Volume 2 supports countries in operationalizing their NDCs and advancing measurable progress toward net-zero industry.

How we can help

Through the [Net Zero Partnership for Industrial Decarbonization \(NZIP-ID\)](#), UNIDO supports developing countries in translating their NDC commitments for industry into tangible results. The Partnership provides targeted technical assistance and facilitates collaboration between governments, industries, and financial institutions to make industrial decarbonization both feasible and investment-ready.

Support is delivered through the [Climate Club's Global Matchmaking Platform \(GMP\)](#) and direct engagement with national ministries, ensuring that country needs are matched with appropriate technologies, policy expertise, and financing opportunities. UNIDO helps countries design sectoral roadmaps and policy frameworks that guide implementation of NDC targets in hard-to-abate sectors, while the [Sustainable Industrial Hubs](#) initiative demonstrates practical pathways to deploy low-carbon technologies and business models on the ground.

[UNDP's Climate Promise](#) supports countries to take bold action to reduce their greenhouse gas emissions, increase their resilience to climate impacts and support sustainable development priorities. As a delivery partner of the GMP, UNDP helps countries strengthen industry decarbonization through NDC development and implementation. Ongoing support includes designing implementation roadmaps, identifying investment needs, conducting feasibility and technology assessments, engaging the private sector, and facilitating inclusive and multi-stakeholder dialogues. UNDP also promotes policy coherence across climate, industrial and economic planning - including connections to gender equality and just transition principles, as well as long-term strategies (LT-LEDS) and green recovery plans - ensuring that climate action drives inclusive, sustainable growth.

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