



Deep Decarbonization Pathways

NDC INSIGHTS

n°8

What the U.S. and South Africa can teach us about reaching net zero

A tale of two transitions

The race to net zero looks very different depending on where you stand. In the United States, one of the world's largest emitters, rapid progress on clean energy has collided with political headwinds. In South Africa, where coal dominates the energy system and unemployment remains high, the challenge is finding a path that cuts emissions while also supporting development and livelihoods.

The U.S.: State action takes center stage

The **U.S.** has cut its greenhouse gas emissions by 18% since 2005, thanks to falling coal use, growth in renewables, and energy efficiency gains. But the path ahead is far from smooth. Recent federal rollbacks—including withdrawal from the Paris Climate Agreement and the rollback of key clean energy and emissions policies—have slowed progress toward the country's 2050 carbon neutrality goal.

Yet, climate action can take place through other channels. States, cities, and local actors are stepping up, driving innovation and investment where federal leadership has faltered.

Key transformations needed include:

- **Decarbonizing the power sector** by expanding renewable energy, phasing out coal, and upgrading the transmission grid.
- **Electrifying transport** with faster deployment of charging infrastructure, cheaper electric vehicles, and freight decarbonization.
- **Scaling up carbon capture and removal technologies** and improving energy efficiency across industries and buildings.

Short-term actions matter. Investments in storage, permitting reforms to unlock stalled clean energy projects, methane mitigation, and incentives for clean mobility are all critical to staying on track. At the same time, subnational leadership remains central: states like California and New York are setting ambitious renewable targets and clean vehicle mandates, proving that climate action doesn't wait for Washington.

[Read the United States' country fiche](#)

South Africa: A just transition powered by renewables

South Africa faces a very different starting point: a coal-heavy energy system, one of the highest youth unemployment rates in the world, and deep social and economic divides. Yet its renewable energy potential is among the best globally—and unlocking it is key to reshaping the economy and meeting climate goals.

The country's net-zero pathway hinges on three big transformations:

- **Cleaning up the power sector** by replacing aging coal plants with solar and wind, supported by major grid expansion to connect renewable-rich regions.
- **Reimagining transport** by boosting electric vehicle adoption, improving public transport, and preparing for potential shifts in global fuel prices.
- **Greening heavy industry**, especially steel, through future-proof investments in technologies like hydrogen-based direct reduction, while safeguarding jobs and export competitiveness.

Short-term priorities include investing heavily in the electricity grid, supporting low-emission vehicle manufacturing, and protecting workers affected by the transition. **South Africa's** strategy also depends on international cooperation, especially through the Just Energy Transition Partnership (JET-P), to finance renewable expansion and ensure an inclusive, job-rich transition.

[Read the South Africa's country fiche](#)

What this means for NDCs

The **U.S.** and **South Africa** offer two very different but equally important lessons for the next round of NDCs. In the **U.S.**, ambition must be paired with implementation—finding ways to sustain momentum despite shifting federal politics. In **South Africa**, success depends on ensuring that decarbonization goes hand in hand with development, equity, and job creation.

Both countries show that reaching net zero requires bold short-term actions and careful long-term planning. Whether it's upgrading infrastructure, reshaping industries, or protecting vulnerable communities, the next iteration of NDCs must integrate economic, social, and climate priorities into a single vision.

Next in NDC Insights: Launching the 2025 DDP annual report

Ten years on from the Paris Agreement — how much real progress have countries made on climate action?

In our next edition, we'll launch the **2025 Deep Decarbonization Pathways (DDP) report**, which takes a deep dive into country-level progress on climate action since the Paris Agreement. The report brings together insights from across the DDP network, analyzing where countries are delivering, where gaps remain, and what needs to happen next to stay on track for 1.5°C. The countries included in this report are: **Argentina, Brazil, Canada, China, Costa Rica, Dominican Republic, France, EU, Germany, Guatemala, India, Indonesia, Ivory Coast, Japan, Kazakhstan, Mexico, Nigeria, Senegal, South Africa, Thailand**, and the **United States**.

Save the date:

Launch of our 10-year stocktake on national climate action

 **Paris** |  **6 October 2025** |  **3:30 pm** (*invite-only*)

Full invitations will be sent out soon — stay tuned!

Missed the last newsletters? Download:

- n°1 "[Beyond pledges: Are NDCs addressing the transformations we need?](#)"
- n°2 "[What role for Carbon Capture and Storage? A measured look at its place in the transition](#)"
- n°3 "[Can land use deliver on climate and development goals?](#)"
- n°4 "[Can we tackle non-CO₂ emissions without compromising food security?](#)"
- n°5 "[From ambition to action: Where can countries reduce emissions in the next five years?](#)"
- n°6 "[Laying the foundations for long-term emissions reductions](#)"
- n°7 "[No transition without inclusion: Why the path to net zero must be fair](#)"

About the DDP and why this newsletter matters

The [Deep Decarbonization Pathways \(DDP\)](#) initiative supports countries in designing strategies for deep emissions cuts aligned with development goals.

Since 2013, DDP has worked with local experts to build bottom-up, country-driven pathways that turn climate ambition into real, grounded action.



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DDP Initiative
27 Rue Saint-Guillaume
7e Arrondissement
Paris 75007
France

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