Clean Energy & Energy Efficiency

Clean Energy and Efficiency drive global innovation, curb emissions, improve access to affordable power, and build a resilient, inclusive, and sustainable tomorrow.

Clean energy and energy efficiency are central to low-carbon economic growth, industrial development, energy security, and sustainable development across the BRICS countries. It focuses on building affordable, reliable, sustainable, and modern energy systems while balancing development and climate priorities.

BRICS countries recognise that energy systems remain deeply interconnected with national development priorities and global economic stability. At the same time, the energy sector is undergoing transformation marked by energy transitions, decarbonisation efforts, expansion of renewable energy, digitalisation, and deployment of advanced technologies (BRICS Brazil, 2019; BRICS Brazil, 2025). The '*Roadmap for BRICS Energy Cooperation 2025–2030*' highlights that balancing energy access, security, and sustainability are crucial aspects in advancing "just and inclusive energy transitions" (BRICS Brazil, 2025).

The *BRICS Energy Research Cooperation Platform (ERCP)*[1] *serves as the principal institutional platform for energy cooperation among BRICS members. It* facilitates policy dialogue, technical cooperation, research collaboration, and the exchange of best practices among member states (BRICS Brazil, 2019). Energy sector cooperation within BRICS covers a wide range of sectors such as power generation, transport, industry and manufacturing, urban infrastructure, buildings, digital infrastructure, and sustainable mobility (BRICS Russia, 2020a; BRICS Russia, 2020c; BRICS India, 2021).

Renewable energy deployment through solar, wind, hydropower, bioenergy, and hydrogen has assumed importance in recent years. It also covers smart grids, energy storage systems, electric mobility, sustainable fuels, and energy-efficient infrastructure (BRICS Russia, 2020c; BRICS India, 2021). Innovation and technological modernisation are underscored as important pillars

[1] BRICS Russia (2020c)

for energy cooperation in BRICS (BRICS Brazil, 2025). Key priorities include digitalization of energy systems, AI-enabled energy management, grid modernization, and the development of low-carbon technologies. The specific fields of cooperation also include sustainability, inclusivity, affordability, energy access, innovation, and just energy transitions (BRICS Brazil, 2025).

Current areas of engagement include joint research initiatives, technical workshops, expert exchanges, pilot projects, annual BRICS energy reports, and capacity-building programmes under the ERCP framework (BRICS Russia, 2020c). The future roadmap focuses on expanding renewable energy deployment, strengthening technological cooperation, modernizing energy infrastructure, and increasing financing support (BRICS Brazil, 2025).

NDB supports its member countries' transition to low-emission economies by financing projects that deploy clean and renewable energy at scale and enhance power system efficiency. Clean Energy and Energy Efficiency is one of the key areas of operation under the Bank's General Strategy 2022–2026 (NDB, 2022). As of December 31, 2025, NDB has approved USD 4.7[2] billion towards financing clean energy and energy efficiency projects across member countries, with an active portfolio of USD 3.7 billion (NDB, 2026a). Drawing on its growing expertise, NDB is driving the energy transition by fostering technology transfer and deepening institutional partnerships to accelerate sustainable development across emerging economies and the Global South.

Over the past decade, NDB's investments have covered various clean energy and energy efficiency technologies, such as solar photovoltaic (PV), onshore and offshore wind, hydropower, geothermal, natural gas transmission systems, battery energy storage systems (BESS), electricity transmission and distribution networks, and energy efficiency improvements across sectors, which has laid a solid foundation of innovative technological solutions among the emerging economies. As at the end of 2025, NDB's active portfolio is expected to add 4,400 MW of renewable and clean energy capacity (NDB, 2026a). Looking ahead, there is a need for the integration of digital solutions and energy infrastructure development, with renewable energy

[2] NDB's approved financing for clean energy and energy efficiency project is net of cancellation and the data may be affected by the discrepancy of foreign exchange rate. The projects marked as multiple areas with energy components were excluded.

and nuclear power being key sources to meet the rising demand reliably and sustainably (NDB, 2026b).

References

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