

Pathways to Advance Global Cooperation on Green Development

Green transformation of and from data centres



Focus

- We focused on how international cooperation on developing green data centres can contribute to the green industrial transformation in developing countries.
- Using a case study approach, we investigated successes and challenges for green data centres and industrial transformation in China, South Africa, Brazil, Indonesia, and climate-vulnerable countries.

Findings

- ✓ Opportunities for international cooperation on green data centres outweigh the challenges, including broader access to green technologies and clean electricity.
- ✓ China's policy framework for green data centres includes spatial planning, standards, innovation support, market mechanisms, and international cooperation. It has adopted many practices for resource-efficient data centre development, such as water conservation, critical mineral reduction, liquid cooling, and waste heat recovery.
- ✓ Across developing countries with different energy and infrastructure systems, data centres are intensifying challenges for energy access, resource competition, and data sovereignty.
- ✓ International cooperation on data centres and green structural transformation should evolve from dialogue and standard setting in the short term, to coordinated investment and institutional frameworks in the medium term, to integrated industrial development in the long term.

Recommendations

- 1 **ESTABLISH** regional “green digital corridors” for integrated digital and clean energy infrastructure that are linked to local economies and supply chains, generating spillover benefits for local communities.
- 2 **PILOT** green data centres with best practice waste management and advanced, water-efficient cooling technologies suited to local conditions.
- 3 **DEVELOP** innovative green financing mechanisms that align China's domestic standards with overseas data centre projects in partner countries, linking financing terms to green performance.
- 4 **ESTABLISH** a China–Indonesia green data centre investment framework that comprehensively addresses water, waste, carbon emissions, and domestic economic linkages, as a replicable model for bilateral cooperation.

