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REPORT

Chinese Power investments in Africa: Lessons from South Africa and Zambia

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On 18 November 2025, ODI Global hosted a webinar presenting new research on China's evolving engagement in Africa's power sector, focusing specifically on South Africa and Zambia. The event sought to unpack how Chinese finance, clean-technology firms, and engineering contractors operate within African energy systems, and what these dynamics reveal about the continent's broader energy transitions, investment flows, and partnership models. Together, the two case studies offered a comparative perspective on the opportunities and challenges associated with Chinese involvement in highly different national contexts.

Speakers:

- Yunnan Chen: Research Fellow, Development and Public Finance, ODI Global
- Olena Borodyna: Senior Geopolitical Risks Advisor, Global Risks and Resilience, ODI Global
- Wei Shen: Research Fellow, Institute of Development Studies
- Kuda Ndhlukula: Executive Director, SADC Centre for Renewable Energy& Energy Efficiency
- Dr Nimrod Zalk: Chief Research Officer, Climate and Economic Development, at the University of Cape Town's Nelson Mandela School of Public Governance
- Naa Adjekai Adjei: Consultant, Power Futures Lab
- Hans Peter Lankes: (Chair)Deputy Chief Executive and Managing Director, ODI Global

The findings on South Africa underscored that China's role in the country's energy transition remains more constrained than in many other African states. Regulatory barriers, institutional complexity, and deep-seated governance challenges have limited the extent to which Chinese state-owned enterprises can commit to large-scale, long-term investment. Although Chinese contractors and equipment suppliers are active in both generation and transmission, structural bottlenecks in the grid and persistent concerns over offtaker risk have discouraged more ambitious engagement. Yet participants noted that South Africa nevertheless offers considerable potential for future cooperation with China, particularly in transmission upgrades, grid modernisation, and the localisation of manufacturing. Unlocking this potential, however, will require a more stable and supportive policy environment capable of restoring investor confidence.

Zambia presented a markedly different picture. The country is entering a decisive phase in which energy security has become central to its national development strategy, intersecting with mining, agriculture, and the growing services sector. Chinese firms are well positioned to contribute to Zambia's expansion of renewable generation—especially solar power—and the country's resource base, including copper and cobalt, offers natural complementarities with China's critical-minerals value chains. Even so, successful engagement will depend on several conditions: regulatory stability, predictable policy signals, innovation in offtake arrangements beyond traditional power purchase agreements, and a stronger emphasis on technology transfer and capacity building. The alignment between Zambia's energy sector and its industrial value chains emerged as a particularly important factor for ensuring sustainable and mutually beneficial cooperation.

The broader lessons from both cases pointed toward the importance of strengthening the regulatory foundations of African energy systems. Host countries must clarify investment rules, reduce grid and offtaker risks, and create predictable frameworks if they wish to attract both

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Chinese and non-Chinese capital into renewables, transmission infrastructure, and power generation. The webinar also stressed that partnerships with Chinese entities are most effective when they form part of wider national development strategies: integrating energy transitions with industrial policy, value-chain development, localisation, and the exploitation of critical mineral resources. As China shifts away from large-scale sovereign lending toward a more diverse model combining commercial clean-tech finance, co-investment, and private sector involvement, African governments will need to adapt to hybrid financing structures rather than rely on traditional state-backed loans.

Speakers additionally highlighted the value of transparency, alignment with local development priorities, and the need to cultivate domestic capabilities through technology transfer, vocational training, and localised supply chains. These measures not only enhance the developmental impact of Chinese engagement but also help mitigate the risks of dependency or stranded assets. Ultimately, the discussions showed that national context remains decisive: South Africa's mature but complex energy system presents obstacles to Chinese participation, while Zambia's more fluid regulatory environment offers greater scope for innovation—yet also carries vulnerabilities related to governance, regulation, and investment risk. Together, the South African and Zambian cases illuminate the diverse pathways through which African states can engage China in pursuit of a more secure, modern, and resilient energy future.

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