

Advancing China-Africa Low-carbon Transition Cooperation

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China and Africa are long-term strategic partners



Political Relationship

Africa has been the foundation of China's diplomacy and the relationship has upgraded from strategic partners to a community of shared future.



Trade

China has been the largest African partner for 15 consecutive years. Around 20% of Africa's exports go to China and about 16% of Africa's imports come from China (a record \$282 billion in 2023)



Investment

In 2022, China's direct investment in Africa amounts to USD 3.4 billion. By the end of 2022, China had established more than 3,300 overseas enterprises in Africa, with a total direct investment exceeding USD 40 billion.



Project Contracting

Project Contracting: Africa is China's second largest contracting market with signed contracts amounting to 700 billion USD.

A review of China-Africa cooperation in renewable energy sector

China has a long history of engaging in Africa's energy sector. The first Chinese hydropower station was completed in the 1960s, known as the Kinkon hydropower station in Guinea, it was China's first foreign aid project in Africa's power sector.

Traditionally, Chinese investments have fallen closely in line with Africa's rich energy resource endowment across different regions, such as hydro power sources in Eastern and Western Africa and coal power sources in Southern Africa.

With the increasing risks of coal-fired power plants as stranded assets, China has quickly engaged in the electric power sector by constructing large hydro- and coal-fired power stations across the continent.

A review of China-Africa cooperation in renewable energy sector

Policy engagement

- FOCAC, but also China-Africa Energy Partnership jointly initiated by China National Energy Bureau and African Union Commission provide important cooperation platforms in identifying investment opportunities, selecting and scaling-up exemplary projects, and finding solutions to innovative technologies.
- The 2035 Vision for China-Africa Cooperation and the Declaration on China-Africa Cooperation on Combating Climate Change adopted in the 2021 FOCAC proposed to shift China-Africa energy cooperation to clean and low-carbon and jointly build new green development modality, including supporting natural gas and green hydrogen.

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Foreign Aid

- RE has become a key area in China's international development cooperation and is growing quickly. The forms cover donation of RE equipment, technical assistance, and building demonstration centers etc..
- China launched an 'African Solar Belt Program' in 2023, committing \$13.7m for solar projects in regions not served by power grids to support around 50,000 households.
- The China-Africa Clean Energy Technology Demonstration Centre in Kenya showcases clean energy technologies such as photovoltaic, wind power and biomass energy, and provides technical training and advisory services to African countries.



Solar energy demonstration village project in Mali: A total of 1,195 off-grid solar household systems, 200 solar street light systems, 17 solar water pump systems and 2 concentrated solar power supply systems were installed in this project, directly benefiting tens of thousands of local people.

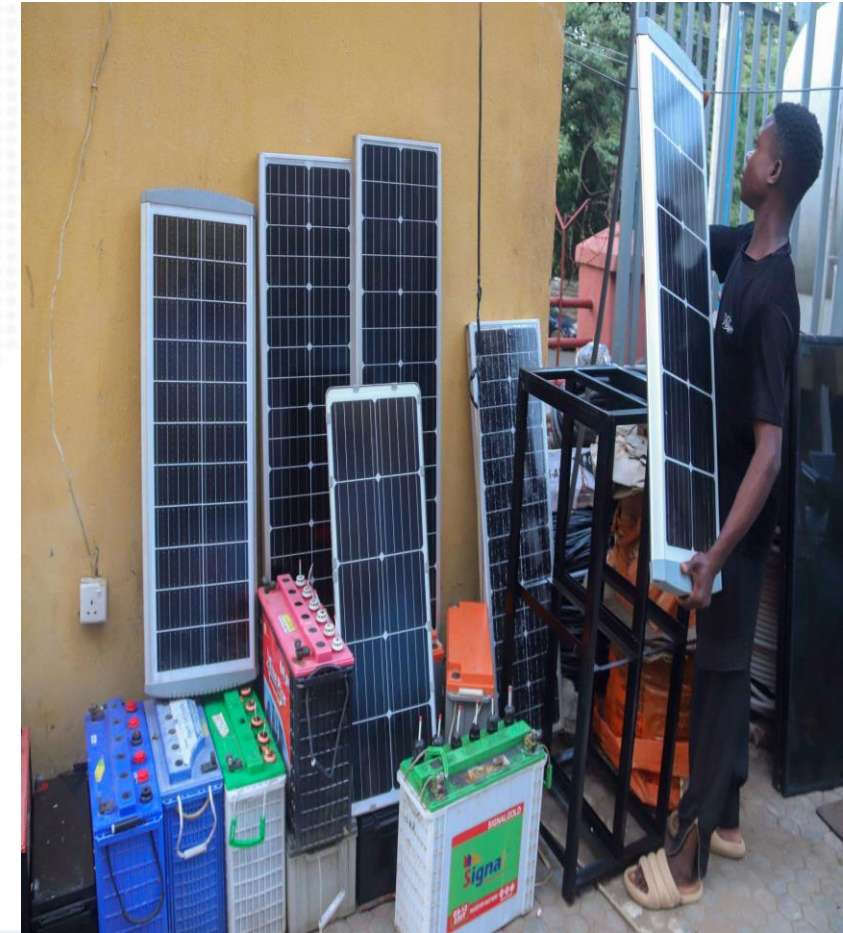
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Investment

China has also gradually shifted its investment focus towards green energy projects in Africa. China has financed over \$13 billion and developed over 10 gigawatts of clean energy capacity across Africa since 2000. Chinese investments in renewable energy in Africa grew at an average annual rate of 26% from 2010 to 2020, with solar, hydropower, and wind being the top three technologies (BUGDC).

The 244.5MW De Aar wind-power projects in South Africa was put into operation in 2017.

The Shenzhen-based Chinese company Beebeejump Technology has become one of the top off-grid solar enterprises in Nigeria.



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Contracting

China has financed and built large solar and wind farms across Kenya, helping expand renewable energy access, particularly in rural areas.

The 310 MW Lake Turkana Wind Power, came online in 2017, represents the largest wind farm in Africa today and provides 15% of Kenya's electricity capacity.

The Garissa Solar Power Plant in Kenya, funded by China EXIM, is the largest grid-connected solar power in East and Central Africa, contributing about 2% of the national energy mix and significantly reducing energy costs in the country.



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Trilateral cooperation

- China worked with UNDP (with the support of Danish government) and Zambia/Ghana on renewable energy technology transfer from 2014 to 2019, to promote off-grid community-based electrification, increase the share of renewable energy, and promote the productive use of energy in each country. The twin projects also focused specifically on technology transfer (in a broader sense) that facilitated learning from China's experience promoting universal electrification and nurturing domestic renewable energy technologies.
- China-Europe-Africa Green Energy Development Forum
- Third-party market cooperation initiatives and cooperations



A Chinese delegation, comprised of experts on solar, small-scale hydropower, wind and bioenergy, visited Zambia in 2015 as part of the Renewable Energy Technology Transfer Programme. (Image: UNDP)

Opportunities for upgrading China-Africa Low-carbon Transition Cooperation

China has become a major powerhouse in the field of renewable energy. Its investment in clean energy has ranked first globally for many consecutive years, and its installed capacity of hydro power, wind power and photovoltaic power generation has also been in a leading position.

This technological advancement has become a new engine of China's development cooperation with other countries in the Global South. The green BRI and the GDI have both highlighted climate change and low-carbon and green development.

Transitioning to “small and beautiful” projects.

China's policy and commercial policy banks are pushing forward green financing. For example, in 2022, SINOSURE issued new guidance, provide preferential conditions and set up specialized team to support new energy foreign investment.

Opportunities for upgrading China-Africa Low-carbon Transition Cooperation

Africa has vast resource wealth. It holds considerable potential in the renewable energy including solar (60% of global), wind (50%), hydro, and geothermal energy sources and has the capacity to produce a large amount of hydrogen.

Energy poverty remains a concern across the region. RE is also seen as a key means to address energy access challenges in the NDCs of 53 African countries.

The AfCFTA creates a single market projected to grow to 1.7 billion people and \$6.7 trillion in consumer and business spending by 2030.

A transition to cleaner energy sources allows Africa to bridge the development and industrialization gap left by decades of energy poverty, provide needed energy services without damaging human health or ecosystems, and leapfrog traditional electricity models by promoting off-grid and mini-grid energy solutions for greater accessibility.

Recommendations

- Improve communication at multi-level and multi-dimensional channels to improve knowledge- and experience sharing, as well as skill sets in promoting renewable energy market and technology capacity. The role of think tanks, businesses and civil society groups could be strengthened. This would help:
 - ✓ comprehend the heterogeneity of the continent and the disparities in the difficulties faced by each country, which are not all uniform;
 - ✓ significantly enhance China's involvement in African countries' energy sector beyond individual project level interactions, and allow China to play a more active role in RE consultancy or advisory, capacity building programmes, and dedicated efforts in improving standards of social and environmental footprint for many of the energy infrastructure projects.

Recommendations

- Importantly, the massive development of Chinese wind and solar capacity in the past decade has provided Chinese regulators with ample experiences and lessons that can be drawn on by African governments, ranging from designing feed-in tariffs or procurement programmes to preventing rampant curtailment due to the massive growth of renewables. Chinese enterprises and ministries can also actively involve themselves in various capacity-building activities among African governments, particularly in engaging energy regulators to:
 - ✓ develop plans or road maps for RE capacity;
 - ✓ establish stable policy frameworks in supporting RE development;
 - ✓ boost infant wind turbine and solar panel industries from the ground up; and
 - ✓ to develop manufacturing and financing capabilities to lead to the installation of a huge capacity within a limited time frame

Recommendations

China's experience in developing RE:

- 1) Macro-level: cost-effective and technical-feasible RE development plan, complemented by adequate industrial policy.
- 2) Project level: profitability of investors (price of electricity)—with the help of technical assistance and project preparation mechanism.
- 3) Financial level: tax policy for manufacturing and sales of RE equipment to help reduce the cost; low-interest or concessional loans provision
- 4) Technical level: technology transfer and capacity building.

Recommendations

- Active local participation and ownership to foster an environment conducive to technology transfer, including:
 - ✓ broad consultation, joint contribution and shared benefits
 - ✓ enhance transparency through more effective data collection and regular reporting;
 - ✓ connecting global ESG standards;
 - ✓ impactful research and development partnerships and empowering local actors

Recommendations

- Harness the potential of innovative financing.

In the post COVID-19 context, it will be increasingly difficult to secure sovereign guarantees from many African governments that are facing debt servicing difficulties due to the pandemic and its consequent economic shocks. Renewable energy can be a very good piloting sector for encouraging project finance and equity investment. China and African countries can leverage public funds to catalyze private investment. Rather than blending finance project by project, a paradigm shift in establishing green development partnerships or fund with multilateral development banks could also help scale up efforts.

Recommendations

- Systematic research and pilot projects in integrating low-carbon concept into Africa's economic development.
- “RE +” pilots in China-Africa Development Cooperation, including RE+ Agriculture, RE + Fishing etc.
- Improve energy sustainability for complete projects supported by China, such as transitioning some of the industrial parks into low-carbon and smart-energy innovation park.



Thank you for your attention!



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