



BRIEF

LEVERAGING CHINA'S INTERNATIONAL DEVELOPMENT COOPERATION TO DRIVE THE GLOBAL TRANSITION TOWARDS RENEWABLE ENERGY

This brief aims at presenting a snapshot of China's energy international development cooperation (IDC) and sharing lessons from two trilateral cooperation projects in renewable energy involving China, Sri Lanka, Ethiopia and UNDP. It provides key statistics showcasing the overall scale and trend, as well as the composition of China's energy IDC. Building on insights from the trilateral cooperation projects, this note formulates a series of recommendations to China IDC stakeholders and other relevant actors. These recommendations aim to support China's future IDC engagements in the renewable energy sector, enhancing its development impact and contribution to the global energy transition and the Sustainable Development Goals (SDGs).

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1. Introduction

To fulfill the Paris Agreement, a global shift to clean energy is crucial. A significant annual funding shortfall of \$ 2.2 trillion for developing countries alone poses a considerable challenge to the transition.¹ This is particularly concerning for low-income countries, which often lack adequate public financial resources and struggle to attract private finance.

As such, official development assistance (ODA) becomes critical for developing countries to sustainably meet their clean energy needs, as well as the Sustainable Development Goals (SDGs). Against this context, the decline seen in ODA flows by OECD-DAC donors to developing countries is of concern. In 2022, flows to developing countries fell by 2% year-on-year, despite a 22% year-on-year increase in global OECD-DAC ODA flows, shifting towards humanitarian aid and reaching a record \$ 287 billion.²

On the other hand, energy is emerging as a priority area. In 2022, OECD-DAC donors' assistance to energy sectors reached a record high of \$ 12 billion, strongly rebounding after two years of soft growth. Support for renewables-based energy generation and energy distribution accounted for over two-thirds of the total aid to energy sectors in developing countries.³

Energy and general support for low carbon development have also emerged as priorities in China's South-South Cooperation (SSC). The Government has made strong commitments, exemplified by President Xi's announcement at the UN General Assembly in 2021: "China will step up support for other developing countries in developing green and low-carbon energy, and will not build new coal-fired power projects abroad". Similar messages were reiterated on other occasions, including the Forum on China-Africa Cooperation (FOCAC).

Additionally, as a key player in the low carbon transition, China is contributing to the adoption of renewable energy, playing an important role in making the technology more accessible. China's rapid expansion of manufacturing has resulted in a 50% reduction in photovoltaic (PV) solar module costs since December 2022.⁴ Its onshore and offshore wind energy are 40-70% cheaper compared to other Asia-Pacific markets and is expected to maintain a 50% cost advantage for renewables until 2050.⁵

Overall, China is well-positioned to share its lessons learned in green development and low-carbon technologies. It can also play a greater role in SSC by strengthening its global engagements, bridging technology and financing gaps, making critical contributions to the global climate agenda, particularly when fully aligned with the 2030 Agenda for Sustainable Development.

This brief aims at presenting a snapshot of China's energy international development cooperation (IDC) and sharing lessons from two trilateral cooperation projects in renewable energy involving China, Sri Lanka, Ethiopia and UNDP. It provides key statistics showcasing the overall scale and trend, as well as the composition of China's energy IDC (section 2). Building on insights from the trilateral cooperation projects, this note formulates a series of recommendations to China IDC stakeholders and other relevant actors (section 3). These recommendations aim to support China's future IDC engagements in the renewable energy sector, enhancing its development impact and contribution to the global energy transition and the Sustainable Development Goals (SDGs).

¹ UNCTAD. (2023). World Investment Report 2023. <https://unctad.org/publication/world-investment-report-2023>

² UNCTAD. (2024). Aid under Pressure: 3 Accelerating Shifts in Official Development Assistance. <https://unctad.org/publication/aid-under-pressure-3-accelerating-shifts-official-development-assistance>

³ Ibid

⁴ IEA. (2024). Clean Energy Market Monitor. <https://www.iea.org/reports/clean-energy-market-monitor-march-2024>

⁵ Wood Mackenzie. (2024). Solar Inflation Reverses as Renewable Costs in Asia Reach All-Time Low. <https://www.woodmac.com/press-releases/asia-lcoe/>

2. A Snapshot of China's IDC in the Energy Sector

Differences in definitions and data availability limit the ability to draw a comprehensive picture as well as a comparative analysis of China's IDC in the energy sector, particularly in renewable energy. China's official definition of IDC includes three flows: grants, interest-free loans, and concessional loans.⁶ This is similar to the ODA definition used by OECD. That said, it is important to note that despite significant overlaps, there are clear differences between the OECD and Chinese definitions of ODA. In this brief, we cover not only these flows but also other official flows (OOF), as they complement China's IDC flows and are usually larger in scale. On the data front, China releases data officially through white papers and relevant ministries' IDC budgets. However, the granularity of the data is insufficient to formulate a detailed assessment of its evolving sectoral priorities.

To bridge the information gap and better understand China's energy IDC trend, especially in light of its increasing emphasis on greening its IDC, this note utilizes three project-based datasets. These include: i) the Global Chinese Development Finance Dataset (a.k.a. AidData), ii) the China's Energy IDC Database by the Chinese Academy of International Trade and Economic Cooperation (CAITEC) covering different flows of China's energy IDC (section 2.1 and 2.2), and iii) the China's Global Energy Finance (CGEF) Database by Boston University, which focuses on official finance flows for energy projects from China's two policy banks. The latter would mostly fall in the category of OOF, as per the OECD-DAC categorization (section 2.3). A more detailed description of each dataset is presented below.

Table 1. Data sources for analyzing China's IDC in the energy sector.

| Database | Description | Flow type | Section |
|--|--|---|---------|
| Global Chinese Development Finance Dataset, Version 3.0 | Developed by the College of William and Mary's AidData research lab, it tracks officially financed Chinese projects from 2000 to 2021. Its sectorial breakdown includes "energy", but not a further distinction among types of energy (e.g., fossil-fuel or clean/green energy). While these figures are derived from secondary project-based datasets and may have limitations such as incompleteness and noise, they still provide a rough indication of trends in China's ODA-like flows. | It includes both ODA-like and other official flows from all sectors. | 2.1 |
| China's Energy IDC Database⁷ | Developed under a joint research project between UNDP China, World Resources Institute, and CAITEC, it covers China's energy-related IDC projects from 1964 to 2023, all collected from official sources. | This dataset records China's IDC projects in the energy sector backed by public budget, covering interest-free loans, and concessional loans. | 2.2 |
| China's Global Energy Finance (CGEF) Database | Developed by Boston University's Global Development Policy Center, it records official finance flows for energy projects from China's two policy banks - the China Development Bank (CDB) and the Export-Import Bank of China (CHEXIM) - globally from 2001 to 2020. | It primarily includes OOF, though some flows may fall under the ODA category as CHEXIM is the main provider of concessional loans. | 2.3 |

Source: author's compilation

⁶ The State Council Information Office of the People's Republic of China. (2021). China's International Development Cooperation in the New Era White Paper.

https://english.www.gov.cn/archive/whitepaper/202101/10/content_WS5ffa6bbbc6d0f72576943922.html

⁷ A more detailed presentation and analysis of these data is expected in a forthcoming UNDP China report.

Key conclusions:

- ◆ **Historically, energy has been an important sector for China's foreign assistance and international development cooperation.** There is some evidence of a shift towards renewable energy versus fossil fuel IDC projects.
- ◆ **Recent trends show a general slowdown in Chinese flows,** most likely exacerbated by COVID-19 mobility restrictions and their socio-economic impact in China and partner countries.
- ◆ **In ODA-like flows, renewable energy constitutes the majority of financial support** to partner countries in the energy sector, mostly in the form of material donations. However, when extending the analysis to less concessional forms of development finance (i.e., OOF), the picture changes. Historically, fossil-fuel financing by the two policy banks has dominated clean energy sectors. That said, a reversal of this trend is evident from 2020.
- ◆ Data from our newly constructed dataset suggests **a clear rebound in the number of China's energy related IDC projects, particularly in renewable energy, in 2021 and 2022.** This increase aligns with China's recent emphasis on greening its international engagements.
- ◆ **OOF, an important source of development finance for the energy sector, has not seen a similar trend** after COVID-19. Notably, there were no new recorded official energy loan commitments from CDB and CHEXIM for two consecutive years (2021 and 2022). Given that OOF has accounted for approximately 88% of China's development finance in the energy sector over the past two decades, this lack of new commitments points to a growing financing gap.
- ◆ **Geographically,** while both Asia and Africa are fairly equal beneficiaries of ODA-like flows for renewable energy, the latter accounts for a larger share of official financing disbursed by the two policy banks.
- ◆ **Lack of timely and comprehensive datasets** hinders the depth of the analysis, making it challenging to draw definite conclusions, particularly in times of significant shocks such as the pandemic years.

2.1 General Trends in China's Development Finance Flows to the Energy Sector

Energy remains an important component in China's overall international development cooperation flows, following the general trend of IDC over the past decade.

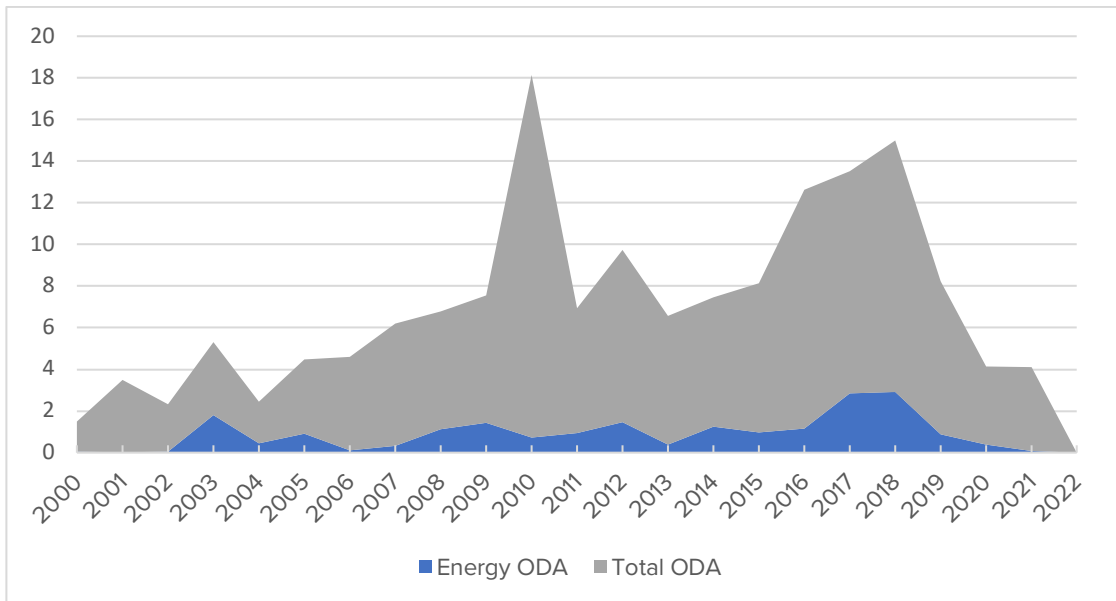
China's energy-related ODA-like⁸ flows peaked at \$ 2.9 billion (constant \$ 2021 value) in 2018 but declined significantly during the pandemic years, dropping to just a quarter of their peak value. This decline was in line with the sharp fall in overall ODA-like flows, according to AidData⁹.

Energy related ODA-like flows by China account for a larger share than those from other official donors. From 2000 to 2021, energy ODA-like flows accounted for approximately 14.5% of China's total ODA-like flows, compared to about 9.3% for official donor countries, as recorded in the OECD platform during the same period.

⁸ The ODA-like flow here is defined by AidData following OECD's definition. The flow needs to meet three criteria to be classified as ODA-like flow, 1) the project/activity needs to have development intent, 2) project/activity must take place in a country that qualifies for ODA based on its income level, 3) the official commitment supporting the project/activity must be concessional in nature.

⁹ The noticeable decline in China's total ODA in 2020 is also corroborated by a recent study by the Japan International Cooperation Agency that also highlights the uncertainty in the 2021 and 2022 outlook for Chinese ODA. <https://www.tandfonline.com/doi/full/10.1080/24761028.2024.2316532>

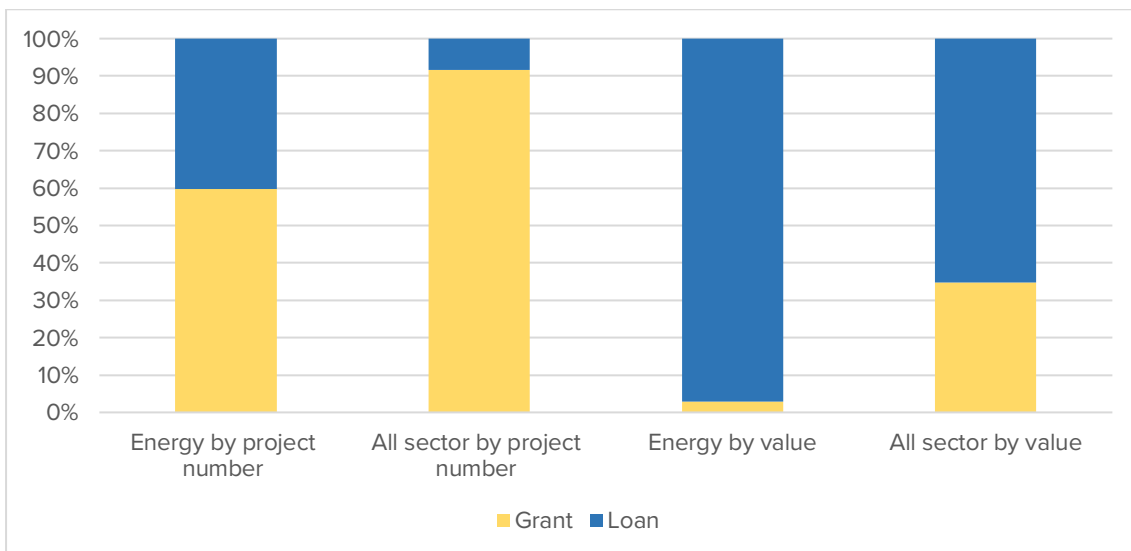
Figure 1. China's total ODA-like flows and energy ODA-like flows (unit: \$ billion)



Source: Global Chinese Development Finance Dataset Version 3.0 by AidData

Loans dominate China's energy ODA-like flows. This is true both in terms of the number of projects and their total value. Interest-free and concessional loans account for around 97% of the total value of energy ODA projects, compared to about 65% for total ODA across all sectors. This disparity is partly due to the large scale of many energy infrastructure construction projects, which are more likely to be financed through loans rather than grants.

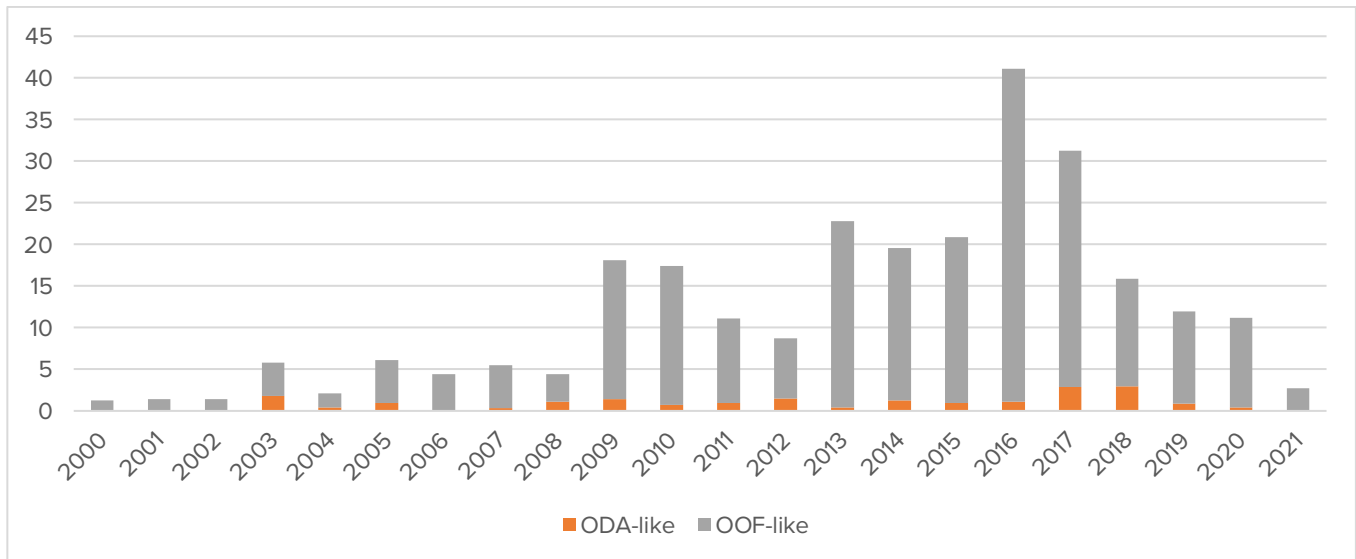
Figure 2. Composition of loans vs grants in energy and total ODA-like flows.



Source: Global Chinese Development Finance Dataset Version 3.0 by AidData

Moving towards less concessional forms of development financing shows that energy OOF vastly outweigh ODA. Over the past two decades, OOF-like flows have constituted 88% of China's total development finance flowing into the energy sector, while ODA-like flows have accounted for only 7%.¹⁰

¹⁰ The remaining 5% are undetermined flows where the information available is not sufficient to determine the nature of the flow.

Figure 3. China's ODA-like vs OOF-like flows in the energy sector (unit: \$ billion)

Source: Global Chinese Development Finance Dataset Version 3.0 by AidData

2.2 Renewable Energy ODA-like Flows

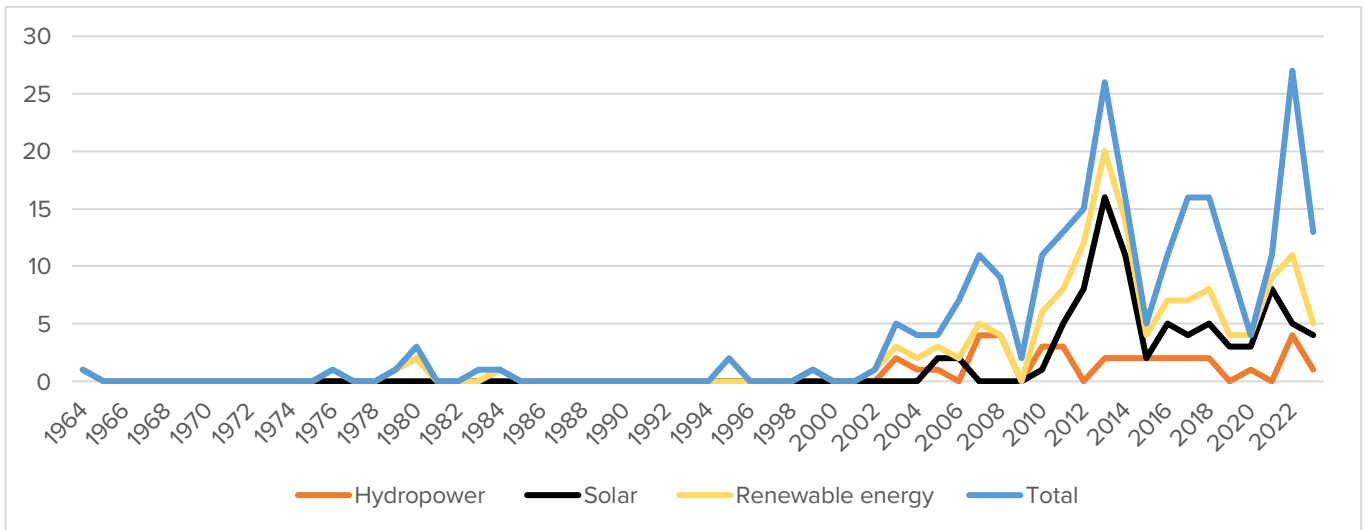
Section 2.1 above offers a quick overview of the scale and composition of China's energy ODA-like flows using AidData. However, **the dataset lacks subsector information, preventing a detailed analysis of Chinese development finance flows by energy type.** To address this information gap, a new dataset was constructed under this joint research project between UNDP China, World Resources Institute, and the Chinese Academy of International Trade and Economic Cooperation (CAITEC). This database covers China's energy-related foreign assistance projects from 1964 to 2023 and uses data from official sources, benchmarked against OECD energy sector classifications.¹¹ The dataset follows China's definition of IDC, which aligns, albeit not fully, with OECD-DAC ODA.

The number of China's energy and renewable energy IDC projects has surged, particularly since 2000. After having reached a peak in 2013, however, the trend reversed, showing a decline. IDC projects in the renewable energy sector have followed this general trend. That said there has been a rebound in energy and renewable energy IDC projects since 2020, recording a peak in 2022 before fluctuating back to 2018 levels in 2023. The increases in 2021 and 2022 – particularly evident for non-renewable energy projects – may be attributed to a recovery from the impact of COVID-19. This also coincides with China's 2021 announcement to strengthen support for green development in other developing countries.

Renewable energy constitutes the majority of China's energy IDC, with 57% of 294 documented projects dedicated to this sector. Within the sector, solar energy has overtaken hydropower as the primary focus, especially since 2010. Solar energy now accounts for more than half (53%) of the total renewable energy projects, followed by hydropower at 27.8%, most of which are small-scale.

¹¹ The datasets currently do not contain information relating to project amount, thus all analysis here are based on number of projects. Forthcoming paper under the joint project between UNDP China, WRI and CAITEC.

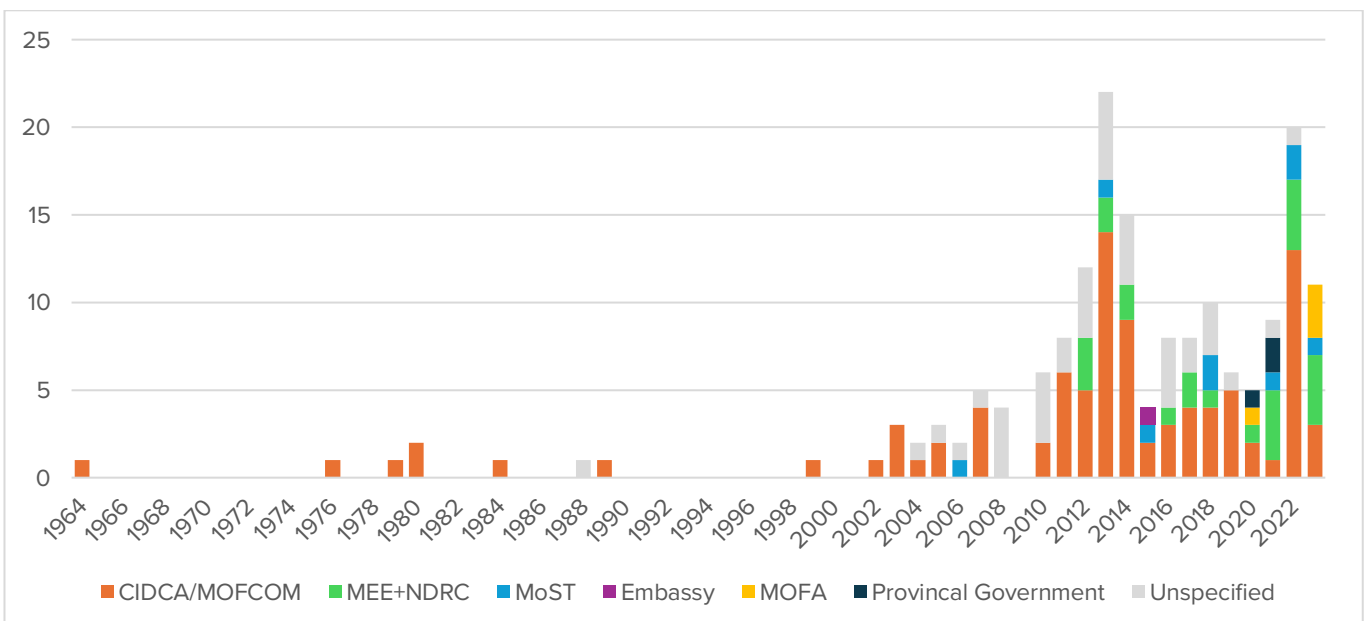
Figure 4. Number of IDC projects in energy, 1964-2023



Source: China's Energy IDC Database by CAITEC

In reviewing key agencies that initiated renewable energy IDC (RE IDC), 2012 marks a turning point. Prior to 2012, the Ministry of Commerce (MOFCOM), the key ministry responsible for carrying out foreign aid, was the main initiator of such projects. After 2012, relevant ministries responsible for green development and climate action, including the Ministry of Ecology and Environment (MEE) and National Development Reform Commission (NDRC), and the Ministry of Science and Technology (MOST), also began initiating IDC projects in renewable energy. The involvement of additional ministries, the launch of China South-South Climate Cooperation Fund in 2015, as well as the country's increasing capacity in the sector have all contributed to the upward trend of China's RE IDC.

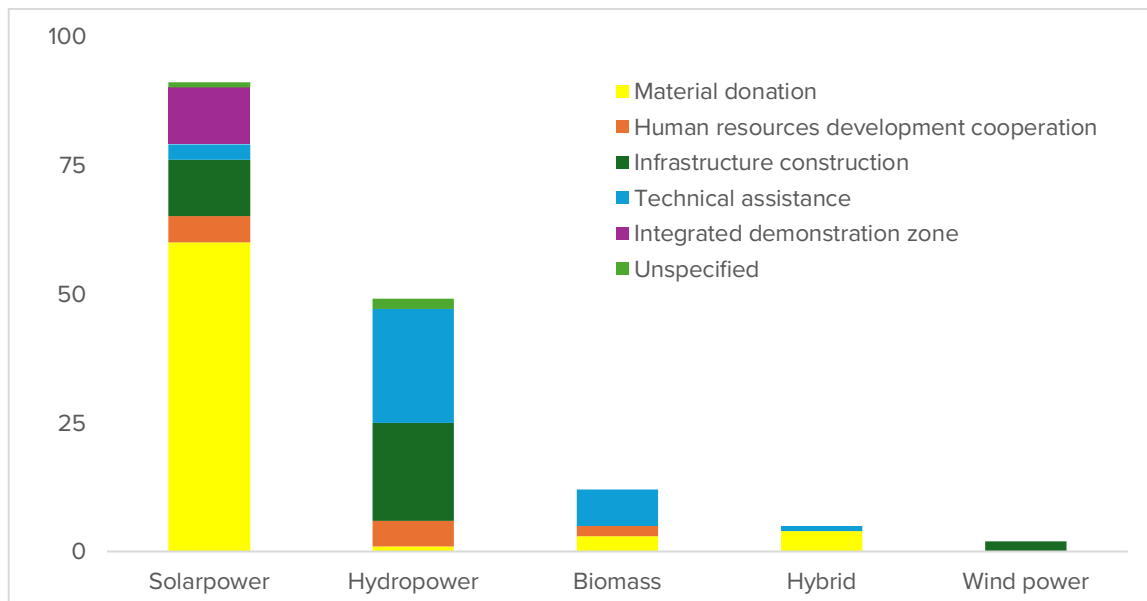
Figure 5. Number of RE IDC projects by initiating agencies.



Source: China's Energy IDC Database by CAITEC

Material donation is the most common form of collaboration in renewable energy IDC, accounting for 42.5% of projects (Figure 6). The ratio is highest for solar projects, reaching 66%. This preference is due to the well-established project management regulations for material donations, which make it the most efficient and safest option for implementing energy-related IDC projects.

Figure 6. Number of RE IDC projects by cooperation model



Source: China's Energy IDC Database by CAITEC

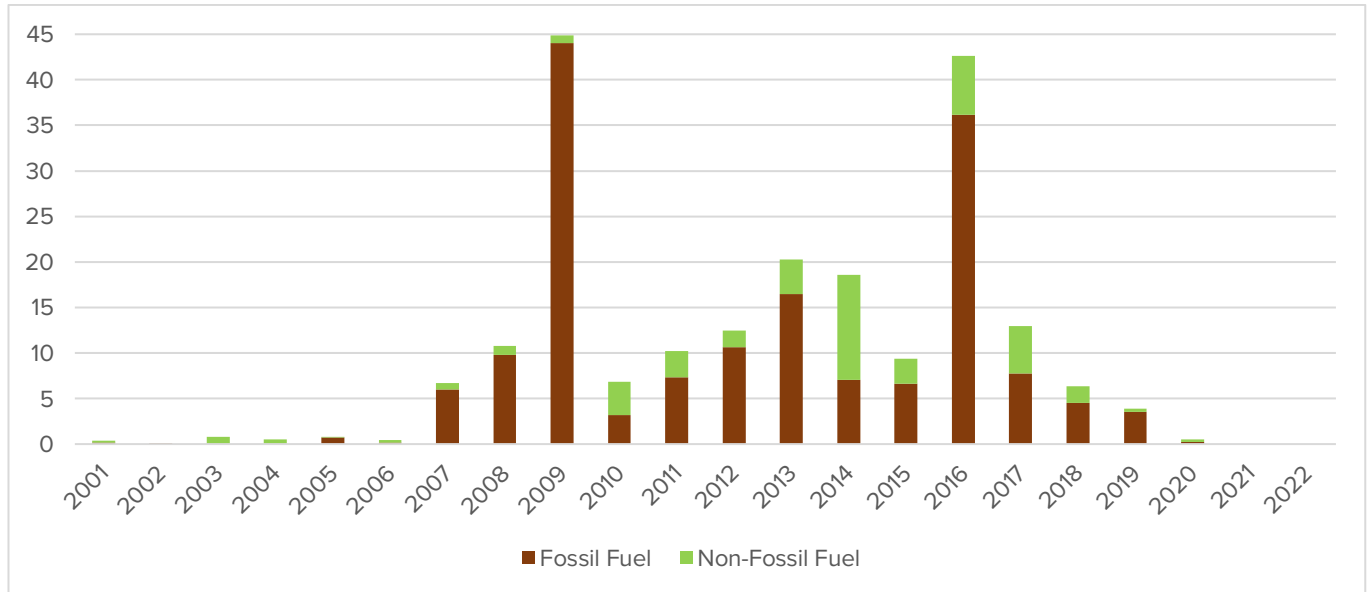
Geographically, Asia and Africa are the primary beneficiaries of China's renewable energy IDC. In the Asia-Pacific region, top recipient countries include Pakistan, Myanmar, Lao PDR, and Cambodia. In Africa, the top recipients are Ethiopia, Liberia and Burundi.

2.3 Other Official Flows Towards the Energy Sector: the Role of China's Policy Banks

Given the relative importance of OOF (section 2.1), and the need for developing countries to seek diversified funding sources for renewable energy development, it is crucial to understand the trends and composition of China's other official flows into the energy sector. To achieve this, we utilize data from the China Global Energy Finance (CGEF) Database, which tracks overseas energy financing from China's two policy banks: China Development Bank (CDB) and Export-Import Bank of China (CHEXIM). A key advantage of the GCEF database is that it allows for a breakdown of financial flows towards the energy sector, distinguishing between fossil and non-fossil sub-sectors official financial flows by the two banks.

Historically, fossil-fuel financing has dominated over clean energy sectors. According to the CGEF, the majority of China's official energy financing has been directed towards fossil fuel projects, comprising 73% of the total between 2001 and 2020. Its financing peaked in 2009 and 2016, driven by several large oil sector projects.

Figure 7. Breakdown of China's official energy finance by fossil and non-fossil sectors from CDB and CHEXIM (unit: \$ billion)



Sources: China Global Energy Finance (CGEF) Database by Boston University

However, the dominance of fossil fuels is slowly diminishing. Breaking down the trends by energy source reveals a decline in coal and oil project financing, both in terms of the number of projects and their value, as China's overall overseas energy finance decreases. By 2020, coal-related projects had sharply declined, with only one accounting for 13% of total energy loans that year. This indicates that China's policy banks have been gradually shifting away from fossil fuels even before China's official 2021 announcement to stop financing new coal power plants.

Renewable energy financing has been following the overall trend. As illustrated in Figure 10, renewable energy project financing peaked at around \$ 6 billion in 2016 but plummeted to approximately \$ 280 million by 2020.

Figure 8. Composition of China's official energy finance by number of projects

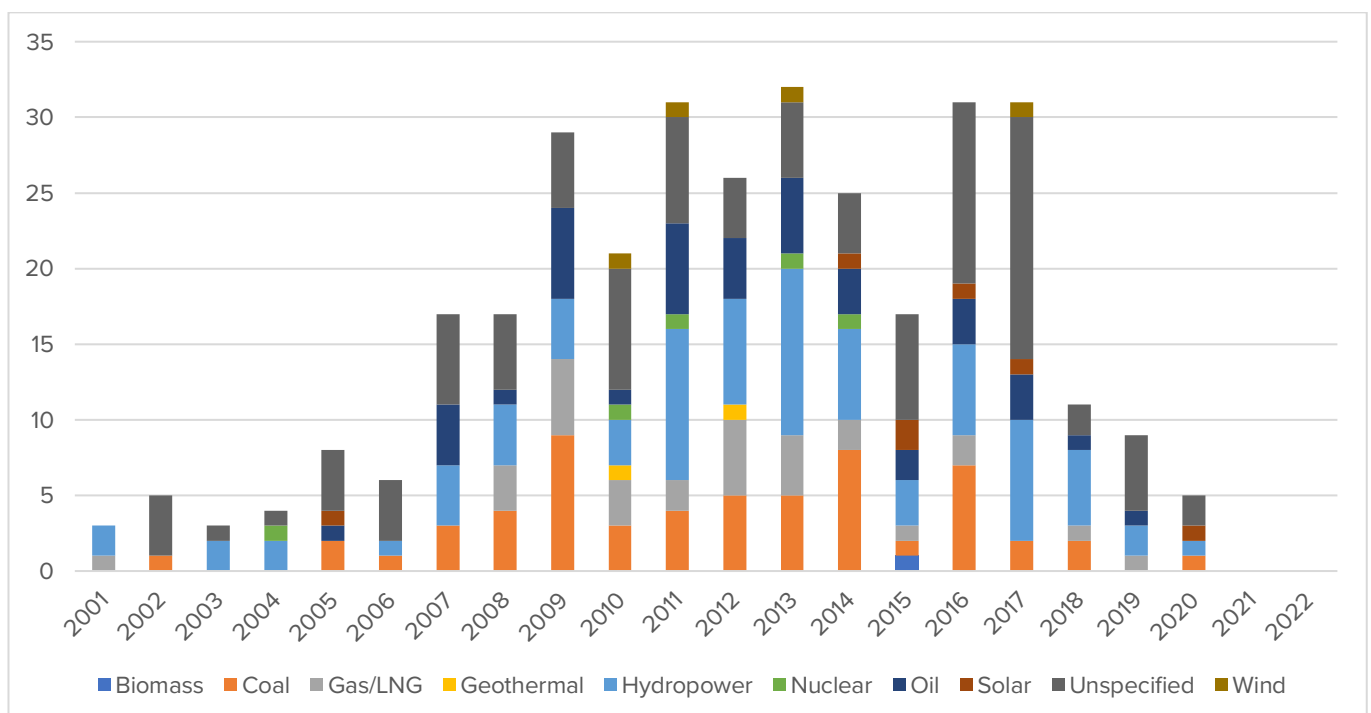
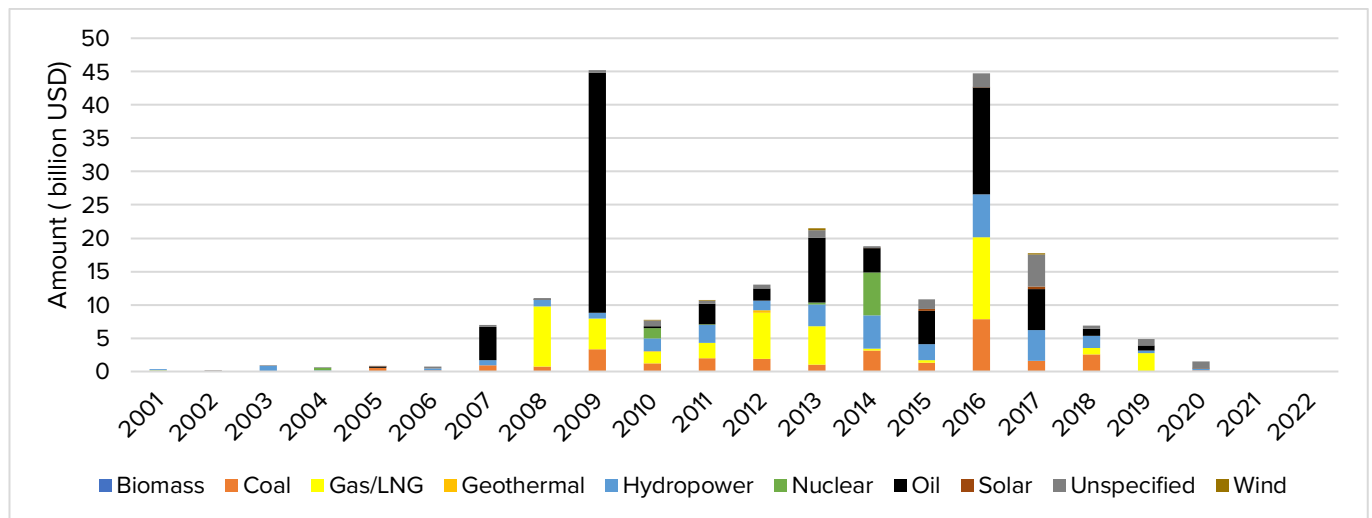


Figure 9. Composition of China's official energy finance by amount (\$ billion)

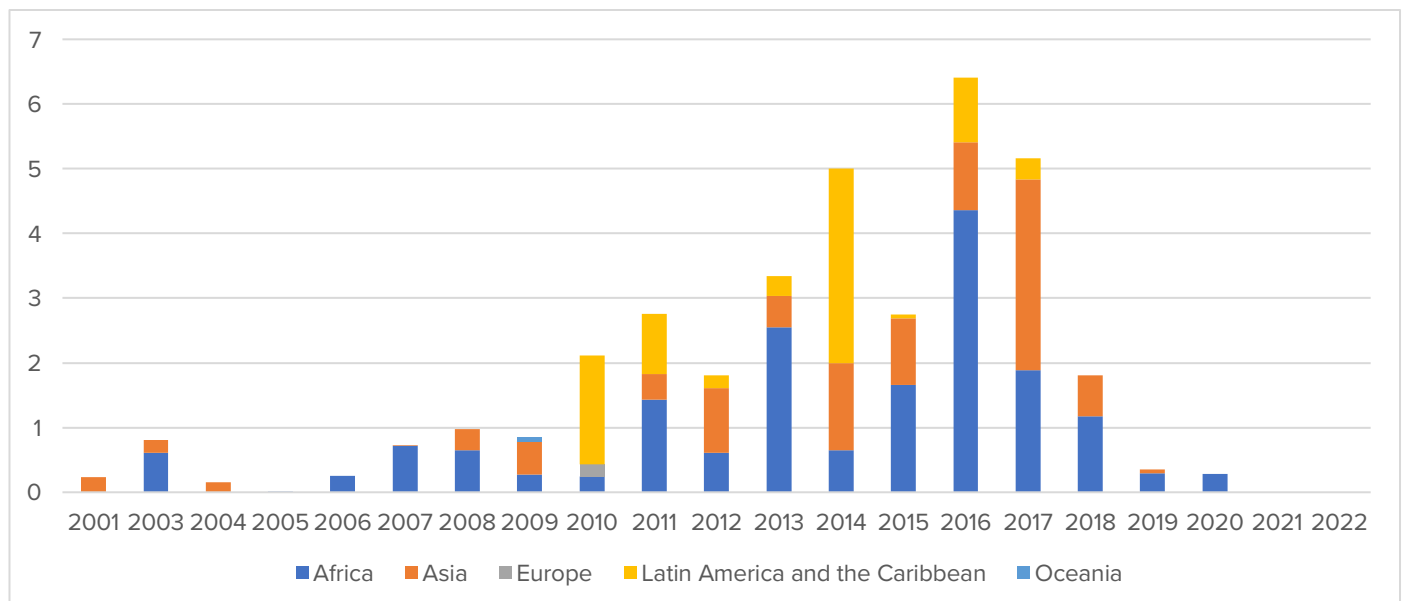


Sources: China Global Energy Finance (CGEF) Database by Boston University.

There were no new official energy loan commitments from CDB and CHEXIM in 2021 and 2022. This decline is attributed to various factors, including the impact of COVID-19 and a strategic shift by China's policy banks towards domestic economic priorities.¹²

Geographically, Africa has received the highest share of Chinese policy banks' official finance in renewable energy over the past two decades, accounting for 49.5% of the total. Asia follows with 28.9%, and Latin America and the Caribbean with 20.9%. This geographical distribution is relatively more balanced compared to its RE IDC, which is heavily skewed towards Africa and Asia. Since 2016, China's policy banks' official finance in renewable energy has shifted away from Latin America and Asia. In 2020, all renewable energy projects were in African countries.

Figure 10. Regional distribution of China's official finance in renewable energy (unit: billion \$)

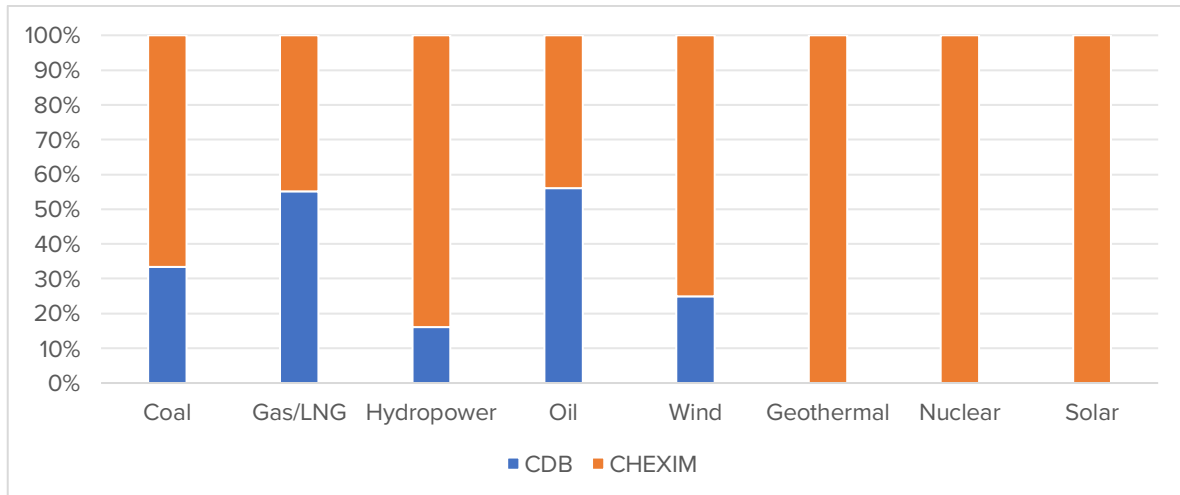


Sources: China Global Energy Finance (CGEF) Database by Boston University.

¹² Global Development Policy Center. (2023). Green Horizons? China's Global Energy Finance in 2022. https://www.bu.edu/gdp/files/2023/11/GCI_PB_020_CGEF_FIN.pdf

CHEXIM is more active in providing loans for renewable energy. Of the total 100 renewable energy projects, 86 are financed by CHEXIM. In the wind and hydropower sectors, CHEXIM accounts for around 80% of the projects. In geothermal, nuclear, and solar sectors, its share reaches 100%.

Figure 11. China's official energy finance projects by lenders



Sources: China Global Energy Finance (GCEF) Database by Boston University.

3. Trilateral Cooperation Projects in Renewable Energy: UNDP's Experience

Analysis in previous sections indicates a clear rebound in the number of China's energy-related IDC projects, particularly in renewable energy, in 2021 and 2022. This increase aligns with China's recent emphasis on greening its international engagements. On the other hand, OOF, another important source of development finance for the energy sector, has not seen a similar trend after COVID-19. Notably, there were no new recorded official energy loan commitments from CDB and CHEXIM for two consecutive years in 2021 and 2022.¹³ Given that OOF has accounted for approximately 88% of China's development finance in the energy sector over the past two decades, **this lack of new commitments signifies a growing financing gap.**

Given China's sheer size and comparative advantage in renewable energy, it has the potential to scale up its overseas development financing in various formats, including both ODA and OOF. To enhance its support for developing countries' green development, China could consider increasingly employing **blended finance** and **trilateral cooperation** to unlock resources from various sources. Over the past decade, China has been actively piloting trilateral cooperation involving different stakeholders.¹⁴ As a neutral platform with a wide global footprint, UNDP, along with other UN agencies, has been a key partner in supporting China's trilateral cooperation.

This section presents two trilateral projects in renewable energy, showcasing key results and lessons learned. These on-the-ground observations and insights aim to inform China's future IDC in renewable energy, enhancing its development impact and contribution to the global energy transition.

¹³ Please note this conclusion is based on GCEF database which only covers lending from China's two policy banks to government entity.

¹⁴ UNDP. (2020). Snapshot of Trilateral Cooperation within China: Voices from Chinese and International Development Actors. <https://www.undp.org/china/publications/snapshot-trilateral-cooperation-within-china-voices-chinese-and-international-development-actors>

3.1 Denmark-Ghana-Zambia-China-UNDP Renewable Energy Technology Transfer Project

To help rural communities in Ghana and Zambia gain access to electricity, Denmark funded two trilateral projects on renewable energy technology transfer (RETT) involving China, Ghana, and Zambia. The funding was fully provided by the Danish Ministry of Foreign Affairs, while China contributed technical expertise, experience and other in-kind support, and UNDP provided project management support. The project aimed to adapt Chinese experiences and technical skills to promote renewable energy technologies (including solar, hydro, and biogas) in Africa.

The projects adopted a holistic approach, operating at two levels:

- ◆ Upstream level: Supporting the creation of an enabling environment for technology transfer and strengthening SSC capacity between China, Ghana, and Zambia.
- ◆ Downstream level: Focusing on the actual transfer and demonstration of technologies with potential for scaling up by the private sector.

As a flagship project piloting UNDP's approach to trilateral cooperation, the initiative combined the needs and expertise of partner countries with Chinese experience and technical know-how, transferring knowledge and skills to promote mutual benefits. Through this approach, UNDP served as a knowledge broker, capacity developer, and facilitator, responding to the countries' needs and providing a platform for knowledge exchange visits and events.

3.2 China-Ethiopia-Sri Lanka-UNDP Renewable Energy Technology Transfer Projects

Building on the successful completion of the Denmark-Ghana-Zambia-China-UNDP project, in 2019, the Chinese Ministry of Commerce initiated a new trilateral cooperation project involving Sri Lanka and Ethiopia. The projects, which concluded this year, were co-financed by China's MOFCOM, the Ministry of Water and Energy of Ethiopia (MoWE), and the Sri Lanka Sustainable Energy Authority (SLSEA). They were coordinated and implemented by UNDP's offices in China, Ethiopia and Sri Lanka, with technical support from the Administrative Center for China's Agenda 21 (ACCA21) and China Agricultural University (CAU).

The primary aim of the projects was to improve access to clean and renewable energy in developing countries. In Ethiopia, the focus was specifically on providing sustainable energy solutions for the farming and agricultural sectors. In Sri Lanka, the goal was to support the achievement of its national targets for reducing greenhouse gas (GHG) emissions through demonstrations of biogas and solar technologies in the agro-industry sector.

Ethiopia:

1) Technology demonstration: The project has installed three institutional solar PV systems, a 90Kw solar-powered irrigation system, and is in progress of installing a 300 m³ institutional biogas plant, benefiting a total of 50,167 individuals.

2) Capacity building: To ensure the continued operation of renewable energy technologies (RETs), the project trained over 500 government officers and technical experts from MoWE and regional energy bureaus. Training covered a range of topics, including energy needs assessment, solar and biogas system design, solar PV mini-grids system design, operation and maintenance, as well as business model innovation.

Sri Lanka:

1) Technology demonstration: The project delivered 262 renewable energy technology applications (including biogas plants, solar PV systems, solar-powered greenhouses, cold rooms, and sprayers, etc.) to over 233 beneficiaries across five provinces.

2) Capacity building: To enhance long-term institutional capacity, the project supported the development of five provincial energy plans for the agriculture sector. Additionally, an Energy Data Management System (EDMS) to monitor energy savings from these technologies was developed with the support of the SLSEA.

Highlights of the two projects:

- ◆ In addition to technology demonstration and capacity building, the projects put strong emphasis on **knowledge sharing**. In total, four knowledge-sharing workshops with field visits were convened through hybrid format in China, Ethiopia and Sri Lanka. This helped facilitate mutual learning and exchange of knowledge, experience and best practices across the three countries. To enhance project sustainability, two joint extension research centers are being established between CAU and local universities in both Sri Lanka and Ethiopia. These centers are expected to continue help facilitating research and scholar exchange programs across the three countries.
- ◆ To generate greater impact in local markets, the project designed a renewable energy innovation and excellence **award scheme** to recognize and financially award local private sector entities with innovative RET solutions.

3.3 Lessons Learned from Trilateral Projects

- ◆ **A demand-driven approach is essential for ownership and impact, but it requires technical and human capacity.**

A demand-driven approach is essential for maximizing projects' development impact. The demand from developing countries should be considered not only during the project design or proposal phase but also **embedded throughout the entire project cycle**, including implementation.

In the case of the China-Ethiopia-Sri Lanka-UNDP project, while both recipient countries requested solar and biogas technology transfer, their specific demands varied greatly. To ensure alignment with current local needs, **thirty-four feasibility studies** were conducted to select the most appropriate RET for demonstrations across nine regions in the two countries. With support from Chinese technical experts, online catalogs of transferable renewable energy technologies were also created, providing local stakeholders in Ethiopia and Sri Lanka with access to diverse renewable energy solutions and allowing them to pursue sustainable energy options that best align with their needs. Additionally, the project management unit emphasized **local stakeholder engagement**. This includes conducting consultations with stakeholders in the fisheries, agriculture and dairy sectors in Sri Lanka, as well as holding consultations with national key partners in energy and biogas areas in Ethiopia.

Compared with traditional bilateral IDC projects, where development needs are communicated at national level through embassies, the involvement of UNDP creates **multi-tiered communication channels**. These channels engage provincial officials, farmer organizations, technical experts, and technology suppliers, ensuring that **subnational priorities, beneficiary needs, and technical feasibility are thoroughly considered** throughout the project cycle.

China has also taken important steps to ensure a demand-driven approach. A notable example of this progress is China's East Asia Poverty Reduction Cooperation Pilot Projects, which are jointly managed by the International Poverty Reduction Center in China (IPRCC) and the Agency for International Economic Cooperation (AIECO)

under MOFCOM. The project team adopted a participatory approach, organizing consultation meetings with local villagers to determine how project resources should be allocated across various activities.¹⁵

Adopting a demand-driven approach requires dedicated human and technical resources, which can strain the implementing agency's capacity on other fronts.

Recommendation: China could consider enhancing collaboration with international organizations, including UNDP and other development agencies that have already established partnerships with governments, academia, CSOs, and the private sector in partner countries. **Leveraging their networks and resources for consultations and stakeholder engagements during both the project design and implementation** phases would greatly enhance the development outcomes of the projects.

◆ **Diversifying activities and approaches help contribute to project sustainability.**

Project sustainability is a key criterion in evaluating the success of development projects. During the program, we found that **strategically diversifying activities contributes to long-term sustainability** by creating increased opportunities for scale-up and attracting interest from diverse partners.

One of the project's key objectives is to demonstrate the potential of RETs across various settings in partner countries. To amplify project's impact and **bring the project results closer to the market and finance stakeholders**, UNDP Sri Lanka and Ethiopia country offices leveraged their existing access to local private sector stakeholders to develop several innovative initiatives, including establishing a renewable energy award scheme to encourage private sector participation and innovation in the sector. In Sri Lanka, a matchmaking platform was created to help forge a stable supply chain, helping local businesses procure RET-related equipment from the global market.

Recognizing the importance of mobilizing private sector investment, the Sri Lanka Sustainable Energy Authority will allocate additional resources to actively monitor the performance of the deployed RETs after the project's conclusion. Information on emission savings and cost savings of RETs will be collected using the Energy Data Management System developed under the project. The Authority's commitment to continue its investments **highlights the project's success in ensuring project sustainability and local ownership.**

Additionally, two Joint Research and Extension Centers (JREC) are being established in Ethiopia and Sri Lanka, with the aim to generate evidence-based research building on the project's results and to promote knowledge sharing around relevant RETs across the three countries. With additional resources, these centers could facilitate scholar exchanges among the three countries, **providing a strong basis for future collaboration and scale-up.**

Recommendation: In the context of China's RE IDC, it is crucial to create an enabling environment that encourages broad innovation within each project. Diversifying approaches could create **multiple avenues for engagement and impact**, attracting a broader range of partners.

◆ **Empowering small and medium-sized enterprises (SMEs) to participate in international cooperation projects through the UN's procurement platform is key.**

One of the key challenges during the project implementation is **procuring the most suitable vendor** to provide the selected RE technology that best fits the local context. Due to the small scale of most demonstration projects, large companies are often reluctant to participate in bidding for relatively minor contracts. Meanwhile, SMEs that wish to participate may struggle with navigating the complex procurement platforms due to staff shortages and unfamiliarity with such processes.

The small-scale nature of IDC projects presents a unique opportunity for SMEs to get involved. Participation in these projects can provide SMEs with greater access to international markets and enhance their ability to meet international standards as part of the supply chain. Therefore, it is crucial for various stakeholders, including UN

¹⁵ More details of the project can be found in <https://www.iprcc.org/article/469t55Lb8on>

agencies, to empower and facilitate SME participation in such projects, fully leveraging this opportunity to strengthen their capabilities.

SMEs play a major role in most economies, accounting for the majority of businesses worldwide and significantly contributing to job creation. In emerging economies, formal SMEs contribute up to 40% of GDP.¹⁶ Recognizing this, UNDP Sri Lanka and SLSEA, in partnership with Standard Chartered Bank of Sri Lanka, **provide capacity development for SMEs in Sri Lanka on RET promotion**. This highlights UNDP's portfolios approach, where resources are leveraged across different projects to contribute to a common goal-in this case, promoting renewable energy development in Sri Lanka.

Recommendation: All stakeholders involved should mainstream and increase support to encourage local SMEs' participation in the RE sector and international cooperation projects. This approach will help to enhance co-benefits across a broader range of sustainable development and national priorities, including support to local economies and capacity building.

◆ **It is important to diversify funding resources to mitigate potential risks and challenges.**

One advantage of trilateral cooperation is its ability to pool different resources together. For instance, in the China-Ethiopia-Sri Lanka-UNDP project, funding is provided by China's Ministry of Commerce, with parallel contributions from the Sri Lanka Sustainable Energy Authority, Ethiopia's Ministry of Water and Energy, and UNDP. **Parallel funding from the governments of partner countries is instrumental in ensuring local ownership and buy-in.**

In light of possible shocks to public budgets, projects may also face risks of dwindling resources as government priorities change. The China-Ethiopia-Sri Lanka-UNDP project demonstrated that embedding the possibility to add funding partners, such as the private sector, during the project's lifecycle can mitigate such risks. Indeed, co-financing by the governments of Ethiopia and Sri Lanka was significantly reduced due to budget reallocations in response to the pandemic. To address this challenge, UNDP Ethiopia and Sri Lanka along with their government counterparts, explored mitigation measures including seeking funding and in-kind support from the provincial government of Kaduwela Municipal Council, private sector entities like Standard Chartered Bank in Sri Lanka, and UNOSSC.

Recommendations: To mobilize increased resources, China could explore leveraging various funding channels, including governments of traditional donors, emerging South-South cooperation players, development banks, and international vertical funds to form synergy in supporting the acceleration of SDG progress globally. China is already making important progress on these fronts. One recent example is the MoU signed between the Asian Infrastructure Investment Bank (AIIB) and the China International Development Cooperation Agency (CIDCA) in 2023. According to the latter, CIDCA's resources will support the preparation and financing of AIIB projects in line with international standards and the bank's strategy and policies. This demonstrates the potential of CIDCA's resources as seed funding to catalyze larger development projects.

To further enhance its efforts in supporting other countries' green development, China could also consider strategically leveraging funding from vertical funds in the climate and environment sectors, such as the Global Environment Facility and the Green Climate Fund, at the request of partner countries. Many of these vertical funds require recipient countries to utilize additional resources from other parties. China could consider using some of its grants to contribute to these projects, helping to form synergies and achieve impact at scale.

◆ **Trilateral projects provide an opportunity to apply monitoring and evaluation practices by different parties.**

One takeaway from the China-Ethiopia-Sri Lanka-UNDP project is the importance of conducting a terminal evaluation at the end of the project implementation cycle. Two independent evaluators were hired for Sri Lanka

¹⁶ World Bank Group. (2019). Small and Medium Enterprises (SMEs) Finance. <https://www.worldbank.org/en/topic/sme/finance>. Last access time: 16, July 2024

and Ethiopia, under the overall coordination and guidance of UNDP China. The projects are being evaluated based on the UNDP evaluation guidelines and criteria.¹⁷ The evaluation examines project results and implementation processes from diverse perspectives, including gender equality and the principle of leaving no one behind. Recommendations for project improvement, based on stakeholder interviews, are provided to all relevant stakeholders, including funding partners. To ensure transparency, the final evaluation report will be made publicly available on the website of the UNDP Independent Evaluation Office¹⁸.

Recommendation: Trilateral projects offer great opportunities to **promote mutual understanding around practices and standards** across different partners. As China seeks to strengthen its monitoring and evaluation practices, it can utilize experiences from trilateral projects and adopt a learning-by-doing approach to enhance its capacity in monitoring and evaluating IDC projects.



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www.undp.org/china

¹⁷ UNDP. (2021). Evaluation Guidelines UNDP. <http://web.undp.org/evaluation/>

¹⁸ UNDP. (2022). Evaluation Resource Center. <https://erc.undp.org/>. Last access time: 16 July 2024