



# Technical Assistance Report

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Project Number: 55046-001  
Knowledge and Support Technical Assistance (KSTA)  
September 2021

## People's Republic of China: Scaling Up Climate Financing and Carbon Neutrality in Hainan

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Asian Development Bank



## CURRENCY EQUIVALENTS

(as of 3 August 2021)

Currency unit	–	yuan (CNY)
CNY1.00	=	\$0.16
\$1.00	=	CNY6.46

## ABBREVIATIONS

ADB	–	Asian Development Bank
GHG	–	greenhouse gas
HDEE	–	Hainan Department of Ecology and Environment
NDRC	–	National Development and Reform Commission
PRC	–	People’s Republic of China
TA	–	technical assistance
TASF	–	Technical Assistance Special Fund

## NOTE

In this report, “\$” refers to United States dollars.

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## KNOWLEDGE AND SUPPORT TECHNICAL ASSISTANCE AT A GLANCE

<b>1. Basic Data</b>		<b>Project Number:</b> 55046-001
<b>Project Name</b>	Scaling Up Climate Financing and Carbon Neutrality in Hainan	<b>Department/Division</b> EARD/EASI
<b>Nature of Activity Modality</b>	Research and Development Regular	<b>Executing Agency</b> Hainan Department of Ecology and Environment
<b>Country</b>	China, People's Republic of	
<b>2. Sector</b>	<b>Subsector(s)</b>	<b>ADB Financing (\$ million)</b>
✓ Finance	Finance sector development	0.40
	<b>Total</b>	<b>0.40</b>
<b>3. Operational Priorities</b>		<b>Climate Change Information</b>
✓ Accelerating progress in gender equality		GHG Reductions (tons per annum) 0.000
✓ Tackling climate change, building climate and disaster resilience, and enhancing environmental sustainability		Climate Change impact on the Project Low
✓ Strengthening governance and institutional capacity		<b>ADB Financing</b>
		Adaptation (\$ million) 0.00
		Mitigation (\$ million) 0.40
		<b>Cofinancing</b>
		Adaptation (\$ million) 0.00
		Mitigation (\$ million) 0.00
<b>Sustainable Development Goals</b>		<b>Gender Equity and Mainstreaming</b>
SDG 5.5		Some gender elements (SGE) ✓
SDG 12.2		
SDG 13.a		<b>Poverty Targeting</b>
SDG 17.3		General Intervention on Poverty ✓
<b>4. Risk Categorization</b>	Low	
<b>5. Safeguard Categorization</b>	Safeguard Policy Statement does not apply	
<b>6. Financing</b>		
<b>Modality and Sources</b>		<b>Amount (\$ million)</b>
<b>ADB</b>		<b>0.40</b>
Knowledge and Support technical assistance: Financial Sector Development Partnership Special Fund		0.10
Knowledge and Support technical assistance: Technical Assistance Special Fund		0.30
<b>Cofinancing</b>		<b>0.00</b>
None		0.00
<b>Counterpart</b>		<b>0.00</b>
None		0.00
<b>Total</b>		<b>0.40</b>
<b>Currency of ADB Financing:</b> US Dollar		



## I. INTRODUCTION

1. The knowledge and support technical assistance (TA) will support the understanding and use of climate financing to promote sustainable low-carbon development in Hainan Province, People's Republic of China (PRC), in line with the objectives of the PRC's Fourteenth Five-Year Plan, 2021–2025, which targets an 18% reduction in carbon dioxide intensity and a 13.5% reduction in energy intensity during 2021–2025.<sup>1</sup> The TA project will support a key strategic pillar of Strategy 2030 of the Asian Development Bank (ADB)—tackling climate change—by accelerating development with lower greenhouse gas (GHG) emissions.<sup>2</sup> The project will also contribute to Sustainable Development Goal 13 on taking urgent action to combat climate change. The TA will provide technical expertise to scale up climate financing in Hainan Province; help identify a pilot clean energy project with low or near-zero emissions; and build capacity of the Hainan provincial government to develop policies and measures that promote climate change mitigation and adaptation.<sup>3</sup>

2. During the 2020 country programming mission, the Government of the PRC and ADB agreed to implement a TA project in climate finance to support Hainan. The TA is in line with ADB's country partnership strategy for the PRC, 2021–2025, which prioritizes managing climate change and supports government efforts to achieve high-quality green development through investments and knowledge solutions focusing on environmentally sustainable development and climate change adaptation and mitigation.<sup>4</sup>

## II. ISSUES

3. The PRC aims to address climate change, including establishing targets to peak carbon emissions before 2030, contributing to the 2015 Paris Agreement objectives. In 2006, the central government introduced low-carbon city development as a national strategy, and since then local governments have been undertaking initiatives to reduce GHG emissions, tackle climate change, and move toward sustainable development.

4. In August 2010, the National Development and Reform Commission (NDRC) launched a pilot program for national low-carbon province and city development.<sup>5</sup> NDRC assigned 36 cities as pilot low-carbon cities, and six provinces, including Hainan Province, as pilot low-carbon provinces. Selected provinces and cities were required to incorporate climate change into their local five-year plans and formulate specific low-carbon development plans, including in the following areas: (i) developing low-carbon urban planning incorporating economic structural changes, low-carbon energy mix, and energy conservation considerations; (ii) establishing low-carbon policies to encourage energy conservation and renewable energy; (iii) accelerating innovation and research and development for low-carbon industries; (iv) establishing GHG database and management systems; and (v) encouraging green lifestyle changes. The goal of these pilots was to test low-carbon policies and technologies and provide experience and lessons for future initiatives in other cities and provinces.

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<sup>1</sup> Government of the PRC. 2021. *The Outline of the Fourteenth Five-Year Plan for National Economic and Social Development and the Long-range Objectives through the Year 2035*. Beijing.

<sup>2</sup> ADB. [Strategy 2030: Achieving a Prosperous, Inclusive, Resilient, and Sustainable Asia and the Pacific](#).

<sup>3</sup> The TA first appeared in the business opportunities section of ADB's website on 23 August 2021.

<sup>4</sup> ADB. [Country Partnership Strategy: People's Republic of China, 2021–2025—Toward High-Quality, Green Development](#).

<sup>5</sup> The NDRC launched the first batch of low carbon province and low carbon city pilots in 2010, and the second batch in 2012. Hainan was included in the second batch.

5. The island province of Hainan is the PRC's southernmost province. It features a rapidly growing economy that relies heavily on international and domestic tourism.<sup>6</sup> The services sector accounts for 60% of Hainan's economic output, building on revenues generated by more than 64 million visitors per year. Hainan was designated a free trade port in 2020. The rapid growth of Hainan's economy and population is creating increased demand for energy. The province relies mainly on nonrenewable energy sources such as coal and nuclear power. Nevertheless, only 42% of Hainan's power generation is fossil fuel based, and its GHG emissions are the lowest in the country.

6. Green growth based on low-carbon objectives and clean technologies is a fundamental component of Hainan's economic development strategy. The provincial government is exploring pilot projects to develop low-carbon cities and near-zero carbon emission demonstration zones. A national government plan to implement an ecological civilization pilot zone in Hainan Province from 2019 will promote the green and sustainable development of the province.<sup>7</sup> Key targets of the plan include reducing energy consumption and carbon dioxide emissions to below 2015 levels, and increasing clean energy's share to 83% of installed capacity over by 2025.<sup>8</sup> Development of clean energy in Hainan is closely related to the PRC's government overall strategy of (i) building a clean, low-carbon, safe, and efficient energy system; and (ii) peaking carbon emissions before 2030.

7. Addressing climate change and pursuing low-carbon economic development have created new challenges related to managing and using the fiscal revenues of local governments and attracting private investments, particularly from commercial funding sources. Further work is needed to: (i) identify financing needs and bottlenecks in low-carbon sectors; (ii) analyze the structure and form of financing mechanisms for low-carbon financing; (iii) determine the roles that the private sector and public sector (both central and local governments) should play in low-carbon financing; and (iv) identify policies, incentive mechanisms, and investment frameworks that the government should adopt to attract more investment and private sector participation in low-carbon sectors.

8. In October 2020, the Ministry of Ecology and Environment, together with other national agencies, launched a guidance document to promote climate investment and finance in the PRC to actively address climate change,<sup>9</sup> and promote the country's nationally determined contributions as part of the country's commitment to the Paris Agreement.<sup>10</sup> This TA project will support the government's objective to promote and enhance climate investment by: (i) improving the enabling environment, knowledge, and skills of local governments and the private sector to

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<sup>6</sup> The Fourteenth Five-Year Plan, 2021–2025 projects Hainan's gross domestic product to grow at an average annual rate of 12%.

<sup>7</sup> Government of the PRC. 12 May 2019. Implementation Plan of the National Ecological Civilization Pilot Zone (Hainan). [http://www.xinhuanet.com/english/2019-05/13/c\\_138053142.htm](http://www.xinhuanet.com/english/2019-05/13/c_138053142.htm).

<sup>8</sup> Provincial Government of Hainan. 2021. [Hainan hopes to peak carbon dioxide emissions by 2025](#). News release. 9 July.

<sup>9</sup> Ministry of Ecology and Environment, NDRC, People's Bank of China, China Banking and Insurance Regulatory Commission, and China Securities Regulatory Commission. 2020. [Guidance for Promoting Climate Investment and Finance](#). Beijing.

<sup>10</sup> The PRC's nationally determined contribution targets include (i) to achieve peaking of carbon dioxide emissions around 2030 and to undertake best efforts to peak earlier; (ii) to lower carbon dioxide emissions per unit of gross domestic product by 60%–65% compared with the 2005 level; (iii) to increase the share of non-fossil fuels in primary energy consumption to about 20%; and (iv) to increase forest stock volume by about 4.5 billion cubic meters compared with 2005. Source: NDRC. 2015. [Enhanced Actions on Climate Change: China's Intended Nationally Determined Contributions](#). Beijing.



prepare and implement climate-positive development projects; and (ii) identifying a low-carbon project that could have a demonstration effect in catalyzing private sector participation.

### III. THE TECHNICAL ASSISTANCE

#### A. Impact and Outcome

9. The TA contributes to and is aligned with the following impacts: (i) investment and finance activities that better serve low-carbon development goals in the PRC promoted (footnote 9); and (ii) peaking carbon emissions before 2030 and carbon neutrality by 2060 in the PRC achieved (footnote 1). The TA will have the following outcome: climate financing strategy for catalyzing private sector investment improved.

#### B. Outputs, Methods, and Activities

10. **Output 1: Roadmap for creating enabling policies and regulations and institutional mechanisms for scaling up climate finance developed.** Output 1 will comprise: (i) a review of the current climate financing environment in Hainan, including the legal and regulatory framework, and assessment of climate financing gaps and needs to achieve the province's climate change goals—including debt instruments linked to sustainability, blended finance, investment funds, and risk-sharing instruments; (ii) consultations and roundtable discussions with public and private stakeholders on the challenges and opportunities of introducing climate financing; and (iii) development of a roadmap, based on best international practices, that includes action plans and guidance on enabling policies, regulations, institutional mechanisms, and incentives (e.g., tax incentives and credit enhancements to reduce costs and risks) for the provincial government to scale up climate financing of low-carbon projects in Hainan.

11. **Output 2: Capacity for project development and investment in low-carbon, climate-resilient infrastructure strengthened.** The TA will support capacity and knowledge strengthening of the Hainan provincial government and other relevant agencies and institutions. Activities under this output will include multistakeholder consultations and workshops on climate finance. Specifically, these capacity building activities will help build the Hainan provincial government's knowledge and technical capacity to develop projects and prepare proposals to attract funding and investment from both the public and private sectors.

12. **Output 3: Pilot climate finance project on low-carbon technologies identified.** Under this output the TA team will (i) analyze and prescreen a list of potential clean energy projects of the Hainan provincial government (projects must support local and regional socioeconomic growth, with low- or near-zero net carbon emissions; fossil fuel-related efficiency improvement projects will be excluded); (ii) identify at least one pilot clean energy project based on climate change mitigation/adaptation criteria and other sustainability factors; and (iii) conduct a pre-feasibility study on the identified project, and recommend climate financing solutions to meet project financing needs, with a focus on catalyzing private investment.

13. ADB will add value by supporting the Hainan provincial government to create an enabling environment consistent with international best practices that will facilitate climate finance investments. This is aligned with the country knowledge plan outlined in the country partnership strategy 2021–2025. The TA will support the Hainan Department of Ecology and Environment, as the executing agency, in: (i) scaling up low-carbon or carbon-neutral projects through increased climate financing, (ii) strengthening its institutional capacity, and (iii) catalyzing private

sector participation in low-carbon investments. Although the TA design does not feature direct gender components, it mandates at least 30% female participation in the workshops.

14. The key lessons and findings of the TA project will be disseminated through progress reports, workshops, conferences, and knowledge products. The executing agency and ADB will coordinate dissemination of the knowledge products through workshops, capacity building activities, and/or other awareness-raising activities. Target audiences for the knowledge products will include Hainan provincial government agencies, the private sector, and other stakeholders.

### C. Cost and Financing

15. The TA is estimated to cost \$420,000, of which (i) \$300,000 will be financed on a grant basis by ADB's Technical Assistance Special Fund (TASF-other sources), and (ii) \$100,000 will be financed on a grant basis by the Financial Sector Development Partnership Special Fund.<sup>11</sup> The key expenditure items are listed in Appendix 2.

16. The government will provide counterpart support in the form of counterpart staff, office accommodation, office supplies, documents, and information relevant to the implementation of the TA, and other in-kind contributions. The value of the government contribution is estimated to account for 5% of the total TA cost.

### D. Implementation Arrangements

17. ADB will administer the TA. The Sustainable Infrastructure Division and the Public Management, Financial Sector, and Regional Cooperation Division of ADB's East Asia Department will select, supervise, and evaluate consultants and monitor the progress and quality of work deliverables. The Hainan Department of Ecology and Environment will be the executing agency. Implementation arrangements are summarized in the table.

Implementation Arrangements			
Aspects	Arrangements		
Indicative implementation period	October 2021–October 2024		
Executing Agency	Hainan Department of Ecology and Environment		
Consultants	To be selected and engaged by ADB		
	Firm: Quality- and Cost-Based Selection (90:10)	International expertise (7 person-months); National expertise (24 person-months)	\$350,000
Disbursement <sup>a</sup>	The TA resources will be disbursed following ADB's <i>Technical Assistance Disbursement Handbook</i> (2020, as amended from time to time).		

ADB = Asian Development Bank, TA = technical assistance.

<sup>a</sup> Disbursement will use front-loading of cofinanced funds from the Financial Sector Development Partnership Special Fund.

Source: Asian Development Bank.

18. **Consulting services.** The TA will require 7 person-months of international and 24 person-months of national consultant inputs. ADB will engage the consultants following the ADB Procurement Policy (2017, as amended from time to time) and its associated staff instructions.<sup>12</sup>

<sup>11</sup> Established by the Asian Development Bank. Financing partner: the Government of Luxembourg.

<sup>12</sup> Terms of Reference for Consultants (accessible from the list of linked documents in Appendix 3).

19. **Cofinancier requirements.** The TA team will submit semiannual progress reports to the Financial Sector Development Partnership Special Fund manager by 31 July and 31 January, and additional updates (as necessary) on project implementation.<sup>13</sup>

#### IV. THE PRESIDENT'S DECISION

20. The President, acting under the authority delegated by the Board, has approved the provision of technical assistance not exceeding the equivalent of \$400,000 on a grant basis to the Government of the People's Republic of China for Scaling up Climate Financing and Carbon Neutrality in Hainan, and hereby reports this action to the Board.

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<sup>13</sup> ADB. [Implementation Guidelines for Financial Sector Development Partnership Special Fund.](#)

## DESIGN AND MONITORING FRAMEWORK

<b>Impacts the TA is Aligned with</b>			
(i) Investment and finance activities that better serve low-carbon development goals in the PRC promoted; <sup>a</sup> and (ii) Peaking carbon emissions before 2030 and carbon neutrality by 2060 in the PRC achieved (PRC Fourteenth Five-Year Plan, 2021–2025) <sup>b</sup>			
<b>Results Chain</b>	<b>Performance Indicators</b>	<b>Data Sources and Reporting Mechanisms</b>	<b>Risks and Critical Assumptions</b>
<b>Outcome</b> Climate financing strategy for catalyzing private sector investment improved	By 2025: a. Roadmap on climate financing adopted and implemented by HDEE (2021 baseline: NA) (OP 6.1.2) b. At least one low-carbon project prepared in line with the roadmap (2021 baseline: NA) (OP 3.1.5)	HDEE reports on website data  Reports of registered projects at the relevant Hainan provincial department	R: Reduced interest of private sector lenders/investors in using climate financing instruments
<b>Outputs</b> 1. Roadmap for creating enabling policies and regulations and institutional mechanisms for scaling up climate finance developed	By 2024: 1a. Assessment of Hainan's existing climate financing environment prepared (2021 baseline: not prepared) 1b. Roadmap for Hainan Provincial Government for scaling up climate financing prepared (2021 baseline: no roadmap)	1a. Desk reviews and minutes of consultation meetings and TA reports	R: Change in government priorities supporting climate financing in Hainan  R: Insufficient interest and less-than-anticipated acceptance by private financial institutions and enterprises  R: Cooperation from the provincial government is not sustained
2. Capacity for project development and investment in low-carbon, climate-resilient infrastructure strengthened	2a. At least 50 public officials and representatives from the private sector (of which at least 30% are women) participating in training and workshops reported improved knowledge and skills in developing low-carbon projects (2021 baseline: 0) (OP 2.3.1; OP 3.1.2; OP 6.1.1)	2a. Post-workshop and post-training surveys	
3. Pilot climate finance project on low-carbon technologies identified	3a. Climate financing solutions recommended for one demonstration project in Hainan (2021 baseline: none developed) (OP 3.1.5)	3a. Consultant reports	

### Key Activities with Milestones

#### 1. Roadmap for creating enabling policies and regulations and institutional mechanisms for scaling up climate finance developed

- 1.1 Review of Hainan's existing climate finance environment, including policies and regulations, and assessment of climate financing gaps and needs to achieve the province's climate change goals (Q2 2022)
- 1.2 Carry out consultations and facilitate roundtable discussions with public and private stakeholders on the challenges and opportunities of introducing climate financing in Hainan (Q1 2022–Q1 2023)
- 1.3 Produce a roadmap that focuses on creating an enabling environment—e.g., conducive policies, regulations, financial, and institutional mechanisms—for the provincial government to scale up climate financing of low-carbon projects in Hainan (Q1 2023)

#### 2. Capacity for project development and investment in low-carbon, climate-resilient infrastructure strengthened

- 2.1 Provide technical expertise and advice to HDEE and other stakeholders to address specific knowledge gaps—i.e., enabling institutional mechanisms, policies, regulations, and financial mechanisms to support the development of commercially viable projects and funding proposals (Q1 2022–Q2 2024)
- 2.2 Organize stakeholder consultations and dissemination workshops, including online participation of multi-stakeholders, based on the outputs of the TA (Q2 2022–Q2 2024)
- 2.3 Organize specific capacity building activities for government officials and other stakeholders on climate financing, including webinars or online trainings (Q2 2022–Q2 2024)

#### 3. Pilot climate finance project in low-carbon technologies identified

- 3.1 Analyze and screen a list of potential clean energy projects with low or near-zero net emissions (Q1 2023)
- 3.2 Identify at least one low or near-zero carbon pilot project in the field of clean energy (Q2 2023)
- 3.3 Conduct a project pre-feasibility study on the identified pilot project and recommend climate financing solutions that will attract private investment (Q2 2023–Q2 2024)

### Inputs

ADB (TASF-other sources): \$300,000

Financial Sector Development Partnership Special Fund: \$100,000

Note: The government will provide counterpart support in the form of counterpart staff, office accommodation, office supplies, documents, and information relevant to the implementation of the TA, and other in-kind contributions.

ADB = Asian Development Bank, HDEE = Hainan Department of Ecology and Environment, NA = not applicable, OP = operational priority, PRC = People's Republic of China, Q = quarter, R = risk, TA = technical assistance, TASF = Technical Assistance Special Fund.

<sup>a</sup> Ministry of Ecology and Environment, National Development and Reform Commission, People's Bank of China, China Banking and Insurance Regulatory Commission, and China Securities Regulatory Commission. 2020. *Guidance for Promoting Climate Investment and Finance*. Beijing.

<sup>b</sup> Government of the PRC. 2021. *The Fourteenth Five-Year Plan for the National Economic and Social Development of the People's Republic of China and the Outline of Long-Term Goals for 2035*. Beijing.

#### Contribution to Strategy 2030 Operational Priorities:

The expected values and methodological details for all OP indicators to which this TA will contribute are detailed in Contribution to Strategy 2030 Operational Priorities (accessible from the list of linked documents in Appendix 3).

In addition to the OP indicators tagged in the design and monitoring framework, this TA will contribute results for:

OP 3.1.1: Additional climate finance mobilized (\$).

Source: Asian Development Bank.

**COST ESTIMATES AND FINANCING PLAN**  
(\$'000)

Item	Amount
<b>A. Asian Development Bank<sup>a</sup></b>	
1. Consultants	
a. Remuneration and per diem	
i. International consultants	75.0
ii. National consultants	150.0
b. Out-of-pocket expenditures	
i. International and local travel	20.0
2. Seminars, workshops, forum, and conferences <sup>b</sup>	30.0
3. Reports and publications <sup>c</sup>	10.0
4. Contingencies	15.0
<b>Subtotal (A)</b>	<b>300.0</b>
<b>B. Financial Sector Development Partnership Special Fund<sup>d</sup></b>	
1. Consultants	
a. Remuneration and per diem	
i. International consultants	50.0
ii. National consultants	40.0
b. Out-of-pocket expenditures	
i. International and local travel	10.0
<b>Subtotal (B)</b>	<b>100.0</b>
<b>Total</b>	<b>400.0</b>

Note: The technical assistance (TA) is estimated to cost \$420,000, of which contributions from the Asian Development Bank and the Financial Sector Development Partnership Special Fund are presented in the table. The government will provide counterpart support in the form of counterpart staff, office accommodation, office supplies, documents, and information relevant to the implementation of the TA, and other in-kind contributions with an estimated value of 5% of the total TA cost.

<sup>a</sup> Financed by the Asian Development Bank's Technical Assistance Special Fund (TASF-other sources).

<sup>b</sup> Includes interpretation and translation costs.

<sup>c</sup> Includes translation and/or interpretation costs.

<sup>d</sup> Established by the Asian Development Bank. Financing partner: the Government of Luxembourg.

Source: Asian Development Bank estimates.

**LIST OF LINKED DOCUMENTS**

<http://www.adb.org/Documents/LinkedDocs/?id=55046-001-TARreport>

1. Terms of Reference for Consultants
2. Contribution to Strategy 2030 Operational Priorities