



ASIAN DEVELOPMENT BANK

Project Data Sheet

Project 52041-003

Project Name

Integrated High Impact Innovation in Sustainable Energy Technology - Prefeasibility Analysis for Carbon Capture, Utilization and Storage (Subproject 2)

Project Number

52041-003

Country / Economy

- Regional

Project Status

Closed

Project Type / Modality of Assistance

- Technical Assistance

Source of Funding / Amount

TA 9686-REG: Integrated High Impact Innovation in Sustainable Energy Technology - Prefeasibility Analysis for Carbon Capture, Utilization and Storage (Subproject 2)

Source

Amount

Carbon Capture and Storage Fund under the Clean Energy Financing Partnership Facility

US\$ 2.00 million

Strategic Agendas

- Environmentally sustainable growth
- Inclusive economic growth

Drivers of Change

- Gender Equity and Mainstreaming
- Governance and capacity development
- Knowledge solutions
- Partnerships
- Private sector development

Sector / Subsector

- **Energy** / Conventional energy generation - Oil and gas transmission and distribution

Gender

Some gender elements

Description

The knowledge and support technical assistance (TA) cluster will prepare energy system development scenarios and technology road maps and support the scale-up of innovative energy technologies in developing member countries (DMCs). The TA cluster is aligned with the energy policy of the Asian Development Bank (ADB). It will support ADB in implementing its Strategy 2030 and DMCs in meeting the Sustainable Development Goals (SDGs), including their nationally determined contributions (NDCs) as part of the Paris Agreement on climate change.

Project Rationale and Linkage to Country/Regional Strategy

3. The SDGs and NDCs encourage a transformative change in production systems, employment patterns, technologies, behaviors, and lifestyles to enable poverty reduction and a transition towards efficient low-emission production and consumption. Access to reliable, clean, and affordable cost-effective energy remains a key development imperative for DMCs. As of 2014, 421 million people in Asia and the Pacific were still living without access to electricity; most of this population live in remote areas and islands. With business-as-usual solutions

such as national grid extension, centralized power generation, and low-efficiency end-use devices

DMCs will either not be able to achieve universal energy access or will not achieve it without producing much higher emissions. Innovations in the energy sector and other sectors (e.g., urban, transport, agriculture, water, information and communication technology) will provide new opportunities to meet DMC energy sector needs faster and leapfrog to lower carbon energy sector development pathways.

Impact

Access to reliable, low-carbon, and cost-effective energy increased

Project Outcome

Description of Outcome

Use of sustainable carbon capture, utilization and storage technologies in participating DMCs increased

Progress Toward Outcome

Implementation Progress

Description of Project Outputs

Prefeasibility analysis for CCUS prepared and published

Status of Implementation Progress (Outputs, Activities, and Issues)

Description of Outcome: Use of sustainable carbon capture, utilization and storage technologies in participating DMCs increased

Description of Project Outputs:

"Prefeasibility analysis for CCUS prepared and published

Status of Implementation Progress

Output 1: Prefeasibility analysis for carbon capture, utilization, and storage prepared and published.

Performance Indicators with Targets

Three new technology areas and business models are evaluated by 2023

"The TA has completed the first phase of study on CCUS readiness in the Power Sector of Bangladesh. The study has explored CCU options for Bangladesh. The report has been presented to the officials where technical aspects of some of the leading technologies are presented with economics. The next phase requires Bangladesh government to offer a power plant to carry out actual case study. However, the present state of COVID 19 pandemic prevents further action. Hence, at this stage the second phase is suspended. Several consultants were engaged through the TA to support the revision of PRC CCUS roadmap to accommodate recent developments and ensure a faster transformation of low carbon development through CCUS deployment. The main updating points include:

Briefly overview the CCUS development in PRC during the 13th Five-Year Plan.

The function of CCUS on decarbonization hydrogen-producing from fossil fuel.

Add readiness analysis in the steel, cement and CO₂ industrial utilization.

Proposed the CCUS deployment recommendation in the 14th Five-Year Plan.

Pre-feasibility analysis for three candidate pilot operations completed by 2023.

"The TA is preparing pre-feasibility study on Food Grade CO₂ Production for Indian Oil Corporation (IOCL), a public sector company in India has offered to provide inputs for the study from its refinery. The study will be finalized by end of June 2021.

"The TA will also conduct a pre-feasibility study involving capture and use of CO₂ generated from cement manufacturing process. The necessary data will be obtained from a unit of Dalmia Cement (Bharat) Limited. The study will be finalized by end of June 2021.

"A pre-feasibility analysis for CCUS opportunity in steel sector is planned in collaboration with an organization in PRC. The concept note is being prepared and will be finalized in Q1 2022.

At least 5 knowledge sharing, and transfer events completed by 2023 including Asia Pacific exchanges and study tours.

The TA organized a deep dive workshop and a side-event during the Asia Clean Energy Forum 2020. The TA also concluded two webinars on CO₂ mineralization and game changing CCUS technologies in 2020. Thus,

The TA will also organize at least two more events by the end of 2021, including one

training workshop in April 2021 in PRC and two events DDW and side event on CCUS during ACEF 2021(Overall the target with respect to this event is likely to be achieved by the end of year 2021.)

The TA published a compendium of 'Game Changing CCUS Technologies' in February 2021.

From a participant of at least 500 people,35% participants have provided feedback on increased awareness of CCUS technologies out of which at least 15% are women.

"The three events organized by the TA so far has total of 404 attendees. Out of which feedback was provided by 35.4% and women were 23.8%.

"In coordination with ADB's regional departments and the private sector operations department, the TA subproject will focus on carbon utilization opportunities rather than storage-only approaches. Due to the typical scale and overall cost of such projects, the TA subproject will be limited to prefeasibility analysis to determine the needs for additional support and potential demonstration and deployment. Input in feasibility studies will be sought from both the international, regional and country experts and stakeholder communities. Studies will focus on costs, environmental carbon footprint, sustainability and deployment considerations, technology development, and scalability for future investment.

"

Planned Activities:

"Additional support to Indonesia's CCUS efforts based on the request from the government.

"The TA will prepare a status report on Methane Pyrolysis Technology.

"A study paper on CCUS business models in Asia will be prepared in 2021.

"The TA will also be working on technical and financial evaluation of the CCUS technologies applicable to refinery sector.

"Work on a joint study related to Decarbonisation of the Gas Sector' with WB and IEA.

Geographical Location

Regional

Summary of Environmental and Social Aspects

Environmental Aspects

Involuntary Resettlement

Indigenous Peoples

Stakeholder Communication, Participation, and Consultation

During Project Design

During Project Implementation

Business Opportunities

Consulting Services

Individual Consultants Selection

This method will be used to engage consulting inputs equivalent to a total of 140 person-months (50 person-months of international consulting inputs and 90 person-months of national consulting inputs). Below is a summary of the consulting services.

International Consultancy Inputs:

- (i) Carbon Capture and Storage Expert(s) (international, 20 person-months)
- (ii) CCUS Expert(s) (focus on utilization of CO₂) (international consultant, 15 person-months)
- (iii) CCUS Legal and Regulatory Expert (international, 10 person-months)
- (iv) CCUS Finance Expert (international, 5 person-months)

National Consultancy Inputs:

- (i) CCUS Strategy Analysts (national, 15 person-months)
- (ii) CCS Technical Expert on CO₂ Capture Technologies on refinery capture, industrial capture and power plant capture (national, 15 person-months)
- (iii) CCUS Technical Expert on CO₂ utilization, Storage, enhanced oil recovery and on storage site characterization (national, 15 person-months)
- (iv) Energy Legal, Regulatory and Policy Analyst on CO₂ onshore storage policy and regulation and CO₂ offshore storage policy and regulation (national, 15 person-months)
- (v) Technology Policy Expert: transfer of technology and intellectual property rights on national CCUS research and development policy and on technology transfer model (national, 15 person-months)
- (vi) Environment and Climate Change Policy Analyst on national climate policy and environment policy and regulation for CCUS (national, 15 person-months)

ADB will engage consultants and carry out procurement following the ADB Procurement Policy (2017, as amended from time to time) and its associated project administration instructions and/or staff instructions. National consultants should be nationals of the country where the project is implemented.

Procurement

Shopping for Goods: computers, printers, software, and accessories may be procured

Contact

Responsible ADB Officer
 Nam, Kee-Yung
 Responsible ADB Department
 Sectors Group
 Responsible ADB Division
 Energy Sector Office (SG-ENE)
 Executing Agencies
Asian Development Bank

Timetable

Concept Clearance

-

Fact Finding

05 Nov 2018 to 05 Nov 2018

MRM

-

Approval

13 Dec 2018

Last Review Mission

-

Last PDS Update

13 Apr 2021

Funding

TA 9686-REG

Milestones

Approval	Signing Date	Effectivity Date	Closing	
			Original	Revised Actual
13 Dec 2018	-	13 Dec 2018	30 Sep 2023	- 11 Apr 2023

Financing Plan/TA Utilization

ADB	Cofinancing	Counterpart				Total
		Gov	Beneficiaries	Project Sponsor	Others	
0.00	2,000,000.00	0.00	0.00	0.00	0.00	2,000,000.00

Cumulative Disbursements

Date	Amount
06 May 2023	1,361,918.95

© 2024 Asian Development Bank

This page was generated from /projects/52041-003/main on 06 June 2024

Source URL: <https://www.adb.org/projects/52041-003/main>