ADB

Technical Assistance Report

Project Number: 50287-001
Regional—Capacity Development Technical Assistance (R-CDTA)
April 2017

Promoting Low-Carbon Development in Central Asia Regional Economic Cooperation Program Cities

(Financed by the Clean Energy Fund under the Clean Energy Financing Partnership Facility, Governance Cooperation Fund, People's Republic of China Regional Cooperation and Poverty Reduction Fund, Regional Cooperation and Integration Fund, and Republic of Korea e-Asia and Knowledge Partnership Fund)

Asian Development Bank

ABBREVIATIONS

ADB	–	Asian Development Bank
CAREC	–	Central Asia Regional Economic Cooperation
CPS	–	country partnership strategy
GHG	–	greenhouse gas
GPC	–	Global Protocol for Community-Scale Greenhouse Gas Emission Inventories
NDC	–	nationally determined contribution
PRC	–	People's Republic of China
TA	–	technical assistance

NOTE

In this report, "$" refers to United States dollars.

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CAPACITY DEVELOPMENT TECHNICAL ASSISTANCE AT A GLANCE

1. Basic Data

Project Number: 50287-001

Project Name	Promoting Low-Carbon Development in Central Asia Regional Economic Cooperation Program Cities	**Department /Division**	EARD/EATC
Country	REG, AFG, AZE, PRC, GEO, KAZ, KGZ, MON, PAK, TAJ, TKM, UZB	**Executing Agency**	Asian Development Bank

2. Sector

	Sector	Subsector(s)	Financing ($ million)
✓	Energy	Energy efficiency and conservation	0.50
		Renewable energy generation - biomass and waste	0.16
		Renewable energy generation - solar	0.16
	Agriculture, natural resources and rural development	Forestry	0.06
		Land-based natural resources management	0.11
	Information and communication technology	ICT strategy and policy, and capacity development	0.10
	Public sector management	Law and judiciary	0.12
		Public administration	0.18
	Transport	Urban public transport	0.34
		Urban roads and traffic management	0.15
	Water and other urban infrastructure and services	Other urban services	0.17
		Urban flood protection	0.12
		Urban housing	0.20
		Urban policy, institutional and capacity development	0.20
		Urban solid waste management	0.17
		Urban water supply	0.11
		Total	**2.85**

3. Strategic Agenda

Strategic Agenda	Subcomponents
Inclusive economic growth (IEG)	Pillar 1: Economic opportunities, including jobs, created and expanded
Environmentally sustainable growth (ESG)	Eco-efficiency
	Environmental policy and legislation
	Urban environmental improvement
Regional integration (RCI)	Pillar 4: Other regional public goods

Climate Change Information

Climate Change impact on the Project	Low

4. Drivers of Change

Drivers of Change	Components
Governance and capacity development (GCD)	Client relations, network, and partnership development to partnership driver of change
	Institutional development
Knowledge solutions (KNS)	Application and use of new knowledge solutions in key operational areas
Partnerships (PAR)	Implementation
	South-South partner

Gender Equity and Mainstreaming

No gender elements (NGE)	✓

5. Poverty and SDG Targeting

Geographic Targeting	No
Household Targeting	No
SDG Targeting	Yes
SDG Goals	SDG9, SDG11, SDG12, SDG13, SDG16, SDG17

Location Impact

Urban	High

6. TA Category: B

7. Safeguard Categorization Not Applicable

8. Financing

CAPACITY DEVELOPMENT TECHNICAL ASSISTANCE AT A GLANCE

Modality and Sources	Amount ($ million)
ADB	**0.50**
Capacity development technical assistance: Regional Cooperation and Integration Fund	0.50
Cofinancing	**2.35**
Clean Energy Fund under the Clean Energy Financing Partnership Facility	0.80
Governance Cooperation Fund	0.35
People's Republic of China Regional Cooperation and Poverty Reduction Fund	0.70
Republic of Korea e-Asia and Knowledge Partnership Fund	0.50
Counterpart	**0.00**
None	0.00
Total	**2.85**

9. Effective Development Cooperation

Use of country procurement systems	No
Use of country public financial management systems	No

I. INTRODUCTION

1. The regional capacity development technical assistance (TA)[1] aims to support cities in Central Asia Regional Economic Cooperation (CAREC) program countries to strengthen their capacity to plan and implement climate actions to further enhance sustainable, inclusive, and prosperous economic development. The design and monitoring framework is in Appendix 1.[2]

II. ISSUES

2. The pace of urbanization is increasing in many Asian Development Bank (ADB) developing member countries, including those involved in the CAREC program. If not properly managed, urbanization can increase pressure on energy and natural resources; increase pollution and production of greenhouse gas (GHG) emissions, which contribute to climate destabilization; and threaten ecosystems. Cities within the CAREC region ("CAREC cities") are home to much of the region's population[3] and have been the core drivers of national economic growth, but they have also become major sources of GHG emissions and other air pollutants. Recognizing the need to improve the urban environment, a number of city-level initiatives have emerged in the CAREC region that promote aspects of sustainable, low-carbon urbanization.[4] Lessons from these initiatives show that cities need better access to resources, support for local capacity enhancement, and more effective learning through cooperation among developing countries. In the CAREC countries, the governance aspect of climate change work at the local level has often been unnoticed and underappreciated.

3. Climate change impacts are becoming increasingly apparent, and led to a historic agreement at the 21st Conference of the Parties to the United Nations Framework Convention on Climate Change, held in Paris in December 2015, to mobilize a greater commitment to climate actions. Countries, including those involved in the CAREC program,[5] submitted their nationally determined contribution (NDC) targets to express their commitment. As the Paris agreement came into force, to meet their NDC targets countries in the CAREC program will need additional capacity building and technology transfer, as well as access to sufficient financial resources. Among CAREC countries, Kazakhstan committed to reduce its 2030 GHG emissions by 25% compared to 1990 levels, under the condition that international support for finance and technology transfer is provided. Mongolia set a target to increase the share of renewable electricity capacity to 30% of the total electricity generation capacity and to reduce building heat loss by 40% by 2030 compared to 2010 levels. The People's Republic of China (PRC) set a target to have carbon emissions peak by 2030, and committed to best efforts to achieve earlier peaking. Support is urgently needed to assist CAREC countries in achieving these targets.

4. Cities play a critical role in the CAREC program. A focus on urban low-carbon development and transformation is a logical, strategic way to help CAREC countries achieve their NDC targets. Empowering city governments will enable them to develop strategic plans and successfully execute climate actions with effective sectoral and cross-sectoral measures to create

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[1] The TA is categorized as knowledge and support TA pursuant to the Staff Instruction on Business Processes for Knowledge and Support Technical Assistance issued on 13 March 2017.

[2] The TA first appeared in the business opportunities section of ADB's website on 28 September 2016.

[3] More than 54% of the population in the People's Republic of China (PRC) lived in urban areas in 2014; this is expected to increase to 70% by 2030. In Mongolia, 60% of the total population resides in Ulaanbaatar, the capital city. In Kazakhstan, about 57% of the total population lived in urban areas in 2015.

[4] Including the Livable Urban Areas Initiative in Georgia, the Low-Carbon Cities Initiatives, and Sponge Cities in the PRC.

[5] Uzbekistan is the only country in the CAREC program that did not submit a NDC; it is included in the TA, however.

greater impacts and synergy. Supporting these cities to create a system that measures progress towards stated goals is also essential. The TA is designed to support CAREC cities in this process.

5. The TA is aligned with ADB's Strategy 2020, which highlights the importance of supporting action on climate change in ADB developing member countries,[6] and with the Strategy 2020 midterm review,[7] which identified the need for an increased focus on the environment and climate change, through support for (i) clean investments, (ii) sustainable transport, (iii) climate adaptation, (iv) integrated management of disaster and climate risks, (v) better natural resource management, (vi) policies and capacity strengthening, and (vii) access to global and regional funds. The TA is also aligned with ADB's Priorities for Action on addressing climate change in Asia and the Pacific.[8]

6. The TA is also aligned with the (i) country partnership strategy (CPS), 2016–2020 for the PRC,[9] which sets out strategic priorities to place its economy on a more sustainable trajectory, while addressing complex issues, including environmental pollution and climate action management; and support to cities for their integrated, inclusive, green, and competitive development; (ii) interim CPS for Mongolia, 2014–2016,[10] and the draft CPS 2017-2020 which highlight safeguarding the quality of life while promoting economic sustainability, climate change adaptation, adoption of renewable energy, and capacity development to drive change; and (iii) CPS for Kazakhstan, 2012–2016,[11] which emphasizes accelerating economic diversification and strengthening its competitive ability for sustainable and inclusive growth. In addition, it is aligned with the CAREC 2016 Joint Ministerial Statement, which indicates a strong commitment to support climate actions and the achievement of NDC targets; and ADB's Operational Plan for Regional Cooperation and Integration 2016–2020, which supports investing in regional public goods and collective action.

III. THE CAPACITY DEVELOPMENT TECHNICAL ASSISTANCE

A. Impact and Outcome

7. The impact of the TA will be the achievement of the NDCs for Kazakhstan, Mongolia, and the PRC. The outcome will be the mainstreaming of climate actions in city investment plans in Kazakhstan, Mongolia, and the PRC.

B. Methodology and Key Activities

8. **Output 1: Sustainable data management systems for greenhouse gas data assessed and enhanced at city level.** To properly monitor a city's progress in reducing GHGs and enable comparison with the progress of other cities, it is important to have agreed-upon accounting and reporting standards. The TA will use the Global Protocol for Community-Scale Greenhouse Gas Emission Inventories (GPC).[12] The establishment and management of an accurate GHG inventory requires a proper data management system, including (i) relevant legal

[6] ADB. 2008. *Strategy 2020: The Long-Term Strategic Framework of the Asian Development Bank, 2008–2020*. Manila.
[7] ADB. 2014. *Midterm Review of Strategy 2020: Meeting the Challenges of a Transforming Asia and Pacific.* Manila.
[8] ADB. 2010. *Addressing Climate Change in Asia and the Pacific: Priorities for Action.* Manila.
[9] ADB. 2016. *Country Partnership Strategy: Transforming Partnership: People's Republic of China and Asian Development Bank, 2016–2020.* Manila.
[10] ADB. 2014. *Interim Country Partnership Strategy: Mongolia, 2014–2016.* Manila.
[11] ADB. 2012. *Country Partnership Strategy: Kazakhstan, 2012–2016.* Manila.
[12] GPC is the globally recognized standards based on the Intergovernmental Panel on Climate Change GHG inventory guidelines, and was developed by the World Resources Institute, C40 Cities Climate Leadership Group, and ICLEI-Local Governments for Sustainability. http://www.ghgprotocol.org/city-accounting.

and policy frameworks to support GHG inventory development and management, including incentives for compliance and ease of implementation; (ii) clear roles and responsibilities for all stakeholders, with responsible agencies identified and constructive engagement processes established between stakeholders (e.g., nonpublic organizations with systems to collect relevant data and information, or an interests in using the data); and (iii) planning and budgeting processes, operational and information systems, personnel, and other resources. To the extent possible, the development of the GHG inventory governance and management system will be integrated into the existing public sector management structures of city governments and other stakeholders. This will require a series of multistakeholder dialogues, consensus building, negotiations, and agreements. This project component will facilitate developing and sustaining data management systems for GHG data, promoting multistakeholder engagement and activation. It also includes information technology and communication systems, and training in GPC and other relevant open data methodologies and procedures.[13]

9. **Output 2: Recommended investment road maps for low-carbon economic growth at selected cities developed.** This output will support selected pilot cities to build road maps for low-carbon urban development including planning and investment prioritization. Activities include assessment of existing development strategies and plans, development of low-carbon city scenarios, and planning of short-, medium-, and long-term actions and relevant investment for low-carbon urban development and transformation. To achieve significant carbon emission reductions while boosting economic development, the project team will conduct sector-specific and system assessments and plan effective climate mitigation measures, which will enable the transformation of clean and efficient energy and resource systems (in energy, transport, building, waste, industry, agriculture, forestry, and land use sectors, if applicable) in selected cities, while supporting wider deployment of key clean technologies.[14] The output may also include measures to support the cities' climate resilience.

10. Under output 2, the air quality and health-related impacts of climate actions will be measured and assessed for at least one pilot city. In addition, Output 2 will explore the development of carbon financing measures for at least one pilot city. The Cities Development Initiative for Asia fund will support the development of and due diligence for prioritized low-carbon city investment plans for potential ADB loan financing.[15] In this way road maps and investment plans will contribute to innovation, job creation, and long-term economic growth, with the potential to develop sustainable, low-carbon, and livable cities. Multistakeholder participation will be encouraged to a larger extent as possible.

11. **Output 3: A source book on successful practices and measures driving low-carbon economic development at city level developed and disseminated.** Successful practices and measures implemented by CAREC cities have not been fully identified, recorded, or disseminated. Under the PRC's low-carbon city initiative, many cities implemented effective GHG reduction

[13] It was built upon the GHG inventory works under ADB. 2012. *Technical Assistance for Green Cities—A Sustainable Urban Future in Southeast Asia.* Manila, of which is ADB. 2015. *Greenhouse Gas Inventories for Urban Operations in Southeast Asia: Challenges and Opportunities.* Manila.

[14] Examples include district energy and/or distributed energy systems that use clean energy, with cogeneration (power, heating and/or cooling) applications; rooftop and wall-mounted solar panels; bus or tram rapid transit systems with clean fuel; efficient heat pumps; LED lights; the use of landfill gas to supply power and heat; geothermal-based district or household heating and cooling; and power and/or heat storage systems.

[15] Allocation of these resources, including possible funds to support low-carbon city investment plans for additional pilot cities, will be subject to approval by the Cities Development Initiatives for Asia of supporting applications from the respective cities. The ADB Sustainable Development and Climate Change Department administers the Cities Development Initiative for Asia fund through ADB. 2013. *Technical Assistance for Supporting the Cities Development Initiative for Asia.* Manila.

measures while ensuring sustainable economic growth. Successful examples from cities in the PRC would be particularly relevant to other PRC cities, due to their similar social and technical context. In addition, successful low-carbon development practices and measures from other CAREC cities could be identified and recorded, along with any non-climate related benefits. Documentation of these measures will enable other CAREC cities that face similar challenges to use these as a reference in developing their own road maps for low-carbon urban development. The source book will disseminate knowledge and lessons, including through global high-level events, and further enhance developing country cooperation on climate change.

12. **Output 4: Capacity for low-carbon city development among CAREC countries expanded.** This output will consist of a series of capacity building workshops, in which CAREC cities will be encouraged to commit to developing their own low-carbon city road maps by learning from the experiences of pilot cities. City government officials, experts, and other relevant stakeholders (including academia, think tanks, and relevant sector-specific organizations that contribute to low-carbon city development) will learn how to enhance low-carbon development. As a result of capacity building and networking activities among CAREC cities, a Low-Carbon City Alliance in CAREC will be established to enable CAREC cities to share experiences and lessons on climate action. Close cooperation with the CAREC Institute is important to ensure ongoing promotion of the low-carbon city initiative.

13. Considering the practicality of implementing the TA and the resources available, outputs 1 and 2 will target pilot cities in Kazakhstan, Mongolia, and the PRC.[16] These countries were selected as they are strongly committed to climate action. Selection criteria for pilot cities will be further developed during TA implementation prior to making the final selection of pilot cities. Selection criteria may include (i) a strong commitment to expedite low-carbon development and ownership to develop a low-carbon road map, which will be critical for efficient TA implementation; and (ii) economic status, development patterns, and availability of natural resources, with a view to ensuring variation among pilot cities. City-level steering committees which include representatives from city and central governments, and key stakeholders will be established to support smooth implementation of outputs 1 and 2 and evidence-based and inclusive decision making on low carbon development.[17] Outputs 3 and 4 will cover cities in all countries under the CAREC program, which show strong interest to participate in these activities. During TA implementation, successful climate actions and practices in both pilot cities and CAREC cities generally will be identified and compiled. Output 4 will target CAREC cities with a strong interest in enhancing their capacity for low-carbon city development, and will aim to create a Low-Carbon City Alliance in CAREC to strengthen developing country cooperation. The CAREC Institute will be actively engaged in order to support the implementation of outputs 3 and 4.

14. ADB will regularly field review missions to review the performance of consultants, TA implementation progress, and the completion of deliverables based on the design and monitoring framework as well as the agreed work plan for the consultants. ADB will review the deliverables submitted by the consultants. The performance of the TA, including its outputs and outcomes, will be evaluated during the final review mission.

[16] The TA project is designed to accommodate other potential pilot cities in CAREC upon the availability of other trust fund sources. If additional cities express a commitment to and interest in participating in development of low-carbon road maps during TA implementation, other trust funds may be approached to provide additional funding.

[17] The TA aims to contribute to SDG 16 throughout the activities under outputs 1 and 2.

C. Cost and Financing

15. The TA is estimated to cost $2,848,000, of which $800,000 will be financed on a grant basis by the Clean Energy Fund[18] under the Clean Energy Financing Partnership Facility, $348,000 will be financed on a grant basis by the Governance Cooperation Fund,[19] $700,000 will be financed on a grant basis by the People's Republic of China Regional Cooperation and Poverty Reduction Fund,[20] $500,000 will be financed on a grant basis by the Regional Cooperation and Integration Fund,[21] and $500,000 will be financed on a grant basis by the Republic of Korea e-Asia and Knowledge Partnership Fund. These grants will be administered by ADB.

D. Implementation Arrangements

16. ADB will be the executing and implementing agency. The Transport and Communications Division of the ADB East Asia Department will be the TA project focal point. A cross-departmental and cross-divisional TA team, consisting of the Central and West Asia Department and Sustainable Development and Climate Change Department, will be established to implement the TA.

17. The TA will finance consulting services, knowledge partnerships, and capacity-building workshops and conferences to be implemented over a 33-month period, from April 2017 to December 2019. The use of lump-sum contracts with link to specific outputs will be followed to meet the donors' funding requirements (Appendix 2). The outline terms of reference for consultants are in Appendix 3. Consultants will be engaged in accordance with ADB's Guidelines on the Use of Consultants (2013, as amended from time to time), using both individual consultant and firm selection. The TA funds will be disbursed in line with ADB's *Technical Assistance Disbursement Handbook* (2010, as amended from time to time).

IV. THE PRESIDENT'S DECISION

18. The President, acting under the authority delegated by the Board, has approved

(i) ADB administering a portion of technical assistance not exceeding the equivalent of $800,000 to be financed on a grant basis by the Clean Energy Fund under the Clean Energy Financing Partnership Facility,
(ii) ADB administering a portion of technical assistance not exceeding the equivalent of $348,000 to be financed on a grant basis by the Governance Cooperation Fund,
(iii) ADB administering a portion of technical assistance not exceeding the equivalent of $700,000 to be financed on a grant basis by the People's Republic of China Regional Cooperation and Poverty Reduction Fund,
(iv) ADB administering a portion of technical assistance not exceeding the equivalent of $500,000 to be financed on a grant basis by the Republic of Korea e-Asia and Knowledge Partnership Fund, and
(v) ADB providing the balance not exceeding the equivalent of $500,000 on a grant basis

for Promoting Low-Carbon Development in Central Asia Regional Economic Cooperation Program Cities, and hereby reports this action to the Board.

[18] Financing partners: the governments of Australia, Norway, Spain, Sweden, and the United Kingdom.
[19] Financing partners: the governments of Canada, Denmark, Ireland, and Norway.
[20] On 27 December 2016, the Ministry of Finance of the PRC approved the allocation of $700,000 for the TA.
[21] Established by ADB. Financing partner: the Government of Japan.

DESIGN AND MONITORING FRAMEWORK

Impact the Project is Aligned with Nationally determined contributions of Kazakhstan, Mongolia, and the PRC achieved[a]			
Results Chain	**Performance Indicators with Targets and Baselines**	**Data Sources or Reporting Mechanisms**	**Risks**
Outcome Climate actions in city investment plans in Kazakhstan, Mongolia, and the PRC mainstreamed	By 2023 a. Systematic low-carbon economic development strategy and action plans at selected cities adopted (2017 baseline: 0)	a. Annual progress reports on low-carbon economic development plan at selected cities by relevant city governments	Failure to reach consensus among various government departments and other stakeholders involved in decision making
Outputs	By 2019		
1. Sustainable data management systems for GHG data assessed and enhanced at city level	1a. GHG data are accessible to relevant stakeholders in at least three cities by December 2018 (2017 baseline: 0)	1a. Annual progress reports on pilot cities including memoranda of understanding between ADB and selected city governments	Lack of locally available institutions that can collect GHG data in certain sectors Lack of incentives to collect data on GHG emissions
2. Recommended investment road maps for low-carbon economic growth at selected cities developed	2a. City assessment of low-carbon economy for at least three selected cities completed by December 2018 (2017 baseline: 0) 2b. Customized road maps on low-carbon economic growth developed for at least three selected cities by October 2019 (2017 baseline: 0) 2c. Air quality and health impact assessment at one pilot city completed by December 2018 (2017 baseline: 0)	2a–2c. Annual progress reports on pilot cities, including memoranda of understanding between ADB and selected city governments	
3. A source book on successful practices and measures driving low-carbon economic development at city level developed and disseminated	3a. All the contents of the source book developed and finalized by June 2018 (2017 baseline: 0) 3b. A source book published by December 2018 and disseminated by October 2019 (2017 baseline: 0)	3a–3b. One consultant report on collection of successful city climate action practices in the CAREC region	
4. Capacity for low-carbon city development among CAREC countries expanded	4a. At least three capacity-building events on low-carbon economic development are organized (international workshops, conferences, or training sessions), that invite city governments, academia, and think tanks within the CAREC region by October 2019 (2017 baseline: 0)	4a. Three event evaluation reports by consultants, including participant feedback survey results	

Key Activities with Milestones

Output 1. Sustainable data management systems for GHG data assessed and enhanced at city level

1.1 Assess existing GHG data management systems in selected cities, including data quality, responsible agencies, and constructive engagement processes between stakeholders involved in data collection (Q2 2017–Q4 2018). (GCD)
1.2 Discuss and plan how to institutionalize data management systems for GHG data, including agreement on relevant agencies' multistakeholder engagement processes, and e-governance systems (Q1 2018–Q4 2018). (GCD)
1.3 Prepare a proposal for establishing legal and institutional frameworks for GHG inventory development and management (Q3 2018–Q4 2018). (GCD)
1.4 Provide a series of training programs and hands-on support for GPC, GHG accounting, and GHG inventory setting (Q4 2018–Q4 2019). (GCD)
1.5 Commence data collection for GHG inventory development at selected cities (Q2 2019–Q4 2019). (GCD)

Output 2. Recommended investment road maps for low-carbon economic growth at selected cities developed

2.1 Assess advantages and disadvantages of city's economic structure; analyze GHG emission contribution by sectors; develop climate projection modeling; develop low-carbon city scenarios; and propose low-carbon economic development and GHG emission peaking targets (Q1 2017–Q2 2018). (GCD, KNS)
2.2 Develop short-, medium-, and long-term GHG reduction targets; propose and discuss specific actions in each phase and relevant investment needs using back-casting method (Q1 2018–Q4 2018). (GCD, KNS)
2.3 Prepare detailed road maps of low-carbon city development at selected cities (Q2 2018–Q2 2019). (GCD)
2.4. Prepare technical, economic, financial, environmental, and social due diligence and appraisal of the short-term investment plan of a selected city (Q1 2019–Q4 2019). (GCD)

Output 3. A source book on successful practices and measures driving low-carbon economic development at city level developed and disseminated

3.1 Collect, assess, and select 100 successful low-carbon economic development practices from existing initiatives of low-carbon cities (Q1 2017–Q4 2018). (KNS)
3.2 Document successful cases with descriptions and GHG reduction impact, and prepare them into a source book (Q2 2017–Q2 2018). (KNS)
3.3 Launch and disseminate the source book on low-carbon economy successful practices (Q2 2018–Q4 2018). (KNS, PAR)

Output 4. Capacity for low-carbon city development among CAREC countries expanded.

4.1 Plan and organize a series of at least three capacity-building events, including workshops and training programs on low-carbon economy development (Q1 2017–Q3 2019). (PAR)

Inputs

Clean Energy Fund under the Clean Energy Financing Partnership Facility: $800,000
Governance Cooperation Fund: $348,000
People's Republic of China Regional Cooperation and Poverty Reduction Fund: $700,000
Regional Cooperation and Integration Fund: $500,000
Republic of Korea e-Asia and Knowledge Partnership Fund: $500,000

Assumptions for Partner Financing

Not applicable.

ADB = Asian Development Bank, CAREC = Central Asia Regional Economic Cooperation, GCD = governance and capacity development, GHG = greenhouse gas, GPC = Global Protocol for Community-Scale Greenhouse Gas Emission Inventories, KNS = knowledge solutions, PAR = partnerships, PRC = People's Republic of China, TA = technical assistance.

[a] Government of the Republic of Kazakhstan. 2015. *Nationally Determined Contribution.* http://www4.unfccc.int/Submissions/INDC/Published%20Documents/Kazakhstan/1/INDC%20Kz_eng.pdf.
Government of Mongolia. 2015. *Nationally Determined Contribution.* http://www4.unfccc.int/Submissions/INDC/Published%20Documents/Mongolia/1/150924_INDCs%20of%20Mongolia.pdf
Government of the PRC. 2015. *Nationally Determined Contribution.* http://www4.unfccc.int/Submissions/INDC/Published%20Documents/China/1/China's%20INDC%20-%20on%2030%20June%202015.pdf.

Source: Asian Development Bank.

COST ESTIMATES AND FINANCING PLAN
($'000)

Item		Amount
A. Clean Energy Fund[a] under the Clean Energy Financing Partnership Facility		
1. Consultants		
a. Remuneration and per diem		
i. International consultants		370.0
ii. National consultants		110.0
b. International and local travel		80.0
c. Reports and communications		40.0
2. Training, seminars, and conferences[b]		
a. Publications		10.0
b. Facilitators		20.0
c. Training program		100.0
3. Miscellaneous administration and support costs[c]		20.0
4. Contingencies		50.0
	Subtotal (A)	**800.0**
B. Governance Cooperation Fund[d]		
1. Consultants		
a. Remuneration and per diem		
i. International consultants		200.0
ii. National consultants		75.0
b. International and local travel		50.0
2. Miscellaneous administration and support costs[c]		3.0
3 Contingencies		20.0
	Subtotal (B)	**348.0**
C. People's Republic of China Regional Cooperation and Poverty Reduction Fund[e]		
1. Consultants		
a. Remuneration and per diem		
i. International consultants		220.0
ii. National consultants		80.0
b. International and local travel		50.0
2. Training, seminars, and conferences [b]		
a. Publications		10.0
b. Facilitators		20.0
c. Training program		110.0
3. Knowledge partner research and good practices[f]		120.0
4. Miscellaneous administration and support costs[c]		20.0
5. Contingencies		70.0
	Subtotal (C)	**700.0**
D. Regional Cooperation and Integration Fund[g]		
1. Consultants		
a. Remuneration and per diem		
i. International consultants		220.0
ii. National consultants		80.0
b. International and local travel		50.0
2. Training, seminars, and conferences[b]		130.0
3. Contingencies		20.0
	Subtotal (D)	**500.0**
E. Republic of Korea e-Asia and Knowledge Partnership Fund[h]		
1. Consultants		
a. Remuneration and per diem		
i. International consultants		225.0
2. Training, seminars, and conferences[b]		

a. Publications		40.0
3. Knowledge partner research and good practices[f]		100.0
4. Equipment[i]		100.0
5. Miscellaneous administration and support costs[c]		30.0
6. Contingencies		5.0
	Subtotal (E)	**500.0**
Total (A+B+C+D+E)[j]		**2,848.0**

Note: The technical assistance (TA) is estimated to cost $3,000,000, of which contributions from the Clean Energy Fund under the Clean Energy Financing Partnership Facility, the Governance Cooperation Fund, the People's Republic of China Regional Cooperation and Poverty Reduction Fund, the Regional Cooperation and Integration Fund, and the Republic of Korea e-Asia and Knowledge Partnership Fund are presented in the table above.

[a] Financing partners: the governments of Australia, Norway, Spain, Sweden, and the United Kingdom. Administered by the Asian Development Bank (ADB).

[b] Capacity-building events (at least three events, with at least 60 participants at each event) will be held either in Kazakhstan, Mongolia, the People's Republic of China, the Philippines, other countries in the Central Asia Regional Economic Cooperation (CAREC) region, and/or countries of knowledge partner organizations' headquarters. It will also cover the travel costs of ADB TA project team members.

[c] Includes translation and interpretation costs.

[d] Financing partners: the governments of Canada, Denmark, Ireland, and Norway. Administered by ADB. The Governance Cooperation Fund will finance output 1 of the TA.

[e] Administered by ADB.

[f] Potential knowledge partners are currently explored including (i) World Research Institute; (ii) ICLEI-Local Governments for Sustainability; (iii) C40 cities; (vi) Seoul Urban Solutions Agency under Seoul Metropolitan government, and (vii) the CAREC Institute. The knowledge partnerships will be engaged based on the procedures defined in ADB. 2011. *Guidelines for Knowledge Partnerships*. Manila.

[g] Established by ADB. Financing partner: the Government of Japan.

[h] Administered by ADB.

[i] Includes information and communication software for greenhouse gas data inventory and management. Equipment will be procured in accordance with ADB Procurement Guidelines (2015, as amended from time to time).

[j] Upon contract awards, the TA supervising unit will inform ADB Controller's department on the fund allocation per contract. Upon endorsement of individual payment claim, the TA supervising unit will decide the correct funding sources for payment.

Source: Asian Development Bank estimates.

OUTLINE TERMS OF REFERENCE FOR CONSULTANTS

A. Introduction

1. The regional capacity development technical assistance (TA) will be implemented over 33 months, from April 2017 to December 2019. The consultants will be responsible for producing the TA outputs and deliverables effectively and on time, and for organizing and carrying out all the tasks indicated.

2. The requirement for consultants is estimated at 165 person-months. In accordance with the Asian Development Bank (ADB) Guidelines on the Use of Consultants (2013, as amended from time to time), both individual consultant and consulting firm engagement will be used. For firm engagement, four consulting firms will be hired using quality cost-based selection (90:10 ratio). Individual consultants will be engaged using biodata. Overall, an estimated total of 16 international consultants (for a total of 76 person-months) and 24 national consultants (for a total of 89 person-months) will be engaged. Oral and written English proficiency is required for all international and national consultants.

B. Consultants to be Engaged Through Firm Using Quality Cost-Based Selection

3. **Low-carbon city development experts and country team leaders** (international consultants; intermittent). The experts should (i) have a postgraduate degree in environmental management, policy and governance, climate change policy, environmental engineering, environmental science, environmental economics, or another relevant field; and (ii) have at least 10 years of experience working with greenhouse gas (GHG) inventories, GHG accounting standards, climate change policy, and public policy and policy evaluation. Knowledge of and experience in climate change mitigation and adaptation planning at a city level would be an advantage. Experience in developing countries, the Asian region, and/or in countries under the Central Asia Regional Economic Cooperation (CAREC) program will be an advantage. The experts will (i) provide team leadership for each country team, including technical and strategic oversight on all the required tasks and activities; (ii) take responsibility for city-level assessment and leading appropriate low-carbon economy development strategy and action planning at the city level; and (iii) ensure the quality of works performed by all other consultants on their country team.

4. **Greenhouse gas accounting and inventory experts** (international consultants; intermittent). The experts should have (i) a postgraduate degree in environmental management, policy and governance, climate change policy, environmental engineering, environmental science, environmental economics, or another relevant field; and (ii) at least 10 years of experience working with GHG inventories, GHG accounting standards, and GHG inventory system setting. In addition, experience in developing countries, the Asian region, and/or in countries under the CAREC program will be an advantage. Oral and written English proficiency is required. The experts will provide technical oversight of GHG accounting and reporting, and maintain direct contact with ADB, knowledge partners, and developing member country clients. The experts will be supporting city governments in setting up the GHG inventory system, managing the operations at selected cities, and overseeing capacity building activities for the GHG inventory system.

5. **Climate policy and governance experts** (international consultants; intermittent). The experts should have (i) a postgraduate degree in environmental management, policy and governance, climate change policy, public administration and policy analysis, or another relevant field; and (ii) at least 10 years of experience working with strategic policy planning and policy

development in various sectors aligning with development of a low-carbon economy. Experience in developing countries, the Asian region, and/or in countries under the CAREC program will be an advantage. Oral and written English proficiency is required. The experts will be responsible for providing policy and governance expertise and knowledge to drive system innovation and low-carbon knowledge economy development. The experts will cover policy and governance aspects of strategy and planning related to system innovation and the development of low carbon economy, ensuring that good practices are documented and widely disseminated in coordination with the knowledge partners and ADB.

6. **Clean energy experts** (international consultants; intermittent). The experts should have a master's degree in engineering and energy economics, with at least 10 years of in-depth work experience dealing with climate change-related issues in the energy sector and energy systems. The experts will take the lead in conducting capacity assessments of energy sector planning in selected cities, and develop low-carbon energy system planning in selected cities in the concerned countries.

7. **Sustainable transport experts** (international consultants; intermittent). The experts should have a master's degree in transport and urban planning, transport engineering, or transport economics, and at least 10 years of in-depth work experience dealing with climate change-related issues in transport systems. The experts will take the lead in conducting assessments of transport planning in selected cities, and develop low-carbon transport system planning in selected cities in the concerned countries.

8. **Sustainable urban planning experts** (international consultants; intermittent). The experts should have a master's degree in urban planning, civil engineering, and at least 10 years of in-depth work experience dealing with climate change-related issues in urban systems. The experts will take the lead in conducting capacity assessments of transport planning in selected cities, and in developing low-carbon urban system planning in selected cities in the concerned countries.

9. **Greenhouse gas inventory specialists** (national consultants: PRC, Kazakhstan, and Mongolia nationals; intermittent). The PRC specialist should have (i) a postgraduate degree in environmental management, policy and governance, climate change policy, environmental engineering, environmental science, environmental economics, or another relevant field; and (ii) at least 7 years of experience working with GHG inventories, GHG accounting standards, and GHG inventory system setting. The Kazakhstan and Mongolia specialists should have (i) a bachelor's degree in environmental management, policy and governance, climate change policy, environmental engineering, environmental science, environmental economics, or another relevant field; and (ii) at least 5 years of experience working with GHG inventories, GHG accounting standards, and GHG inventory system setting. The specialists will support the international GHG accounting and inventory expert.

10. **Clean energy specialists** (national consultants: PRC, Kazakhstan, and Mongolia nationals; intermittent). The PRC specialist should have a master's degree in engineering or energy economics, and at least 7 years of work experience dealing with climate change-related issues in the energy sector and energy systems. The Kazakhstan and Mongolia specialists should have a bachelor's degree in engineering or energy economics, and at least 5 years of work experience in dealing with climate change-related issues in the energy sector and energy systems. The specialists will support the conduct of capacity assessments of energy sector planning at selected cities and development of low-carbon energy system planning in selected cities in the concerned countries.

11. **Sustainable transport specialists** (national consultants: PRC, Kazakhstan, and Mongolia nationals; intermittent). The PRC specialist should have a master's degree in transport and urban planning, transport engineering, or transport economics, and at least 7 years of work experience dealing with climate change-related issues in transport systems. The Kazakhstan and Mongolia specialists should have a bachelor's degree in transport and urban planning, transport engineering, or transport economics, and at least 5 years of work experience dealing with climate change-related issues in transport systems. The specialists will support the conduct of capacity assessments of transport planning in selected cities, and development of low-carbon transport system planning in selected cities in the concerned countries.

12. **Sustainable urban planning specialists** (national consultants: PRC, Kazakhstan, and Mongolia nationals; intermittent). The PRC specialist should have a master's degree in urban planning, transport economics, or another relevant field, with at least 7 years of work experience dealing with sustainable urban planning and climate change. The Kazakhstan and Mongolia specialists should have a bachelor's degree in urban planning, transport economics, or another relevant field, with at least 5 years of work experience dealing with sustainable urban planning and climate change. The specialists will support the conduct of urban planning capacity assessments in selected cities, and development of low-carbon urban planning in selected cities in the concerned countries.

13. **Sustainable agriculture and land use specialists** (national consultants: PRC, Kazakhstan and Mongolia nationals; intermittent). The PRC specialist should have a master's degree in sustainable resource management, agriculture, forestry, or another relevant field, with at least 7 years of work experience dealing with climate change-related issues in the agriculture, forestry, and land use planning sectors. The Kazakhstan and Mongolia specialists should have a bachelor's degree in sustainable resource management, agriculture, forestry, or another relevant field, with at least 5 years of work experience dealing with climate change-related issues in the agriculture, forestry, and land use planning sectors. The specialists will support the conduct of agriculture, forestry, and land use management capacity assessments of selected cities, and development of low-carbon land use planning in selected cities in the concerned countries.

14. **Cleaner production and consumption specialists** (national consultants: PRC, Kazakhstan and Mongolia nationals; intermittent). The PRC specialist should have a master's degree in public policy and management or another relevant field, with at least 7 years of work experience and knowledge of climate change, sustainable production, and consumption. The Kazakhstan and Mongolia specialists should have a bachelor's degree in public policy and management or another relevant field; at least 5 years of work experience; and knowledge of climate change, sustainable production, and consumption. The specialists will support the conduct of capacity assessments and climate mitigation measures in industrial and commercial sectors in the concerned countries and cities.

15. **Climate risks and adaptation specialists** (national consultants: PRC, Kazakhstan, and Mongolia nationals; intermittent). The PRC specialist should have a master's degree in science, engineering, or another relevant field, with at least 7 years of work experience in climate change, climate risk assessment, climate change adaptation, and other climate-related issues. The Kazakhstan and Mongolia specialists should have a bachelor's degree in science, engineering, or another relevant field, and at least 5 years of work experience in climate change, climate risk assessment, climate change adaptation, and other climate-related issues. The specialists will support the assessment of climate risks and the vulnerability of recommended investment plans in concerned countries and cities.

16. **Health impact modeling expert** (international consultant, intermittent). The expert shall have a postgraduate degree in science, or another relevant field; and at least 10 years of work experience in health impact assessment and modeling for infrastructure projects. The expert is responsible for developing a health impact model, which can demonstrate health benefits from proposed low-carbon measures at the city level. The model work will be limited to a selected pilot city in the PRC.

17. **Health specialist** (PRC national consultant, intermittent). The specialist should have a postgraduate degree in science, or another relevant field; and at least 5 years of work experience in health impact evaluation and assessment. The specialist will collect data and relevant information requested by the international health impact modeling expert.

18. **Impact communication experts** (international consultants, intermittent). The experts should have a postgraduate degree in media and communications, social science, or another relevant field; and at least 10 years of work experience in impact communications on various topics, and in particular on climate change. Familiarity with the ADB's *Handbook of Style and Usage* would be an asset. The expert will be responsible for knowledge products and/or knowledge-sharing publications based on the TA outputs.

19. **Publication design expert** (international consultant, intermittent). The expert should have a degree in literature or another related field and at least 5 years of work experience with publication design and publishing. The expert should be familiar with the ADB *Handbook of Style and Usage*. The expert is responsible for publication design and final publication editing of knowledge products and/or knowledge-sharing publications based on the TA outputs.

C. Individual Consultants

20. **Climate change and project management expert** (international, 8 person-months, intermittent). The expert should have (i) a postgraduate degree in environmental management, policy and governance, climate change policy, environmental engineering, environmental science, environmental economics, or another relevant field; (ii) at least 10 years of experience working in the field of climate change, public policy and management, sustainable development, innovation, and the knowledge economy; and (iii) extensive experience in project management and project evaluation. The following factors will be an advantage: (i) knowledge and experience in climate change mitigation and adaption planning and governance at the city level; (ii) knowledge in networking and workshop organizing; and (iii) experience in developing countries, the Asian region, and/or in countries under the CAREC program. The expert will be responsible for TA project implementation and evaluation.

21. **Climate change and project management specialist** (Philippine national, 10 person-months, intermittent). The specialist should have a degree in engineering, economics, accounting, finance, business administration or a related field, and at least 5 years of work experience in project administration and financial management. The specialist will provide climate change-related project management, including finance and accounting and operations functions for the project. The specialist will provide technical, administrative, and logistics support in TA project implementation, including support for implementing workshops, seminars, and conferences; provide assistance for knowledge sharing and preparation of knowledge products; manage the TA budget; monitor TA outputs against targets, including planning and monitoring the TA financial statement; maintain the project website; and provide general administrative support.

22. **Climate finance specialist** (PRC national, 4 person-months, intermittent). The specialist should have a postgraduate degree in finance, economics, or another relevant field; and at least 7 years of work experience with excellent knowledge of and experience in climate finance. The specialist will review current global climate finance opportunities and make recommendations on innovative climate financing instruments to support low-carbon city development in the PRC.