Japan Fund for the Joint Crediting Mechanism (JFJCM)

September 2019

ADB Strategy 2030:
Achieving a Prosperous, Inclusive, Resilient, and Sustainable Asia and the Pacific

Seven Operational Priorities

- Addressing Remaining Poverty and Reducing Inequalities
- Accelerating Progress in Gender Equality
- **Tackling Climate Change, Building Climate and Disaster Resilience**, and Enhancing Environmental Sustainability
- Making Cities More Livable
- Promoting Rural Development and Food Security
- Strengthening Governance and Institutional Capacity
- Fostering Regional Cooperation and Integration

Target 75% of ADB's of the number of committed operations (on a 3-year rolling average) will support climate mitigation and adaptation by 2030

Target Climate finance from ADB's own resources reach $80 billion (2019-2030)

ADB Approach to Climate Finance Mobilization

Deploying concessional resources

Internally managed resources (ADB donor trust funds and special funds)

- Climate Change Fund (CCF)
- Clean Energy Financing Partnership Facility (CEFPF)
- Urban Climate Change Resilience Trust Fund (UCCRTF)
- **Asia-Pacific Climate Finance Fund (ACliFF)**
- **High Level Technology Fund (HLTF)**
- Others with bilaterals

Multilateral funds

- Climate Investment Funds (CIF)
- Global Environment Facility (GEF)
- Green Climate Fund (GCF)

Maximizing market mechanisms

- **Upfront carbon finance**
  - Asia Pacific Carbon Fund
  - Future Carbon Fund
- **Carbon Market Technical Support Facility**
  - CDM support
  - domestic emissions trading
- **Japan Fund for the Joint Crediting Mechanism**
- **Green and Climate Bonds**
- Supporting **other market mechanisms** (e.g. renewable energy credits; feed-in tariffs)

Catalyzing private capital

- **Direct project finance** (lending, guarantees, syndications), and equity investment
- **Public private partnerships:** (PPPs) working with client DMCs across stages of PPPs

ADB's Carbon Market Program

Technical Support Facility	Asia Pacific Carbon Fund	Future Carbon Fund	Japan Fund for the Joint Crediting Mechanism
Commenced in 2006 Implemented through a series of 5 Technical Assistance projects TA 6363: Preparing Clean Energy Projects Eligible for the Clean Development Mechanism TA 6438: Implementation of the Technical Support Facility under the Carbon Market Initiative TA 8223: Supporting the Use of Carbon Financing to Promote Green Growth in Asia and the Pacific TA 8654: Supporting the Use of Carbon Financing from New Carbon Market Mechanisms to Promote Green Growth in Asia and the Pacific TA 9062: Supporting Low-Carbon Development in Asia and the Pacific through Carbon Markets	$151.8 million Trust Fund to purchase pre-2013 CERs Commenced in 2007 Fund Participants include Seven European Governments Supported 71 CDM projects in 9 DMCs Contracted 15.63 million CERs Provided carbon finance to 1.9 GW renewable energy projects All contracted CERs received and distributed to Fund Participants Fund closed in 2014	$115 million Trust Fund to purchase post-2012 CERs Commenced in 2009 Fund Participants include Four Governments and two private sector entities from Europe and Asia Contracted 10.45 million CERs with an investment of $59.5 million Supporting 36 CDM projects in 12 DMCs Disbursed $45.9 million as of 30 June 2019 Providing carbon finance support to 1.2 GW renewable energy projects Fund will close in 2021	$70.0 million by MOEJ Commenced in June 2014 JFJCM provides financial incentives for adoption of advanced low-carbon technologies in ADB-financed projects Grant to sovereign projects (max. $10 million) Interest subsidy to non-sovereign projects (max. $10m) $22 million committed to three approved projects in Maldives, Cambodia and Bangladesh

Japan Fund for the Joint Crediting Mechanism

- Established in June 2014 as one of ADB's trust funds
- Contribution by Government of Japan: $70.0M (2014-2019)
- Provides financial incentives (grants) for adoption of advanced low-carbon technologies in ADB-financed projects that use the Joint Crediting Mechanism (JCM)*
- Both sovereign and nonsovereign projects are eligible

* JCM is a bilateral carbon market mechanism initiated by the government of Japan

JFJCM eligible countries

11 out of 17 JCM partner countries are ADB Developing Members

2013	2014	2015	2016	2017
Mongolia	**Palau**	**Myanmar**		**Philippines**
Bangladesh	**Cambodia**	**Thailand**		
Maldives				
Viet Nam				
Lao PDR				
Indonesia				
Ethiopia	Mexico	Saudi Arabia		
Kenya		Chile		
Costa Rica				

Eligible projects and technologies

Eligible Project

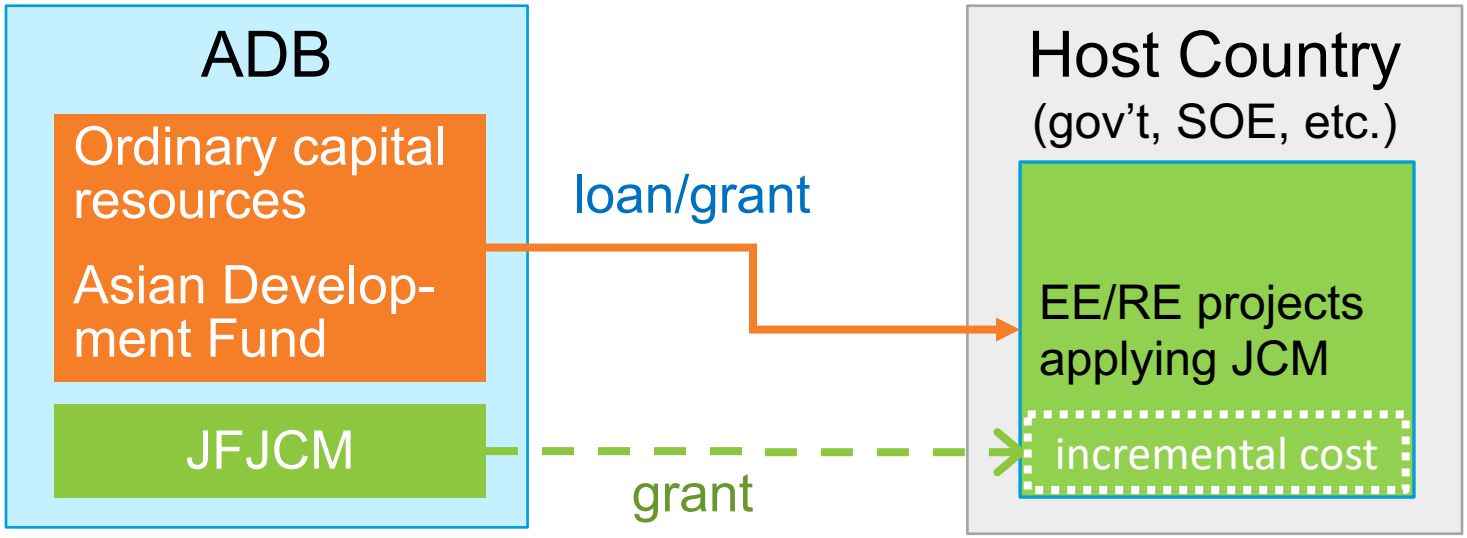
- Project co-financed with an ADB or ADB administered funds.

  * Can be used for additional financing to ongoing ADB project.

Eligible Technology

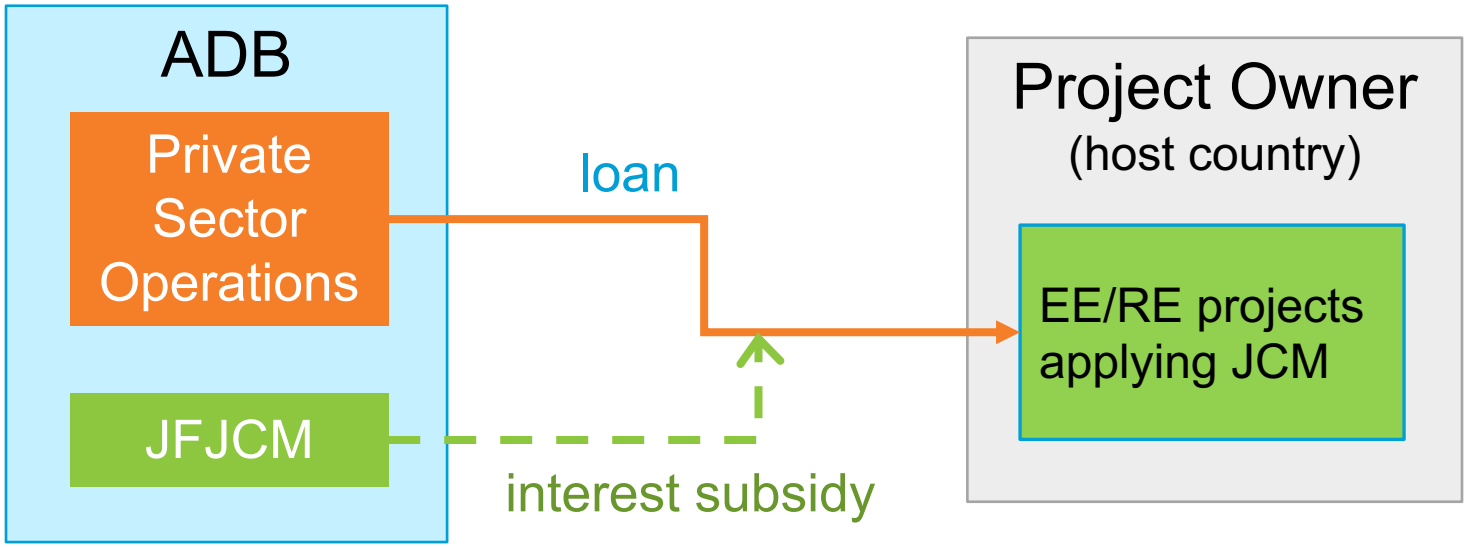
- Advanced low carbon technologies that reduce greenhouse gas (GHG) emission including CO_2 from energy source.
- The technologies must have a proven implementation and operation record of its technical effectiveness.

JFJCM support to ADB projects (sovereign)



- JFJCM provides grant for incremental cost of advanced low-carbon technologies
- Amount of grant, maximum of:
  i. 10% of the project cost (capped to $10 million)
  ii. $5 million if the project cost < $50 million

JFJCM support to ADB projects (nonsovereign)



- JFJCM provides interest subsidy to ADB's loan to energy efficiency / renewable energy projects applying JCM
- Amount of interest subsidy:

  10% of project cost (capped to $10 million)

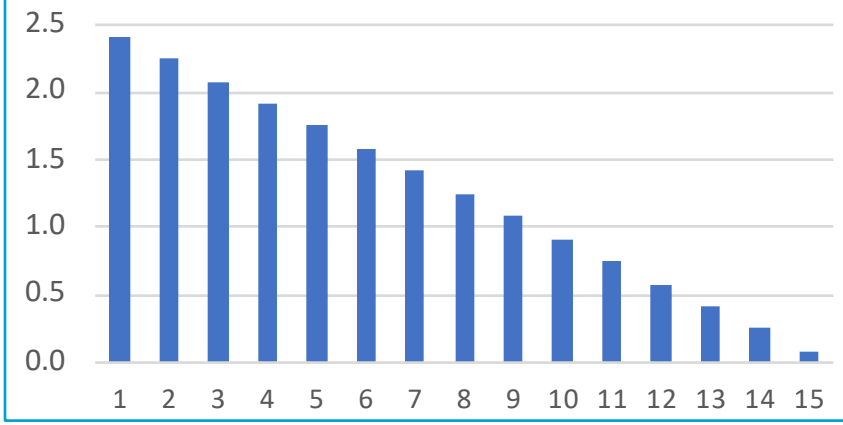
Interest subsidy under the JFJCM (example)

Assumptions of ADB loan

- Loan amount: $50 million
- Interest rate: 5% (base case) → 3% (with JFJCM support)
- Repayment: 15-year amortization

Base case

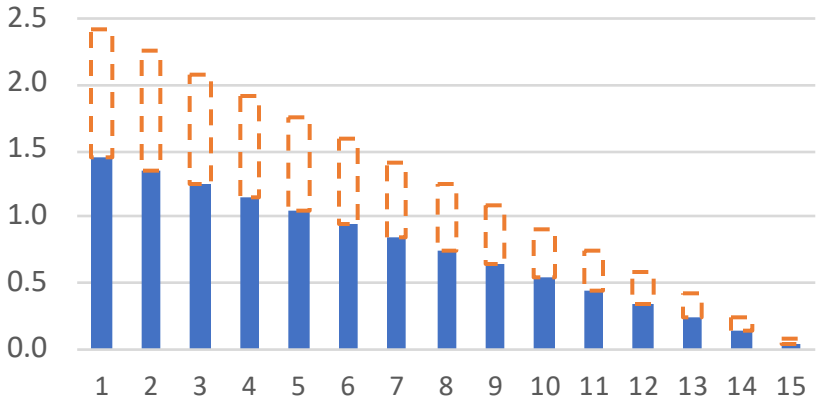
total interest payment: $18.8 million



With JFJCM support

total interest payment: $11.3 million

JFJCM interest subsidy: $7.5 million



Requirements under JFJCM: JCM application

- The JFJCM subcomponents cannot apply for other international carbon market mechanisms (e.g. clean development mechanism)

JCM Application

- Preparation and approval of JCM Methodology
- Preparation of Project Design Documents (PDD)
- Validation by Third Party Entities (TPEs), and registration of the project
- Monitoring, reporting and verification of GHG emission reduction
- Issuance of the JCM credits and delivery to government(s)

Technical support may be provided by consultants hired by JFJCM

Points considered in project evaluation

As ADB loan project

- The project must be bankable
- Procurement through a competitive process
- Contribution to development goals of host country
- Operational experience, track record and institutional capacity of project developer

As JFJCM project

- Use of advanced low-carbon technologies applying the joint crediting mechanism (JCM):
  - ✓ clear and long-term GHG emission reductions
  - ✓ possibility of robust MRV
- Cost effectiveness*
  - ✓ cost of reducing 1tCO_2e ≤ $40

* grant amount / (annual GHG emission reduction x project period)

ADB/JFJCM project approval process (1)

ADB loan process

Concept Review
- Review of business plan and financials
- Internal peer review
- Concept Review Committee's review

Due Diligence
- Technical, commercial, legal and safeguards due diligence
- Finalize term sheet
- Formal risk rating
- Disclose safeguards documents

Final Review
- Investment Committee review
- President's review

JFJCM process

ITD Review
- Prepare Initial Project Title and Description (ITD)
- Government of Japan (GOJ) approval

Project Proposal preparation
- JFJCM due diligence
- Prepare Project Proposal

Project Proposal review
- ADB approval (2-steps: Technical Advisory Group + Climate Change Steering Committee)
- GOJ approval*

By ADB Project Officer

* GOJ approval should be obtained before IC review, but ideally before term sheet.

Continued to next page

ADB/JFJCM project approval process (2)

ADB loan process

Board Approval
- 21-day circulation to the Board for review
- Board's approval

Loan Agreement
- Signing of loan agreement

JFJCM process (JCM Implementation)

Methodology Development and Approval

PDD Development, Validation and JCM Registration of Project

Monitoring, Verification and Issuance
[at least 2-3 times during project period]

By Borrower

JFJCM approved projects

#	Project	Country	JFJCM grant	Approval	Technologies supported
1	Preparing Outer Islands for Sustainable Energy Development Project (POISED)	Maldives	$5 million	Mar 2015	Advanced battery system and energy management system (EMS)
2	Provincial Water Supply and Sanitation Project	Cambodia	$10 million	Dec 2017	Energy efficient wastewater treatment system
3	Southwest Transmission Grid Expansion Project	Bangladesh	$7 million	Jul 2018	Energy efficient transmission lines
4	Upscaling Renewable Energy Sector Project	Mongolia	$6 million	Sep 2018	Solar PV with advanced battery system and EMS
5	Improving Access to Health Services for Disadvantaged Groups Investment Program	Mongolia	$3.48 million	Sep 2019 (tbc)	Energy efficient HVAC, high insulation window, rooftop solar PV and ground source heat pump
			$31.48 million		

Case study 1: micro-grid technology in Maldives

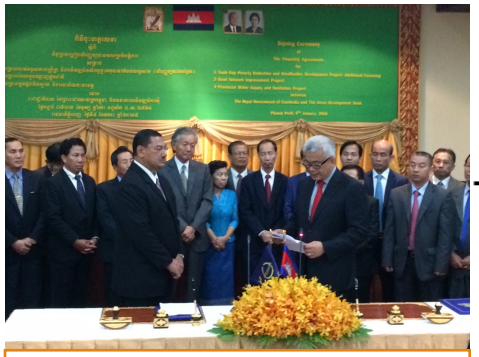
Project name	Preparing Outer Islands for Sustainable Energy Development Project
JFJCM grant	$5 million
Technology supported	Advanced battery system and energy management system
Description	On top of 1.6 MW of solar PV installed under the project, battery storage and EMS supported by JFJCM will: ➢ Smooth out the fluctuation of solar PV generation ➢ Optimize diesel generator operation ➢ Integrate large amounts of renewables to the grid
Location	Addu, Maldives
Emission reductions	2.5 - 3 thousand tCO_2/yr (estimate)

Signing ceremony for the contract on battery system and EMS

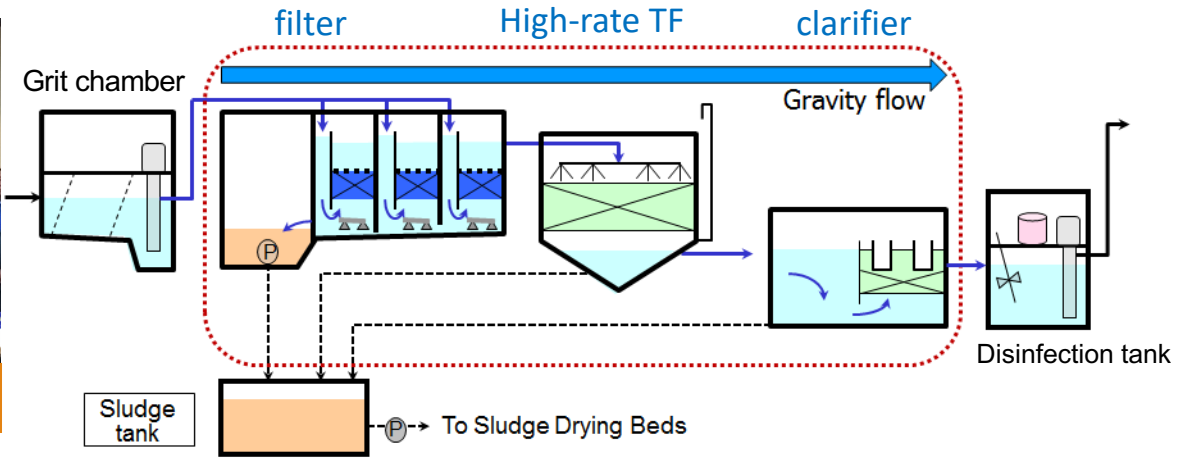
Project Site / Source: Ministry of Environment and Energy, Maldives

Case study 2: wastewater treatment in Cambodia

Project name	Provincial Water Supply and Sanitation Project
JFJCM grant	$10 million
Technology supported	Energy efficient wastewater treatment
Description	Existing lagoon system will be replaced by a system consisting of high-rate trickling filter combined with filters and clarifiers, requiring a small area of land and less than 0.1 kWh/m^3 of power for treatment
Location	Battambang, Cambodia
Emission reductions	6.4 thousand tCO_2/yr (estimate)

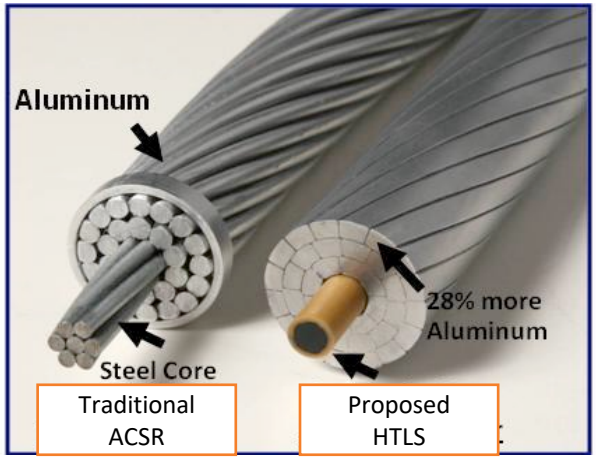


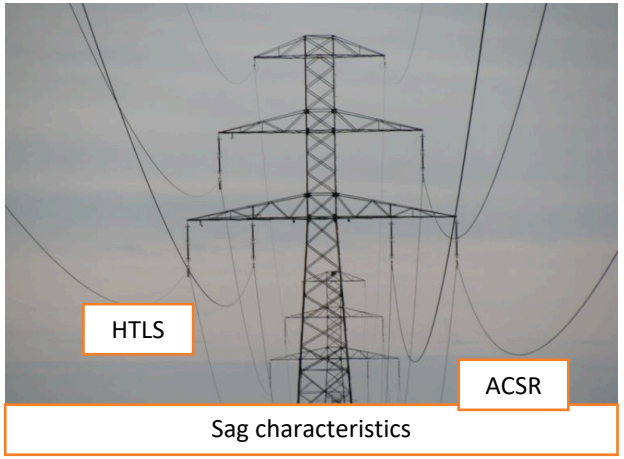
Signing ceremony for ADB financing agreement



Case study 3: Advanced transmission lines in Bangladesh

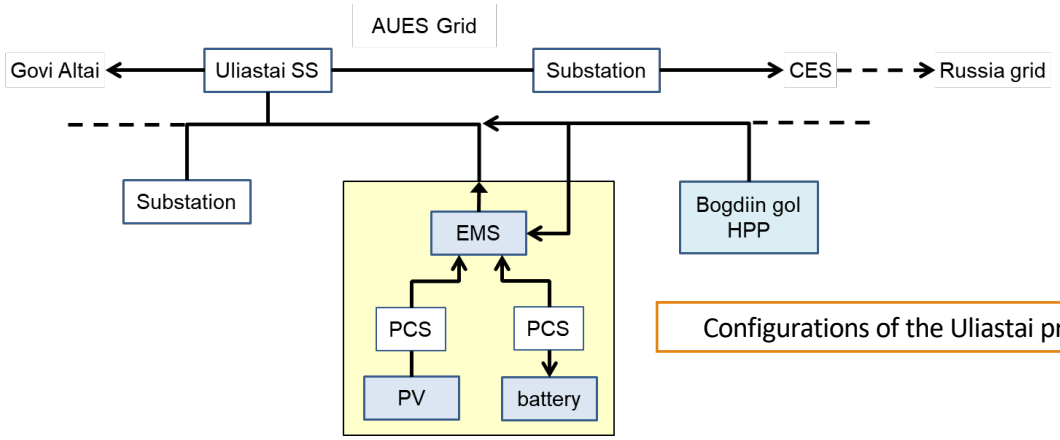
Project name	Southwest Transmission Grid Expansion Project
JFJCM grant	$7 million
Technology supported	Energy efficient transmission lines
Description	Energy efficient transmission lines will increase high-voltage network capacity while reducing transmission losses and emissions including carbon dioxide. The key technology is high-temperature low-sag (HTLS) conductors.
Location	Between Gopalganj and Barisal, Bangladesh
Emission reductions	23.1 thousand tCO_2/yr (estimate)





Case study 4: Upscaling renewables in Mongolia

Project name	Upscaling Renewable Energy Sector Project
JFJCM grant	$6 million
Technology supported	5MW solar PV system, advanced battery system of 3.6 MWh and energy management system
Description	This solar power plant with battery and EMS can supply as much locally produced renewable energy as possible to local consumers, reducing carbon intensive domestic and imported grid electricity, while strengthening the country's power self-sufficiency.
Location	Uliastai, Mongolia
Emission reductions	6.4 thousand tCO_2/yr (estimate)



Configurations of the Uliastai project site

Case study 5: Green Hospital in Mongolia

Project name	Improving Access to Health Services for Disadvantaged Groups Investment Program
JFJCM grant	$3.48 million
Technology supported	Energy efficient HVAC system, high insulation window, rooftop solar PV and ground source heat pump (GSHP)
Description	New building as expansion of existing hospital in UB will be constructed with adoption of low carbon technologies including HVAC system, high insulation windows and rooftop solar PV. New construction of three family health centers is also planned with GSHP installation, which replace the heat supply from electric heaters powered by coal fired power plants.
Location	Ulaanbaatar, Mongolia
Emission reductions	2.9 thousand tCO_2/yr (estimate)

Shintaro Fujii

Environment and Climate Change Specialist

JFJCM Fund manager

+63 2 632 4287 | sfujii@adb.org

Takahiro Murayama

Low Carbon Project Development Specialist (Consultant)

+63 2 632 4444 | tmurayama.consultant@adb.org

Thank you.