

# ADB Trust Fund: Japan Fund for Joint Crediting Mechanism (JFJCM)

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# Outline of Asian Development Bank (ADB)

## **History:**

ADB was conceived in 1966 as a financial institution that would be Asian in character and foster economic growth and cooperation in Asia. ADB currently has 67 member countries/regions.

## **Relations with Japan:**

Japan is a founding member of ADB and the largest shareholder (15.624%), having votes of 12.798% of total membership.

## **ADB's Vision:**

An Asia and Pacific region free of poverty

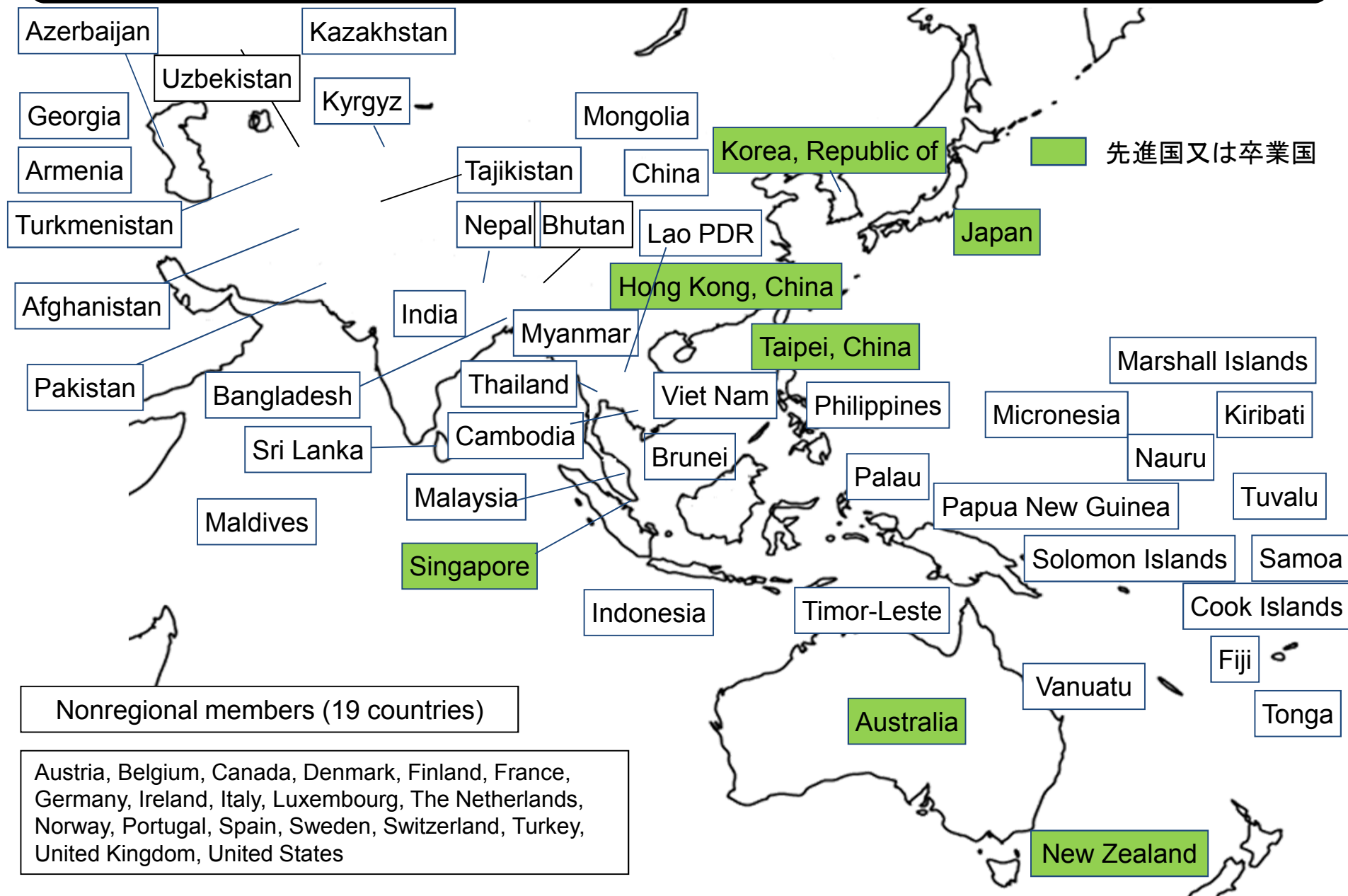
## **ADB's Mission:**

To help our developing member countries reduce poverty and improve quality of life

## **ADB's Mode of Operation:**

- ADB finances projects and programs in the territories of its developing members.
- Main instruments comprise loans, equity investments, guarantees, grants, and technical assistance.
- ADB mobilizes financial resources through its co-financing operations.
- ADB also provides policy dialogues and advisory services.

# ADB Member Countries



# Outline of Asian Development Bank (ADB)

Source: Annual Report 2015

Headquarter	Manila, Philippines
Foundation	1966
Members	67 countries/regions (48 of which are from Asia and the Pacific)
President	Takehiko Nakao (2013~, all former Presidents are Japanese)
Subscribed Capital	147 Billion USD (end of 2015) (Paid-in; 7.4 Billion USD, Callable 139.7 Billion USD)
Main Shareholders	Japan (15.6%), USA (15.5%), China (6.5%), India (6.3%), Australia (5.8%) etc. (end of 2015)
Loans, Grants, Others	16.29 Billion USD (in 2015)
Technical Assistance	141 Million USD (in 2015)
Co-Financing	10.74 Billion USD (including Trust Funds) (in 2015)
Investment, Loan balance	83.4 Billion USD (end of 2014)
Major Recipients	India, China, Pakistan, Indonesia, Bangladesh (in 2015)
Staff number (Headquarter)	3,105 (1,104 of which are international staff (152 Japanese) (end of 2015)

# Fiscal Resources of Asian Development Bank (ADB)

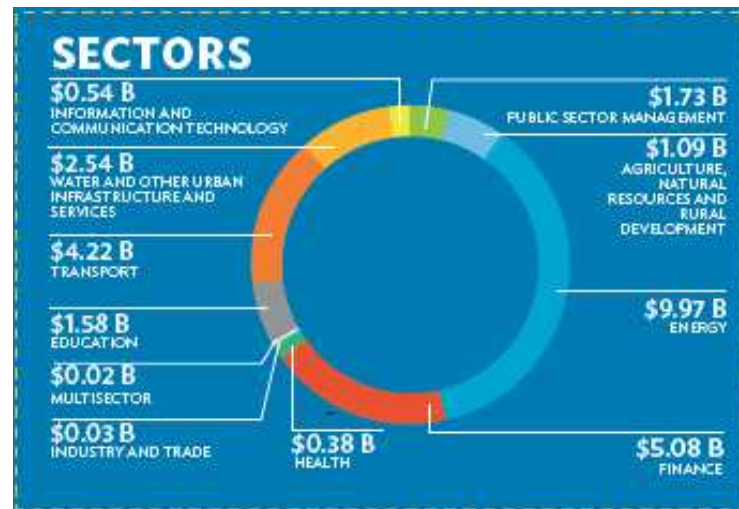
- ADB's financial resources consist of Ordinary Capital Resources (OCR) and Special Funds.
- Ordinary Capital Resources (OCR)
  - (1) Paid-in capital provided by shareholders
  - (2) Funds borrowed from capital markets and private placements
  - (3) Accumulated retained income (reserves)
  - *OCR loans are provided to middle-income countries at a quasi-market rate.*
- Special Funds
  - the Asian Development Fund (ADF), the Technical Assistance Special Fund (TASF), the Japan Special Fund (JSF), ADB Institute (ADBI), the Climate Change Fund (CCF) etc.
  - Japan has been the top contributor to ADB's Special Funds
  - *ADF offers concessional loan and grant to low-income countries.*

In May, 2015, the initiative of combining the ADF's equity and lending operations with the OCR balance sheet was approved, and becomes effective in January, 2017.

# ADB's Operation by sector and region

## ADB's operation amount by sector in 2015

Sector	Operation Amount (Billion USD)
Energy	9.97
Finance	5.08
Transport	4.22
Water and Other Urban Infrastructure and Services	2.54
Public Sector Management	1.73
Education	1.58
Agriculture, Natural Resources and Rural Development	1.09



## ADB's operation amount by region in 2015



Region	Operation Amount (Billion USD)
Southeast Asia	7.95
South Asia	7.80
Central and west Asia	7.30
East Asia	3.12
Pacific	0.46



# ADB's Contribution to Climate Finance (2014)

Finance Sources related to Climate Change	Unit (USD Billions)
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Public	148 (38%)
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-National Development Financial Institutions	66
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-Multilateral Development Financial Institutions	47 (12%)
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-Bilateral Development Financial Institutions	17
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-Climate Funds	2
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-Governments and Agencies	15
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-Others	1
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Private	243 (62%)
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Total	391
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## ADB's Climate Finance

Area	ADB resources (USD Millions)	External resources (Co-financing etc) (USD Millions)	Total (USD Millions)
Mitigation	1,711	426	2,137
Adaptation	665	54	719
Total	2,376	480	2,856

Source: 2014 Joint Report on Multilateral Development Bank's Climate Finance (June 2015)

# Approaches to Climate Finance Mobilization by ADB

## Deploying concessional resources

- Internally-managed funds
  - ✓ Clean Energy Financing Partnership Facility (CEFPF)  
Fund size: 138 million USD (cumulative since 2017)
  - ✓ Climate Change Fund (CCF)  
Fund size: 60 million USD (cumulative since 2008)
  - ✓ Others with bilaterals
- Externally-managed funds
  - ✓ Climate Investment Funds (CIFs)  
Fund size: 160 million USD (cumulative since 2008)
  - ✓ Global Environment Facility (GEF)  
Fund size: 10.5 billion USD, 51 billion USD (Co-financing) (cumulative since 1991)
  - ✓ Green Climate Fund (GCF)  
Fund size: 10.2 billion USD (cumulative since 2010)

## Maximizing market mechanisms

- Carbon Finance
  - ✓ Asia Pacific Carbon Fund (closed in 2014)
  - ✓ Future Carbon Fund
- Carbon Market Technical Support Facility
  - ✓ CDM support
  - ✓ Domestic emission trading
- Supporting other market mechanisms
  - ✓ **Japan Fund for the Joint Crediting Mechanism (JFJCM)**  
Fund size: 42.6 million USD (4.8 billion JPY) (cumulative as of 2016)
  - ✓ Renewable energy credits; Feed in Tariffs (FIT)

## Catalyzing private capital

- Direct Project Finance (lending, guarantees, syndications), and equity investment
- Public private partnerships (PPPs)

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# Main activities related to JFJCM

- June 25<sup>th</sup>, 2014      Announced establishment of JFJCM by the Minister of Environment, Japan (MOEJ) and ADB President
- February 2<sup>nd</sup>, 2015      1<sup>st</sup> MOEJ-ADB Environmental Policy Dialogue
- March 23<sup>rd</sup>, 2015      Adoption of 1<sup>st</sup> JFJCM project  
(Smart Micro-Grid system for POISED Project in Addu atoll, Maldives)
- January 18<sup>th</sup> – 19<sup>th</sup>, 2016      2<sup>nd</sup> MOEJ-ADB Environmental Policy Dialogue

## 【Outline of Letter of Intent on Cooperation for Environment】

- ✓ Areas of Cooperation
  - (i) climate change mitigation and adaptation
  - (ii) conservation and sustainable use of biodiversity
  - (iii) chemical management
  - (iv) air quality management
  - (v) waste water management
  - (vi) solid waste management
  - (vii) environmentally sustainable cities
  - (viii) Other areas of environmental protection and improvement as may be confirmed by both Participants.
- ✓ Forms of Cooperation
  - (i) Cooperation for effective implementation of JFJCM
  - (ii) Support for knowledge networks and environment related institutions
  - (iii) Support for knowledge exchange and activities relating to capacity and human resource development
  - (iv) Participation of experts from the MOEJ and ADB in events, seminars, workshops etc.



Minister of Environment, Japan and ADB President in 2014

Establishment of JFJCM (May, 2014)

<http://www.adb.org/documents/japan-fund-for-the-joint-crediting-mechanism>

# JFJCM Purpose and Scheme

## Draft Budget for FY2016

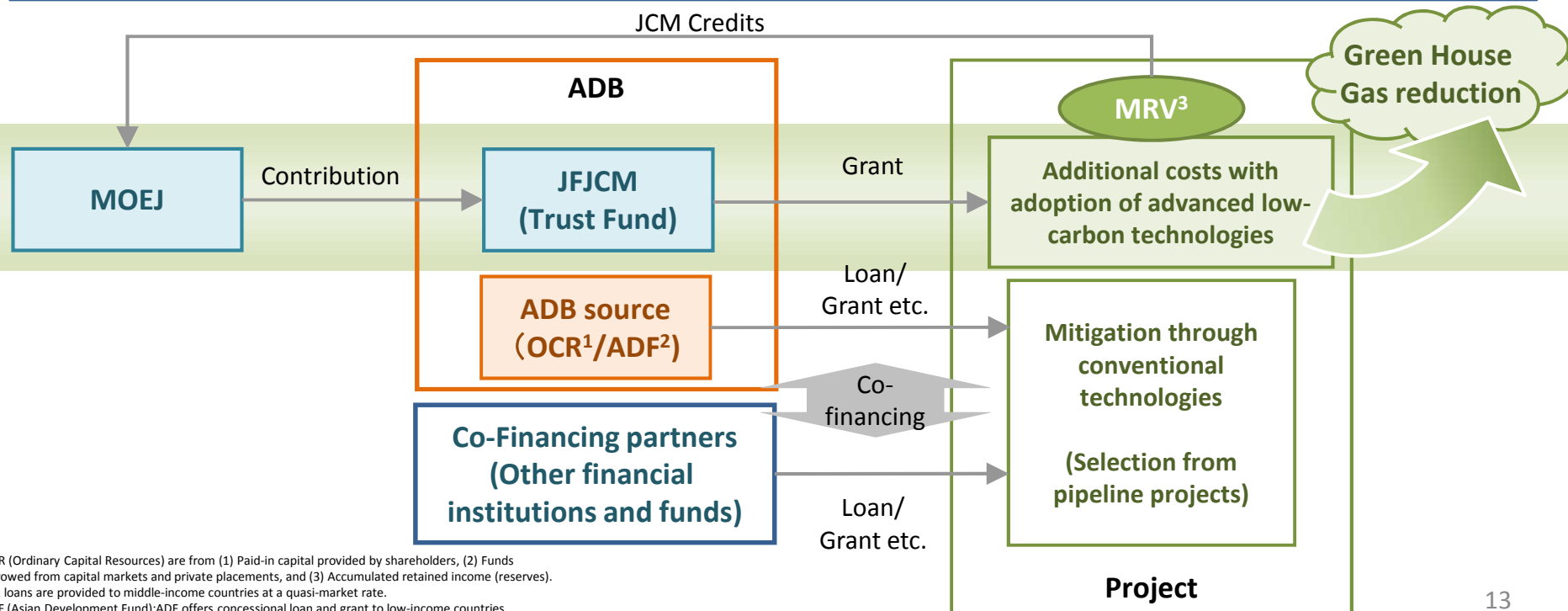
1.2 billion JPY (approx. USD 10million) ※1.8 billion JPY in 2015 and 2014 respectively

## Scheme

To provide the financial incentives for the adoption of advanced low-carbon technologies which are superior in GHG emission reduction but expensive in ADB-financed projects

## Purpose

To develop ADB projects as the “Leapfrog” developments by the advanced technologies and to show the effectiveness of the JCM scheme by the acquisition of credits of the JCM



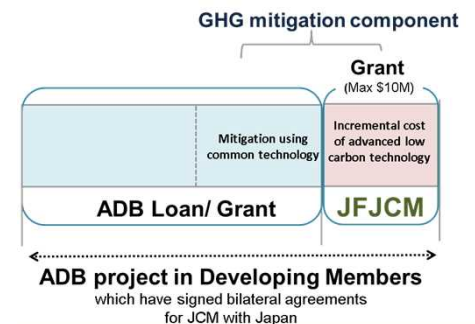
# Eligible Countries for JFJCM and Use of JFJCM

## Eligible Countries for JFJCM

- Japan has established the JCM scheme with 16 countries as of July, 2016 and 10 countries are located in Asia and Pacific, being eligible for JFJCM.
  - (1) Bangladesh, (2) Cambodia, (3) Indonesia, (4) Lao PDR, (5) Maldives, (6) Mongolia, (7) Palau, (8) Vietnam, (9) Myanmar and (10) Thailand
- In addition, the Philippines and Japan signed an aide memoire with intent to establish the JCM.

## Use of JFJCM

- Sovereign Projects (Finance to Governments / Public Sector (State-owned enterprises etc.))**
  - Max: (1) Project cost < USD50MM: Smaller of (i) 10% of the project cost and (ii) USD 5MM
  - (2) Project cost > USD50MM: Smaller of (i) 10% of the project cost and (ii) USD 10MM
  - Grant for incremental cost of adopting advanced low-carbon technologies from “Business-As-Usual” (including Goods, Services, Consulting services, Training for Capacity Building)
- Non-sovereign Projects (Finance to Private Sector)**
  - Max: Smaller of (i) 10% of the project cost and (ii) USD 10MM
  - Support margin component of the interest rate of the ADB loan





# Comparison of JFJCM and JCM Model Project (FY2016)①

Item		JFJCM		JCM Model Project by MOEJ
		Sovereign Project	Non-Sovereign Project	
Items related to Finance	Grant Rate	(1) Project cost < USD50MM: –Smaller of (i) 10% of the project cost and (ii) USD 5MM (2) Project cost > USD50MM: –Smaller of (i) 10% of the project cost and (ii) USD 10MM	Smaller of (i) 10% of project cost or (ii) USD 10 MM	The first project in the host country: Max. 50% of the CO2 reduction-related cost Second to fourth projects: Max. 40%, From fifth projects and on: Max. 30%
	Project Formation	Governments / Public Sector (State-owned enterprises etc.)	Private Sector	Private Sector
	Bidding Requirement	International Competitive bidding	Procurement needs to be made though competitive processes	Individual negotiation (Bidding may be required in case government of a host country is a counterpart)
	Confirmation of finance feasibility	Confirmed by MOEJ and ADB at ITD and JCM Application stage		Confirmed by Executive body and MOEJ
	Cost Effectiveness ※	Equal to or less than \$50/ton CO2 (in case Grant amount exceeds 5M US\$) Equal to or less than \$100/ton CO2 (in case Grant amount goes below 5M US\$)		
	Applicant	Governments of the eligible ADB developing member countries (DMC)	Private entities	Japanese private entities only

※Note Cost Effectiveness = Grant Rate / (Annual GHG emission reduction × Monitoring period)  
Exchange rate for cost effectiveness is set as 1USD = 100 JPY

# Comparison of JFJCM and JCM Model Project (FY2016)②

Item	JFJCM		JCM Model Project by MOEJ
	Sovereign Project	Non-Sovereign Project	
Items related to JCM Process	Methodology, PDD	ADB has a scheme of technical assistance	Supported by MOEJ budget
	Responsibility of TPE cost (validation, verification)	ADB has a scheme of financial assistance for some portion	Validation and 1 <sup>st</sup> verification supported by MOEJ budget.
	Monitoring Period	※	Japanese legal durable year of the facility
	Credit Distribution	※	More than 50% of the credits delivered to Japanese Government
	Verification Frequency	※	First time: one year after monitoring begins Second and third time: year of 2020 and 2030 Verification is also required at the end of legal durable year of the facility.
	Responsibility of MRV	Loan borrower (Project proponent)	Japanese representative of international consortium
	Confirmation of eligibility for JCM project	Confirmed by the Joint Committee consists of governmental representative of Japan and a host country	
	Targeted greenhouse gas	7 GHGs types defined by UNFCCC (energy-related CO2 emissions reduction needs to be included)	

Regarding the item of ※, it is to be determined by discussion with ADB based on the rules of JCM Model Project by MOEJ.



# JFJCM Project Process

## ADB Project Process

## JFJCM Process

## Note

Consider potential projects

Prepare ITD (Initial Project Title and Description)

Contents of ITD :

- Overview of project
- Applied low carbon technology
- Rough estimate of CO2 emissions reduction

ITD Approval

Submit ITD to Government of Japan (GOJ) for approval

ITD = Initial Project Title and Description

PPTA (Project Preparation Technical Assistance) for Due Diligence

Prepare Project Proposal

Contents of Project Proposal :

- Technical Specification
- Specific or anticipated technology provider
- Evaluation and qualification criteria
- Estimated GHG emissions reduction
- Summary of draft JCM methodology
- JCM application plan

Proposal Approval

Submit Proposal to GOJ for approval

Prepare draft RRP (Reports and Recommendations of the President )

Decide Co-Financing Partner

- JCM methodology (Submission of a JCM methodology to the JCM Joint Committee for approval is necessary, if new JCM methodology is prepared for the project.)
- Validation of PDD by Third party entities

Board Approval  
Loan, Grant execution

Prepare JCM Methodology and Project Design Document (PDD)  
Apply for registration

- Operation data and other information required in PDD
- Verified CO2 emissions reduction and other data by Third party entities

Implement monitoring and validation  
Apply for JCM credit issuance

# Average duration of JFJCM project formulation and examination points

- Average lead time for JFJCM project adoption

Sovereign project : **2~3 years** from financing consultation with ADB staff to Board Approval※

Non-sovereign project : **6 months~1 year** from financing consultation with ADB staff to Board Approval

※Depending on project characteristics, degree of maturity, and/or necessity of EIA etc.

- Points of Attention for project examination

Examination can go smoothly by preparing required information and establishing institutional arrangements based on the points of project examination described below.

## Main points of JFJCM project examination

- Projects must be implemented in JCM partner countries
- Installation of advanced low-carbon technologies and long-term GHG emissions reduction
- Cost effectiveness of GHG emissions reduction
- Co-benefit effects

## Main points of ADB project examination

Sovereign project :  
Cited from “PROCESSING SOVEREIGN AND SOVEREIGN-GUARANTEED  
LOAN PROPOSALS”

- Project’s technical and financial design
- Macro- and microeconomic institution
- Sectoral policy
- Safeguard contexts, country partnership strategy (CPS)
- Operational experience, and institutional capacity
- Lessons from evaluations of previous projects
- Cost estimates and financing plans
- Implementation arrangement

Non sovereign project :  
Cited from “OPERATION MANUAL BANK POLICY AND PROCEDURE,  
NONSOVEREIGN OPERATIONS”

- Project’s technical feasibility, market prospects, financial and economic viability
- Best practices of corporate governance
- Environmental and social soundness
- Integrity, experience, success record, financial resources, and competence of the sponsors and/or shareholders and management

# Typical Information required by ADB for non-sovereign project

Below is a typical list of information for non-sovereign projects that require ADB assistance

Source : <http://www.adb.org/site/private-sector-financing/applying-assistance>

## **1. Executive Summary**

- Project's summary and important points
- Explain how and why ADB can assist the project

## **2. Project description**

- Describe project in detail
- Discuss how much support has been obtained from the government, lending institutions and other investors.

## **3. Feasibility study (F/S)**

- Establish the technical, financial, economic, and environmental and social viability
- F/S should be prepared by a reputable consultant

## **4. Background and sponsor(s)**

- Ownership and management structure
- Sponsor's experience, financial history and plans

## **5. Project ownership structure**

- The proposed ownership and management structure
- Explain the legal, tax, and other advantages
- Contractual arrangements with any company

## **6. Project's implementation arrangements**

- Construction and supervision methodology
- Provide the draft construction contracts
- Project's schedule, liquidated damage provisions, and performance bond requirements

## **7. Project operations**

- Describe operational arrangements
- Discuss expected efficiency levels of operation, maintenance plan, training

## **8. The market**

- Market, marketing arrangements, off-take concession and/or purchase agreements
- Provide current and projected markets
- Market risks, credit-worthiness of customers

## **9. Environmental and social aspects**

- Confirm environmental and social impacts
- Provide environmental and social management plans

## **10. Cost estimates**

- Cost estimate analysis
- Detailed taxes and duties, development expenses, working capital requirements, and investment payments

## **11. Financing plan**

- List the financing sources
- Escrow and retention arrangements, dividend policy, ADB's mode of assistance that applicant desires

## **12. Financial model**

- Financial projections for the project
- Financial model, balance sheet, profit and loss statement, cash flow statement etc.

## **13. Risk analysis**

- Risk analysis in implementing and operating
- Mitigation measures and cost responsibility

## **14. Permits and licenses**

- List all permits and clearances required, issuing authority, the date of issue

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# Technologies eligible for JFJCM

Sector	Category	Examples of advanced low-carbon technologies
Energy	Renewable Energy	Floating type offshore wind power generation
		Highly efficient biomass power generation especially for biomass which is difficult to utilize
		Highly efficient small hydro-power generation
	Energy Efficiency	Highly efficient devices with inverter such as pump, air conditioner, and fan
		Energy saving energy distribution technology such as conductor, transformer
		Low carbon building with design, insulation, energy saving facilities
Smart Grid	Efficient and fast charging battery storage	
	EMS for the distribution (Community Energy Management System (CEMS))	
	Building Energy Management System (BEMS)	
Transport		Highly efficient train, ship
		Electric-bus and/or taxi
Water		Highly efficient devices with inverter such as pump
		Highly efficient wastewater treatment equipment
		Demand side water saving technology
Urban		Waste to energy
Agriculture		High efficient pump for irrigation

Note: The above list provides examples of advanced low carbon technologies that would be eligible but this does not limit the technologies to be supported to those included in this list.

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## 1<sup>st</sup> JFJCM project

# -Smart Micro-Grid system for POISED Project in Addu atoll, Maldives-

*JFJCM project installs **smart micro-grid technology with advanced battery system and energy management system (EMS)** as advanced low-carbon technologies, which was not introduced by the existing ADB project of Solar PV with smart grid systems*

- **Existing ADB project “Preparing Outer Islands for Sustainable Energy Development (POISED)”**

- Total project cost USD110 MM (including co-financing from CIF SREP, EIB and IDB)
- Install Solar PV with smart grid systems in 160 islands

### <Project Background>

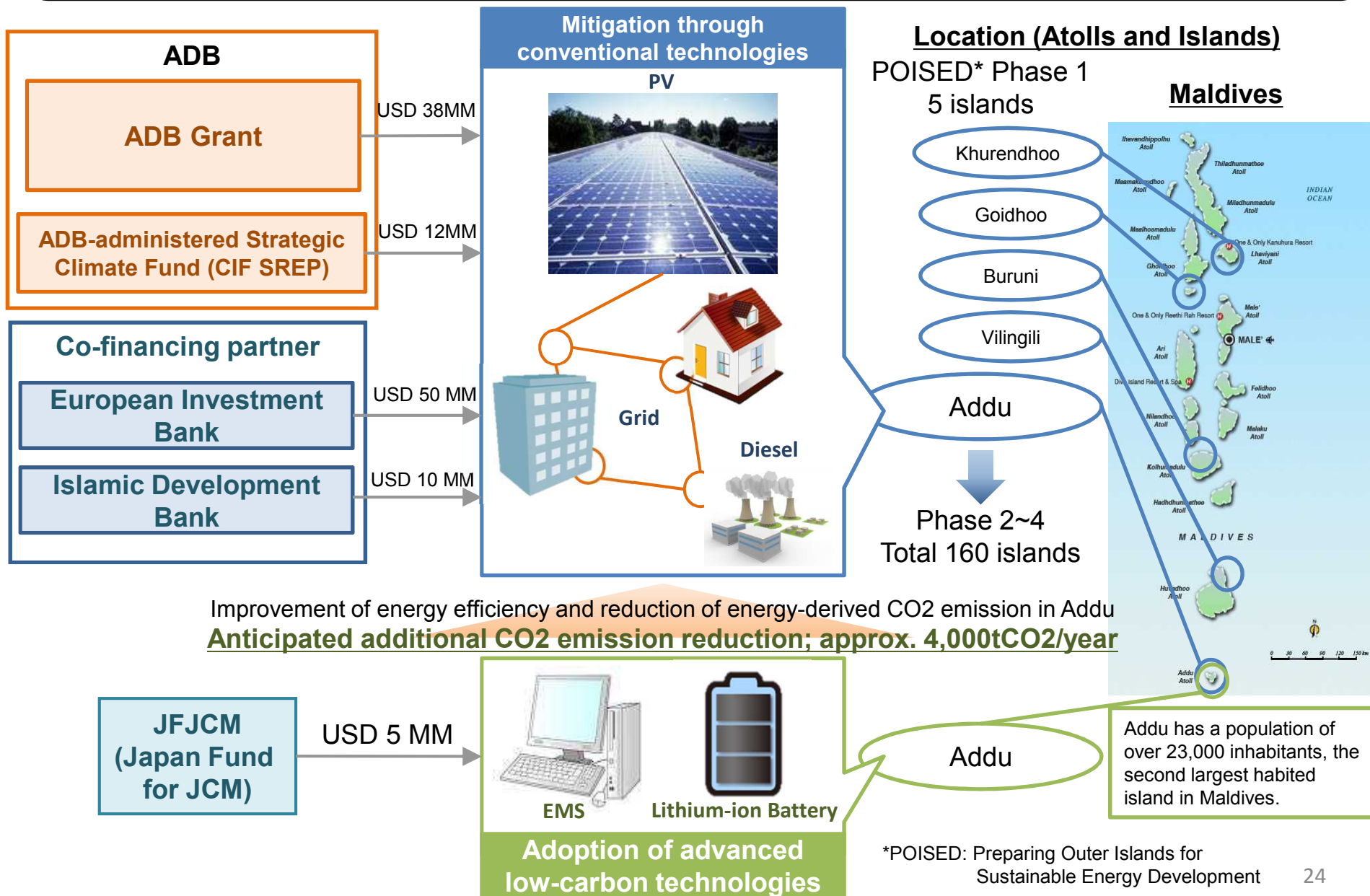
- Maldives: 26 atolls and land area of about ~300 km<sup>2</sup> with a population of 340 thousands
- Electrification rate is 100%, powered almost entirely by diesel (250MW)
- Government Goal: Carbon neutral till 2020

- **Additional assistance using JFJCM**

- USD 5 MM Grant to Addu atoll sub-project
- Install smart micro-grid technology with advanced battery system and energy management system (EMS)
- Increased Solar PV penetration level in the island (33% → 54%)

# 1<sup>st</sup> JFJCM project

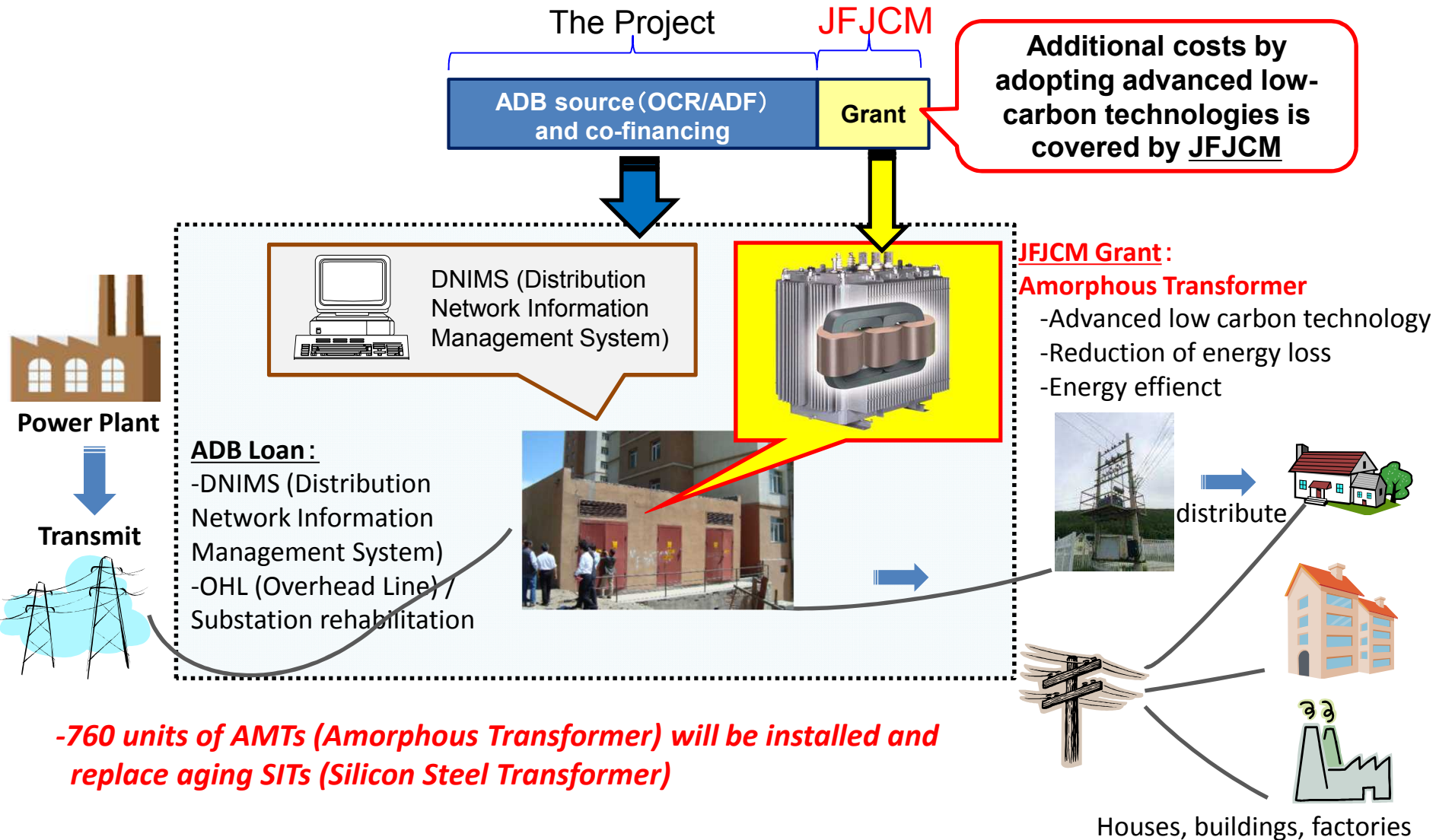
## -Smart Micro-Grid system for POISED Project in Addu atoll, Maldives-





# JFJCM Candidate project

## -Installation of Amorphous Transformers in Ulaanbaatar, Mongolia-



**-760 units of AMTs (Amorphous Transformer) will be installed and replace aging SITs (Silicon Steel Transformer)**

**-5,322 ton of annual CO2 emissions reduction is estimated for 35 years of product life**

- Waterworks and wastewater projects (Cambodia, Viet Nam)
- Agribusiness projects (Cambodia, Lao PDR and Myanmar)
- Low-carbon facilities' lease projects by the private sector (Indonesia, Thailand)

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# Contact Windows of JFJCM

## 【General】

- JFJCM Fund Manager: [jfjcm@adb.org](mailto:jfjcm@adb.org)
- ADB Japan Representative Office (JRO): Contact Form  
(<http://www.adb.org/ja/japan/contacts>)

## 【Specific projects】

- Sovereign project: Project Officer of the concerned project  
or ADB Japan Representative Office (JRO): Contact Form  
(<http://www.adb.org/ja/japan/contacts>)
- Non-sovereign project: Private Sector Operations Department (PSOD)  
The URL below shows contacts of the relevant Division and country offices  
(<http://www.adb.org/site/private-sector-financing/contacts>)

## 【JFJCM website】

<http://www.adb.org/site/funds/funds/japan-fund-for-joint-crediting-mechanism>

