ADB Trust Fund: Japan Fund for Joint Crediting Mechanism (JFJCM)
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4. Examples of JFJCM Projects
5. Website and Contact Information of JFJCM
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4. Examples of JFJCM Projects

5. Website and Contact Information of JFJCM
ADB, established in 1966, is dedicated to reducing poverty in Asia and the Pacific through inclusive economic growth, environmentally sustainable growth and regional integration. ADB currently has 67 members.

**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 Members

Azerbaijan
Kazakhstan
Uzbekistan
Kyrgyz
Georgia
Armenia
Turkmenistan
Afghanistan
Pakistan
Bangladesh
Sri Lanka
Maldives

Nonregional members (19 countries)
Austria, Belgium, Canada, Denmark, Finland, France, Germany, Ireland, Italy, Luxembourg, The Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom, United States

Korea, Republic of
Japan
New Zealand
Australia
Indonesia
Solomon Islands
Tuvalu
Vanuatu
Micronesia
Lao PDR
Philippines
Brunei
Palau
Papua New Guinea
Solomon Islands
Cook Islands
Samoa
Fiji
Tonga

Developed and graduated developing member countries

Austria, Belgium, Canada, Denmark, Finland, France, Germany, Ireland, Italy, Luxembourg, The Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom, United States

Sri Lanka
Thailand
Cambodia
Viet Nam
Myanmar
India
Iran
Pakistan
Afghanistan
Kyrgyz

New Zealand
Australia
Vanuatu
Fiji
Tonga
Cook Islands
Samoa
Tuvalu
Papua New Guinea
Solomon Islands
Brunei
Palau
Palau
Micronesia
Nauru
Kiribati
Marshall Islands

Developed and graduated developing member countries

Austria, Belgium, Canada, Denmark, Finland, France, Germany, Ireland, Italy, Luxembourg, The Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom, United States
<table>
<thead>
<tr>
<th>Outline of Asian Development Bank (ADB)</th>
</tr>
</thead>
</table>

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

Source: Annual Report 2015
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

<table>
<thead>
<tr>
<th>Sector</th>
<th>Operation Amount (Billion USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy</td>
<td>9.97</td>
</tr>
<tr>
<td>Finance</td>
<td>5.08</td>
</tr>
<tr>
<td>Transport</td>
<td>4.22</td>
</tr>
<tr>
<td>Water and Other Urban Infrastructure and Services</td>
<td>2.54</td>
</tr>
<tr>
<td>Public Sector Management</td>
<td>1.73</td>
</tr>
<tr>
<td>Education</td>
<td>1.58</td>
</tr>
<tr>
<td>Agriculture, Natural Resources and Rural Development</td>
<td>1.09</td>
</tr>
</tbody>
</table>

ADB’s operation amount by region in 2015

<table>
<thead>
<tr>
<th>Region</th>
<th>Operation Amount (Billion USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Southeast Asia</td>
<td>7.95</td>
</tr>
<tr>
<td>South Asia</td>
<td>7.80</td>
</tr>
<tr>
<td>Central and west Asia</td>
<td>7.30</td>
</tr>
<tr>
<td>East Asia</td>
<td>3.12</td>
</tr>
<tr>
<td>Pacific</td>
<td>0.46</td>
</tr>
</tbody>
</table>

Source: Annual Report 2015
## ADB’s Contribution to Climate Finance (2015)

### Global Climate Finance

<table>
<thead>
<tr>
<th>Finance Sources related to Climate Change</th>
<th>Unit (USD Billions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public</td>
<td>148 (38%)</td>
</tr>
<tr>
<td>-National Development Financial Institutions</td>
<td>66</td>
</tr>
<tr>
<td>-Multilateral Development Financial Institutions</td>
<td>47 (12%)</td>
</tr>
<tr>
<td>-Bilateral Development Financial Institutions</td>
<td>17</td>
</tr>
<tr>
<td>-Climate Funds</td>
<td>2</td>
</tr>
<tr>
<td>-Governments and Agencies</td>
<td>15</td>
</tr>
<tr>
<td>-Others</td>
<td>1</td>
</tr>
<tr>
<td>Private</td>
<td>243 (62%)</td>
</tr>
<tr>
<td>Total</td>
<td>391</td>
</tr>
</tbody>
</table>

### ADB’s Climate Finance

<table>
<thead>
<tr>
<th>Area</th>
<th>ADB resources (USD Millions)</th>
<th>External resources (Co-financing etc) (USD Millions)</th>
<th>Total (USD Millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mitigation</td>
<td>2,372</td>
<td>189</td>
<td>2,561</td>
</tr>
<tr>
<td>Adaptation</td>
<td>283</td>
<td>73</td>
<td>356</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2,655</strong></td>
<td><strong>262</strong></td>
<td><strong>2,917</strong></td>
</tr>
</tbody>
</table>


*Note: External resources managed by Development Financial Institutions are excluded for the purpose of minimizing the risk of double counting.*
## Approaches to Climate Finance Mobilization by ADB

### Deploying its own resources

**Ordinary Capital Resources / Asian Development Fund** (for sovereign and non-sovereign projects)
- Loans
- Grants
- Equity investments
- Guarantees
- technical Assistance
- Direct Value-Added Cofinancing

### Deploying concessional resources

**Internally-managed funds**
- Clean Energy Financing Partnership Facility (CEFPF)
  Fund size: USD 138 million (cumulative since 2007)
- Climate Change Fund (CCF)
  Fund size: USD 50 million (cumulative since 2008)
- Others with bilaterals

**Externally-managed funds**
- Climate Investment Funds (CIFs)
  Fund size: USD 1.6 billion (ADB administered), USD 8.0 billion (Total) (cumulative since 2008)
- Global Environment Facility (GEF)
  Fund size: USD 10.5 billion (Grants), USD 51 billion (Co-financing) (cumulative since 1991)
- Green Climate Fund (GCF)
  Fund size: USD 10.2 billion (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 emissions trading

**Other market mechanisms**
- Japan Fund for the Joint Crediting Mechanism
  Fund size: USD 42.6 million (JPY 4.8 billion) (cumulative as of 2016)
- Renewable energy credits; FIT

### Catalyzing private capital

**Sources for Fund size**: ADB website

- Direct project finance (lending, guarantees, syndications), and equity investment
- Public private partnerships: (PPPs) working with client DMCs across stages of PPPs
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### Main activities related to JFJCM

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

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**【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.

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Establishment of JFJCM (May, 2014)

JFJCM Purpose and Scheme

Draft Budget for FY2017

JPY 1 billion (approx. USD 9 million) ※JPY 1.2 billion in 2016, and 1.8 billion 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 (Asian Development Bank)-financed projects

Purpose

To develop ADB projects with sustainable and low-carbon transition perspective by introducing advanced low-carbon technologies as well as to acquire JCM credits

JCM Credits

MOEJ → JFJCM (Trust Fund) → ADB

Contribution

ADB source (OCR¹/ADF²)

Co-Financing partners (Other financial institutions and funds)

Grant (Sovereign)

Interest Buy-down (Non-sovereign)

Additional costs from advanced low-carbon technologies

MRV³

Mitigation through conventional technologies

(Selection from ADB pipeline)

Project

GHG reduction

CO2 reduction

1OCR (Ordinary Capital Resources) are from
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.
²ADF (Asian Development Fund): ADF offers concessional loan and grant to low-income countries.
³MRV: Measurement, Reporting, Verification
### Eligible Countries for JFJCM

- Japan has established the JCM scheme with 16 countries as of December 2016 and 10 countries are ADB developing member countries, being eligible for JFJCM.
- 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: 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)

<table>
<thead>
<tr>
<th>Item related to Finance</th>
<th>JFJCM</th>
<th>JCM Model Project by MOEJ</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Grant Rate</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sovereign Project</td>
<td>(1) Project cost &lt; USD50MM: −USD 5MM (2) Project cost &gt; USD50MM: −Smaller of (i) 10% of the project cost and (ii) USD 10MM</td>
<td>Smaller of (i) 10% of project cost and (ii) USD 10 MM</td>
</tr>
<tr>
<td>Non-Sovereign Project</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project Formation</td>
<td>Governments / Public Sector (State-owned enterprises etc.)</td>
<td>Private Sector</td>
</tr>
<tr>
<td>Bidding Requirement</td>
<td>International Competitive bidding</td>
<td>Procurement needs to be made through competitive processes</td>
</tr>
<tr>
<td>Confirmation of finance feasibility</td>
<td>Confirmed by MOEJ and ADB at ITD and JCM Application stage</td>
<td>Confirmed by Executive body and MOEJ</td>
</tr>
<tr>
<td>Cost Effectiveness ※</td>
<td>Equal to or less than USD 50/ton CO2 (in case Grant amount exceeds USD 5MM) Equal to or less than USD 100/ton CO2 (in case Grant amount goes below USD 5MM)</td>
<td></td>
</tr>
<tr>
<td>Applicant</td>
<td>Governments of the eligible ADB developing member countries (DMCs)</td>
<td>Private entities in DMCs</td>
</tr>
</tbody>
</table>

※Note: 
- Cost Effectiveness = Grant Rate / (Annual GHG emission reduction × Monitoring period) 
- Exchange rate for cost effectiveness is set as USD 1 = JPY 100 
- The value of Cost Effectiveness is only a guide, not a stipulated standard.
## Comparison of JFJCM and JCM Model Project (FY2016)②

<table>
<thead>
<tr>
<th>Item related to JCM Process</th>
<th>JFJCM</th>
<th>JCM Model Project by MOEJ</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Methodology, PDD</strong></td>
<td>ADB has a scheme of technical assistance</td>
<td>Supported by MOEJ budget</td>
</tr>
<tr>
<td><strong>Responsibility of TPE cost (validation, verification)</strong></td>
<td>ADB has a scheme of financial assistance for some portion</td>
<td>Validation and 1st verification supported by MOEJ budget.</td>
</tr>
<tr>
<td><strong>Monitoring Period</strong></td>
<td>※</td>
<td>Japanese legal durable year of the facility</td>
</tr>
<tr>
<td><strong>Credit Distribution</strong></td>
<td>※</td>
<td>More than 50% of the credits delivered to Japanese Government</td>
</tr>
<tr>
<td><strong>Verification Frequency</strong></td>
<td>※</td>
<td>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.</td>
</tr>
<tr>
<td><strong>Responsibility of MRV</strong></td>
<td>Loan borrower (Project proponent)</td>
<td>Japanese representative of international consortium</td>
</tr>
<tr>
<td><strong>Confirmation of eligibility for JCM project</strong></td>
<td>Confirmed by the Joint Committee consists of governmental representative of Japan and a host country</td>
<td></td>
</tr>
<tr>
<td><strong>Targeted greenhouse gas</strong></td>
<td>7 GHGs types defined by UNFCCC (energy-related CO2 emissions reduction needs to be included)</td>
<td></td>
</tr>
</tbody>
</table>
### JFJCM Project Process

<table>
<thead>
<tr>
<th>ADB Project Process</th>
<th>JFJCM Process</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consider potential projects</td>
<td>Prepare ITD (Initial Project Title and Description)</td>
<td></td>
</tr>
<tr>
<td>ITD Approval</td>
<td>Submit ITD to Government of Japan (GOJ) for approval</td>
<td>ITD = Initial Project Title and Description</td>
</tr>
<tr>
<td>PPTA (Project Preparation Technical Assistance) for Due Diligence</td>
<td>Prepare Project Proposal</td>
<td></td>
</tr>
<tr>
<td>Proposal Approval</td>
<td>Submit Proposal to GOJ for approval</td>
<td></td>
</tr>
<tr>
<td>Prepare draft RRP (Reports and Recommendations of the President )</td>
<td>Grant approval by GOJ</td>
<td></td>
</tr>
<tr>
<td>Board Approval Loan, Grant execution</td>
<td>Prepare JCM Methodology and Project Design Document (PDD)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Apply for registration</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Implement monitoring and validation Apply for JCM credit issuance</td>
<td></td>
</tr>
</tbody>
</table>

#### Contents of ITD:
- Overview of project
- Applied low carbon technology
- Rough estimate of CO2 emissions reduction

#### 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

#### Note:
- 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
- Operation data and other information required in PDD
- Verified CO2 emissions reduction and other data by Third party entities
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 safeguards requirement 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
<table>
<thead>
<tr>
<th>Sovereign project: Cited from “PROCESSING SOVEREIGN AND SOVEREIGN-GUARANTEED LOAN PROPOSALS”</th>
<th>Non sovereign project: Cited from “OPERATION MANUAL BANK POLICY AND PROCEDURE, NONSOVEREIGN OPERATIONS”</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Project’s technical and financial design</td>
<td>• Project’s technical feasibility, market prospects, financial and economic viability</td>
</tr>
<tr>
<td>• Macro- and microeconomic institution</td>
<td>• Best practices of corporate governance</td>
</tr>
<tr>
<td>• Sectoral policy</td>
<td>• Environmental and social soundness</td>
</tr>
<tr>
<td>• Safeguard contexts, country partnership strategy (CPS)</td>
<td>• Integrity, experience, success record, financial resources, and competence of the sponsors and/or shareholders and management</td>
</tr>
<tr>
<td>• Operational experience, and institutional capacity</td>
<td>• Implementation arrangement</td>
</tr>
</tbody>
</table>
### Typical Information required by ADB for non-sovereign project

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

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Executive Summary</strong></td>
<td></td>
</tr>
<tr>
<td>• Project’s summary and important points</td>
<td></td>
</tr>
<tr>
<td>• Explain how and why ADB can assist the project</td>
<td></td>
</tr>
<tr>
<td><strong>2. Project description</strong></td>
<td></td>
</tr>
<tr>
<td>• Describe project in detail</td>
<td></td>
</tr>
<tr>
<td>• Discuss how much support has been obtained from the government, lending institutions and other investors</td>
<td></td>
</tr>
<tr>
<td><strong>3. Feasibility study (F/S)</strong></td>
<td></td>
</tr>
<tr>
<td>• Establish the technical, financial, economic, and environmental and social viability</td>
<td></td>
</tr>
<tr>
<td>• F/S should be prepared by a reputable consultant</td>
<td></td>
</tr>
<tr>
<td><strong>4. Background and sponsor(s)</strong></td>
<td></td>
</tr>
<tr>
<td>• Ownership and management structure</td>
<td></td>
</tr>
<tr>
<td>• Sponsor’s experience, financial history and plans</td>
<td></td>
</tr>
<tr>
<td><strong>5. Project ownership structure</strong></td>
<td></td>
</tr>
<tr>
<td>• The proposed ownership and management structure</td>
<td></td>
</tr>
<tr>
<td>• Explain the legal, tax, and other advantages</td>
<td></td>
</tr>
<tr>
<td>• Contractual arrangements with any company</td>
<td></td>
</tr>
<tr>
<td><strong>6. Project’s implementation arrangements</strong></td>
<td></td>
</tr>
<tr>
<td>• Construction and supervision methodology</td>
<td></td>
</tr>
<tr>
<td>• Provide the draft construction contracts</td>
<td></td>
</tr>
<tr>
<td>• Project’s schedule, liquidated damage provisions, and performance bond requirements</td>
<td></td>
</tr>
<tr>
<td><strong>7. Project operations</strong></td>
<td></td>
</tr>
<tr>
<td>• Describe operational arrangements</td>
<td></td>
</tr>
<tr>
<td>• Discuss expected efficiency levels of operation, maintenance plan, training</td>
<td></td>
</tr>
<tr>
<td><strong>8. The market</strong></td>
<td></td>
</tr>
<tr>
<td>• Market, marketing arrangements, off-take concession and/or purchase agreements</td>
<td></td>
</tr>
<tr>
<td>• Provide current and projected markets</td>
<td></td>
</tr>
<tr>
<td>• Market risks, credit-worthiness of customers</td>
<td></td>
</tr>
<tr>
<td><strong>9. Environmental and social aspects</strong></td>
<td></td>
</tr>
<tr>
<td>• Confirm environmental and social impacts</td>
<td></td>
</tr>
<tr>
<td>• Provide environmental and social management plans</td>
<td></td>
</tr>
<tr>
<td><strong>10. Cost estimates</strong></td>
<td></td>
</tr>
<tr>
<td>• Cost estimate analysis</td>
<td></td>
</tr>
<tr>
<td>• Detailed taxes and duties, development expenses, working capital requirements, and investment payments</td>
<td></td>
</tr>
<tr>
<td><strong>11. Financing plan</strong></td>
<td></td>
</tr>
<tr>
<td>• List the financing sources</td>
<td></td>
</tr>
<tr>
<td>• Escrow and retention arrangements, dividend policy, ADB’s mode of assistance that applicant desires</td>
<td></td>
</tr>
<tr>
<td><strong>12. Financial model</strong></td>
<td></td>
</tr>
<tr>
<td>• Financial projections for the project</td>
<td></td>
</tr>
<tr>
<td>• Financial model, balance sheet, profit and loss statement, cash flow statement etc.</td>
<td></td>
</tr>
<tr>
<td><strong>13. Risk analysis</strong></td>
<td></td>
</tr>
<tr>
<td>• Risk analysis in implementing and operating</td>
<td></td>
</tr>
<tr>
<td>• Mitigation measures and cost responsibility</td>
<td></td>
</tr>
<tr>
<td><strong>14. Permits and licenses</strong></td>
<td></td>
</tr>
<tr>
<td>• List all permits and clearances required, issuing authority, the date of issue</td>
<td></td>
</tr>
</tbody>
</table>
1. Outline of Asian Development Bank (ADB) and its contribution to Climate Change
2. Outline of Japan Fund for Joint Crediting Mechanism (JFJCM)
3. Advanced Low Carbon Technologies eligible for JFJCM
4. Examples of JFJCM Projects
5. Website and Contact Information of JFJCM
<table>
<thead>
<tr>
<th>Sector</th>
<th>Category</th>
<th>Examples of advanced low-carbon technologies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy</td>
<td>Renewable Energy</td>
<td>Floating type offshore wind power generation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Highly efficient biomass power generation especially for biomass which is difficult to utilize</td>
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<tr>
<td></td>
<td></td>
<td>Highly efficient small hydro-power generation</td>
</tr>
<tr>
<td>Energy</td>
<td>Efficiency</td>
<td>Highly efficient devices with inverter such as pump, air conditioner, and fun</td>
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<tr>
<td></td>
<td></td>
<td>Energy saving energy distribution technology such as conductor, transformer</td>
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<tr>
<td></td>
<td></td>
<td>Low carbon building with design, insulation, energy saving facilities</td>
</tr>
<tr>
<td></td>
<td>Smart Grid</td>
<td>Efficient and fast charging battery storage</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EMS for the distribution (Community Energy Management System (CEMS))</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Building Energy Management System (BEMS)</td>
</tr>
<tr>
<td>Transport</td>
<td></td>
<td>Highly efficient train, ship</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Electric-bus and/or taxi</td>
</tr>
<tr>
<td>Water</td>
<td></td>
<td>Highly efficient devices with inverter such as pump</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Highly efficient wastewater treatment equipment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Demand side water saving technology</td>
</tr>
<tr>
<td>Urban</td>
<td></td>
<td>Waste to energy</td>
</tr>
<tr>
<td>Agriculture</td>
<td></td>
<td>High efficient pump for irrigation</td>
</tr>
</tbody>
</table>

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.

Source: Implementation Guidelines for the Japan Fund for Joint Crediting Mechanism, Appendix 2
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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.

**Project Background**

- Maldives: 26 atolls and land area of about ~300 km² with a population of 340 thousands
- Electrification rate is 100%, powered almost entirely by diesel (250MW)
- Government Goal: Carbon neutral till 2020

**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

**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%)
1st JFJCM project
-Smart Micro-Grid system for POISED Project in Addu atoll, Maldives-

**Mitigation through conventional technologies**

**Location (Atolls and Islands)**
- POISED* Phase 1
  - 5 islands
- Phase 2~4
  - Total 160 islands

**Maldives**

**Co-financing partner**
- ADB Grant
- ADB-administered Strategic Climate Fund (CIF SREP)
- European Investment Bank
- Islamic Development Bank

**ADB**
- USD 38MM
- USD 12MM
- USD 50 MM
- USD 10 MM

**JFJCM (Japan Fund for JCM)**
- USD 5 MM

**Adoption of advanced low-carbon technologies**
- Grid
- Diesel
- PV
- EMS
- Lithium-ion Battery

**Anticipated additional CO2 emission reduction; approx. 4,000tCO2/year**

Addu has a population of over 23,000 inhabitants, the second largest habited island in Maldives.

*POISED: Preparing Outer Islands for Sustainable Energy Development*
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Contact Windows of JFJCM

【General】
・ JFJCM Fund Manager:  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