

Japan Fund for Joint Crediting Mechanism and Innovative Low Carbon Technology

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ADB's Contribution to Climate Finance, (2013)

Global Climate Finance *

Sources	\$ billion
Public	137
-National DFIs	69
-Multilateral DFIs, including MDBs	43
-Bilateral DFIs	14
-Climate funds	2.2
-Others	9
Private	193
Total	331

ADB Climate Finance based on Joint MDB Approach

Area	ADB Resources \$ million	External Resources \$ million	Total \$ million
Mitigation	1,948	333	2,280
Adaptation	880	108	988
Total	2,828	441	3,268



*Source of data: Climate Policy Initiative. *The Global Landscape of Climate Finance 2014*.

Approaches to Finance Mobilization in ADB

Deploying concessional resources

Internally-managed funds

- Clean Energy Financing Partnership Facility (CEFPF)
- Climate Change Fund (CCF)
- Others with bilaterals

Externally-managed funds

- Climate Investment Funds (CIFs)
- Global Environment Facility (GEF)
- soon the Green Climate Fund (GCF)

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
- **Supporting other market mechanisms**
 - ✓ **Japan Fund for the Joint Crediting Mechanism**
 - ✓ 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

Japan Fund for Joint Crediting Mechanism (JFJCM)

- JFJCM supports incremental cost of advanced low carbon technology for GHG emission reduction
- **\$ 16.6 M (1.8 billion Yen) for 2014 contribution**
- **Additional \$15 M (1.8 billion Yen) has been contributed on 14 May.**
- Further contribution expected in subsequent years.

ADB

JFJCM

Grant

(Max \$10 M)

OCR/
ADF

Loan/Grant

ADB
project in
DMCs
which have
signed bilateral
documents for
JCM with Japan

Joint Crediting Mechanism (JCM)

JCM is a new carbon market mechanism that complements the Clean Development Mechanism (CDM).

JCM Projects in DMCs

- i. Enabling GHG emission reduction and removals.
- ii. Using advanced low carbon technologies

Financial and
Technical Assistance



Certified GHG emission
reduction is used for host
country's and Japan's
target

Japan

ADB

Eligible Countries

- Japanese government has signed up 12 countries in the world as of Jan, 2015 and 8 countries are in Asia and Pacific.
 - **Bangladesh, Cambodia, Indonesia, Lao PDR, Maldives, Mongolia, Palau, and Viet Nam**
- Targeted to reach at least 16 countries in 2016.

Use of JFJCM

Sovereign Projects

- *Max : (i) about \$5 million (project cost < \$ 50M)*
- *(ii) Smaller of 10% of the project cost and \$10 million*
- **Grant for incremental cost of adopting advanced low carbon technologies from “business as usual”**

Non-sovereign projects

- *Max: Smaller of 10% of the project cost and \$10 million*
- **Support margin component of the interest rate of the ADB loan**

The example of the advanced low carbon technology

Sector Category		Technology
Energy	Renewable Energy	Floating type offshore wind power generation
		Highly efficient biomass power generation
		Highly efficient geothermal power generation
		Highly efficient small hydro-power generation
	Energy Efficiency	Highly efficient devices with inverter such as pump, air conditioner, and fan
		energy distribution technology such as conductor, transformer
		Low carbon building with design, insulation, energy saving facilities.
		Efficient and fast charging battery storage
	Smart Grid	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	

This is the example of the advanced low carbon technology but not limit to this list

First Project of JFJCM

Preparing Outer Islands for Sustainable Energy Development (POISED) Project in Maldives

- Total 110 M\$ project (including co-finance)
- Install Solar PV with smart grid systems in 130 islands.

Background of the project

- The Maldives - 26 atolls and land area of about 300 km² with a population of 340 thousands.
- 100% access to electricity by 250 MW of diesel generation
- 30–70 cents per kilowatt-hour for diesel power
- Spent over \$470 million on oil imports, mainly for electricity generation.
- Government goal – Carbon neutral by 2020

First Project of JFJCM

Additional financing by JFJCM

- 5 M\$ Grant to Addu atoll subproject
- Install advanced battery system with energy management system (EMS)
- Increase Solar PV penetration level in the island (33% ➔ 54%)



Life cycle cost consideration on the bidding

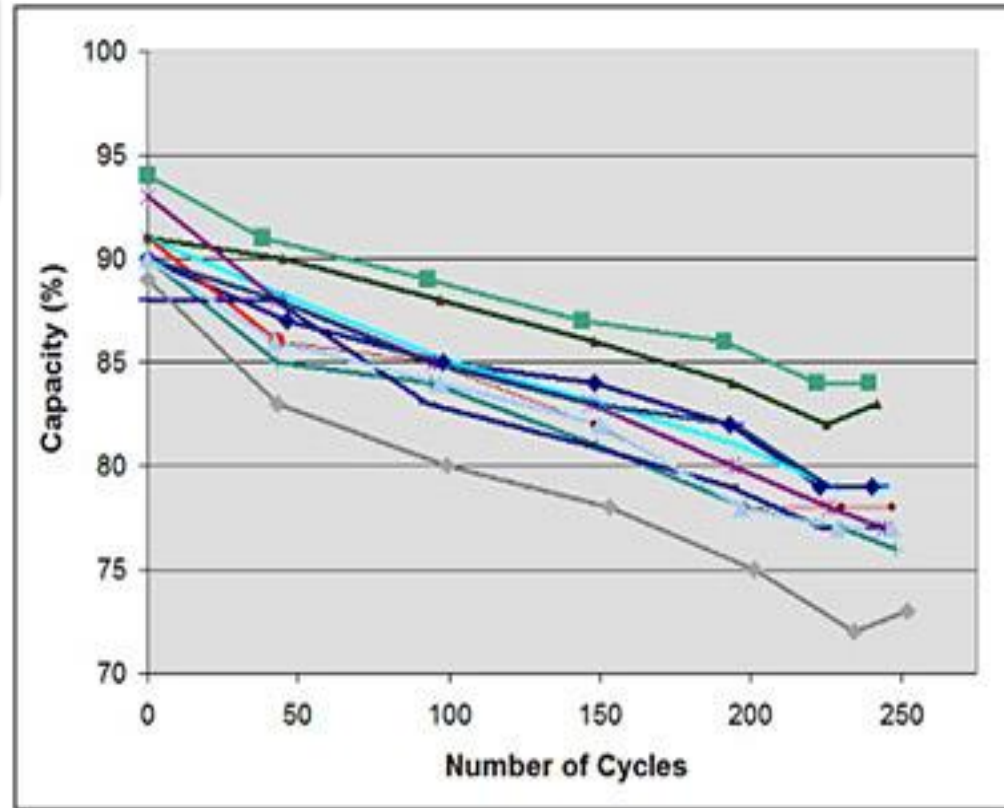
Long life Battery



Reduce replacement time



Reduce maintenance cost



(Battery university) http://batteryuniversity.com/learn/article/how_to_prolong_lithium_based_batteries

$$Index = (Initial\ Cost) \times \frac{(Cycles\ of\ advanced\ battery)}{(standard\ cycles)}$$

Challenge of Innovation

- Financial risk
- Awareness of stakeholders
- Additional task
 - Learning why it is needed, how to work
 - Try and Error
- However, innovation is necessary for sustainable development in Asia

Thank you!

- If you have any question, please contact us.
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