

# ADB Climate Finance and Its Carbon Market Program

Ulaanbaatar, Mongolia  
24-25 August 2016

**Promoting Bilateral Mechanisms in Asia and the Pacific:  
A Workshop on the Joint Crediting Mechanism**



# Outline

- ❖ **ADB Climate Finance**
- ❖ **Carbon Market Program**
- ❖ **Trust funds managed by the ADB**
  - Asia Pacific Carbon Fund
  - Future Carbon Fund
  - Japan Fund for JCM
- ❖ **Technical Support Facility**
  - Bilateral mechanism such as JCM
  - Existing & emerging carbon markets

# ADB Climate Finance

# Climate Change Challenges

## CLIMATE CHANGE

### in Asia and the Pacific



Scientists warn that the world's climate is changing because of rising greenhouse gas emissions that might end up warming the planet by over 2 degrees Celsius. These figures stress the growing urgency to act on climate change.

#### Asia is key



Developing Asia's portion of world electricity demand is projected\* to grow to

**43% in 2035**

The People's Republic of China (PRC) and India will constitute

**82%** of Asia's power consumption

\* under new policies



**64%** of the region's emissions will come from the PRC in 2035, the biggest increase in demand of any country.

But India sees a faster rate of increase averaging **4.4% per year.**



By 2030, the share of Asia in total worldwide transport sector-related CO<sub>2</sub> emissions will increase to

**31%**



Without radical changes to the region's energy mix, developing Asia alone would emit more than

20 billion tons of CO<sub>2</sub> by 2035 which equals

**46%**

of the world's share

# Climate Change Challenges

## Impacts will be costly

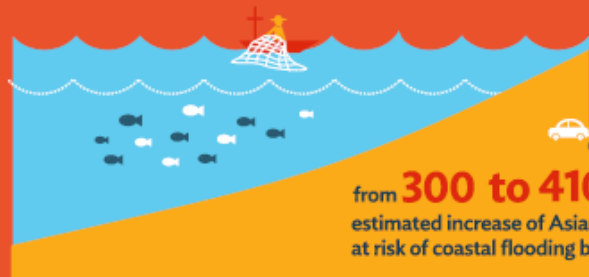
**6 of the 10**

nations most vulnerable to climate change in 2013 are in Asia-Pacific (Philippines, Cambodia, India, Pakistan, Lao PDR, Viet Nam).



**18 million**

number of Bangladeshis who will be displaced by a **1-meter rise** in sea level by 2050.



**>60%**

of the region's population work in agriculture, fisheries, and forestry, the sectors most at-risk from climate change impact.

Climate change will cut agricultural crop yields and hike food prices, thus

**64 million**

Asians will be pushed into poverty for every 10% rise in food prices



from **300 to 410 million** estimated increase of Asian urban dwellers at risk of coastal flooding by 2025.

In inland areas, the number of people at risk will rise from **245 to 341 million** by 2025.

## Massive Investments are Required



**\$63.1 billion\***

annual damage caused by disasters in Asia and the Pacific.

\*This is the average over a 20-year period (1995-2014).

**\$40 billion**

budget required annually to help Asia and the Pacific adapt to climate change impacts.

**\$140 to \$175 billion**

needed incremental investments per year for mitigation in all developing countries

**\$8 billion**

amount mobilized by Multilateral Development Banks, through mechanisms such as the Climate Investment Funds, for climate action in developing countries, with **\$1.6 billion** earmarked for ADB.

As an implementing entity of the Green Climate Fund, ADB has access to potential **\$100 billion** in funding for climate change actions in the Asia Pacific region.

# ADB Strategic Priorities on Environment and Climate Change

## Modalities

Seven Priorities

Finance	Knowledge	Partnerships
Clean Energy Investments, Energy Efficiency and Urban Development		
Increase Assistance for Sustainable Transport		
Scaling-up Support for Climate Change Adaptation		
Strengthen Integrated Disaster Risk Management		
Promote Natural Resources Management		
Strengthen Policies and Capacities		
Facilitate Access to Climate Finance		

# ADB Climate Finance

(\$ million)

Year	Mitigation			Adaptation			Total		
	ADB resources	External	Subtotal	ADB resources	External	Subtotal	ADB resources	External	Subtotal
2011	2,196	224	2,420	585	172	757	2,781	396	3,177
2012	2,001	386	2,388	821	75	896	2,822	462	3,284
2013	1,948	333	2,280	880	108	988	2,828	441	3,268
2014	1,711	426	2,137	665	54	719	2,376	480	2,856
2015	2,372	189	2,561	283	73	356	2,656	261	2,917

# ADB Clean Energy Investments in 2015

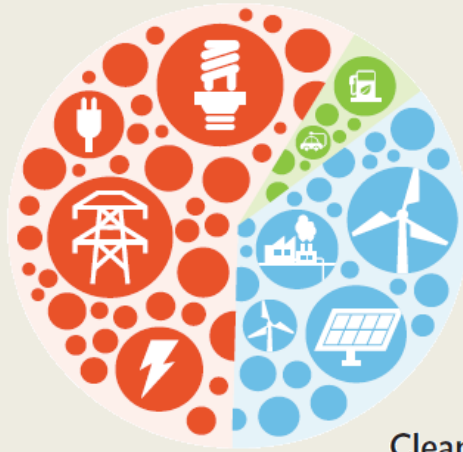


ADB invested **US\$ 2.5 billion** in clean energy in 2015

This marks the fifth year in a row that clean energy investments have been above \$2 billion annually.



Clean Energy Investment by Project Type, 2015 (\$ million)



Energy Efficiency (55.3%)

**\$1,370.0**

Clean Fuel (5.9%)

**\$146.0**

Renewable Energy (33.8%)

**\$961.7**

Clean Energy Investment by Sector, 2015 (\$ million)



Non-energy (33.9%)

**\$839.8**

Energy (66.1%)

**\$1,637.9**

## INDICATORS

**1,481 GWh/year**  
renewable electricity generation

**4,479 GWh/year**  
electricity saved

**37,994 TJ/year**  
direct fuel saved

**618 MW**  
added renewable energy  
generation capacity

**21.9 million tons**  
of CO<sub>2</sub> eq/year abated



# Outcomes of ADB Clean Energy Investments in 2015



440MW in Wind; 452,960 tCO<sub>2</sub>e/yr GHG reduced



74MW in Solar; 117,254 tCO<sub>2</sub>e/yr GHG reduced



104MW in Hydro (small and run-of-river); 262,701 tCO<sub>2</sub>e/yr GHG reduced



676MW in Geothermal (rehabilitation)



Energy Efficiency, Cleaner Fuel, and Others

# ADB's Climate Finance Target

ADB will double its annual climate financing to

**\$6 billion**

by 2020



ADB's spending on tackling climate change will rise to **around 30%** of its overall financing by 2020.

## Out of the \$6 billion:

**\$4 billion**

will be dedicated to **mitigation** through scaling up support for renewable energy, energy efficiency, sustainable transport, and building smart cities.



**\$2 billion**

will be for **adaptation** through more resilient infrastructure, climate-smart agriculture, and better preparation for climate-related disasters.



# ADB Approaches to Climate Finance Mobilization

Deploying its own resources	Deploying concessional resources	Maximizing market mechanisms	Catalyzing private capital
<p><b>Ordinary Capital Resources / Asian Development Fund</b> (for sovereign and non-sovereign projects)</p> <ul style="list-style-type: none"> <li>• Loans</li> <li>• Grants</li> <li>• Equity investments</li> <li>• Guarantees</li> <li>• technical Assistance</li> <li>• Direct Value-Added Cofinancing</li> </ul>	<p><b>Internally-managed funds</b></p> <ul style="list-style-type: none"> <li>• Clean Energy Financing Partnership Facility (CEFPF)</li> <li>• Climate Change Fund (CCF)</li> <li>• Others with bilaterals</li> </ul> <p><b>Externally-managed funds</b></p> <ul style="list-style-type: none"> <li>• Climate Investment Funds (CIFs)</li> <li>• Global Environment Facility (GEF)</li> <li>• Green Climate Fund (GCF)</li> </ul>	<p><b>Carbon finance</b></p> <ul style="list-style-type: none"> <li>• Asia Pacific Carbon Fund (closed in 2014)</li> <li>• Future Carbon Fund</li> </ul> <p><b>Carbon Market Technical Support Facility</b></p> <ul style="list-style-type: none"> <li>• CDM support</li> <li>• Domestic emissions trading</li> </ul> <p><b>Other market mechanisms</b></p> <ul style="list-style-type: none"> <li>• Japan Fund for the Joint Crediting Mechanism</li> <li>• Renewable energy credits; FIT</li> </ul>	<p><b>Direct project finance</b> (lending, guarantees, syndications), and equity investment</p> <p><b>Public private partnerships: (PPPs)</b> working with client DMCs across stages of PPPs</p>

# Carbon Market Program

# Carbon Market Program

**Technical  
Support  
Facility  
(TSF)**

**Asia Pacific  
Carbon  
Fund  
(APCF)**

**Future  
Carbon  
Fund  
(FCF)**

**Japan Fund  
for the Joint  
Crediting  
Mechanism  
(JFJCM)**

**Capacity  
Development**  
2006 onwards

**Carbon  
Finance**  
2007-2014  
KP-1

**Carbon  
Finance**  
2009-2021  
KP-2

**Carbon  
Finance**  
2014-

# Trust Funds

# Asia Pacific Carbon Fund

## Overview

Start of operations	2007
Fund Commitment	\$151.8 million
Objective	To support and co-finance high quality GHG reduction projects in DMCs through purchase of pre-2013 CERs; Upfront carbon financing
Fund Participants	Fundo Portugues de Carbono (Portugal); Swedish Energy Agency (Sweden); the Grand-Duchy of Luxembourg; Climate Cent Foundation (Switzerland); the Ministry for Foreign Affairs of Finland; Belgium on behalf of the Flemish Region; and the Kingdom of Spain

## Status (as of March 2016)

Portfolio	<ul style="list-style-type: none"><li>• 71 CDM projects of various low carbon technology</li><li>• 9 countries in Asia and the Pacific region</li><li>• Carbon finance support to 1.9 GW renewable energy facilities</li><li>• Completed its operation in June 2014 on receiving all contracted CERs</li></ul>
CERs contracted	Approx. 15.63 million CERs with an investment of \$146.7 million



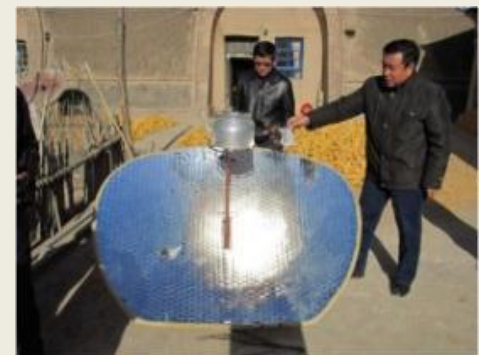
# Future Carbon Fund

## Overview

Start of operations	2009
Fund Commitment	\$115 million
Objective	To support and co-finance high quality GHG reduction projects in DMCs through purchase of post-2012 CERs; Upfront carbon financing
Fund Participants	The Ministry for Foreign Affairs of Finland; Swedish Energy Agency (Sweden); Participatie Maatschappij Vlaanderen NV (PMV) for Flemish Region of Belgium; Republic of Korea; POSCO (Republic of Korea); and Eneco Energy Trade (the Netherlands)

## Status (as of March 2016)

Portfolio	<ul style="list-style-type: none"><li>• 37 CDM projects of various low carbon technology</li><li>• 12 countries in Asia and the Pacific region (including 6 LDCs/ SIDS)</li><li>• \$15.4 million (25%) co-finance support to the projects in LDCs/SIDS</li><li>• Carbon finance support to 1.2 GW renewable energy facilities</li><li>• Completed contracting period in June 2015</li></ul>
CERs contracted	Approx. 10.5 million CERs with an investment of \$60.57 million





# Japan Fund for the Joint Crediting Mechanism

## Overview

Established	June 2014
Funding	\$16.6M (2014), \$15M (2015) and \$11M (2016) have been contributed by MOEJ
Objective	JFJCM provides financial incentives for adoption of <b>advanced low-carbon technologies</b> in <b>ADB-financed projects</b>
Support provided	<b>Grant</b> to sovereign projects (max. \$10 million) <b>Interest subsidy</b> to non-sovereign projects (max. \$10m)

## JFJCM Financed Low-Carbon Projects

Solar Power Project in Maldives	<ul style="list-style-type: none"> <li>• Additional financing approved by ADB in March 2015</li> <li>• Install advanced battery system and energy management system (EMS) for smart micro-grid system</li> </ul>
Distribution Project for CHP in Mongolia	<ul style="list-style-type: none"> <li>• Fund allocation approved by Ministry of Environment, Japan in November 2015</li> <li>• Install energy efficient transformers</li> </ul>

# Technical Support Facility

# TA 8654: Bilateral Mechanisms (JCM)

## TA 8654: Supporting the Use of Carbon Financing from New Carbon Market Mechanisms to Promote Green Growth in Asia and the Pacific

Budget	\$1.5 million
Funding	Japan Fund for Poverty Reduction (ADB trust fund)
Implementation period	24 months
Target countries	Bangladesh, Indonesia, the Lao PDR, the Maldives, Mongolia, the Philippines, Thailand, and Viet Nam
Objectives	<ul style="list-style-type: none"><li>• Support build institutional capacities to effectively participate in, and take advantage of, bilateral mechanisms such as JCM</li><li>• Provide direct technical support to projects under bilateral mechanisms such as JCM</li><li>• Disseminate information and develop knowledge products on new carbon market mechanisms</li></ul>

# Capacity Building Workshops



Jakarta, Indonesia  
21-22 May 2015



Dhaka, Bangladesh  
24-25 June 2015



Bangkok, Thailand  
8-9 September 2015



Vientiane, Lao PDR  
2-3 February 2016



Hanoi, Viet Nam  
21-22 April 2015



Manila, Philippines  
26-27 April 2016

# Capacity Building Workshops

Upcoming Capacity Building Workshops	Schedule
Mongolia (current)	24-25 August 2016
Maldives	30-31 August 2016
Regional Forum	13-15 September 2016



# TA 9062: Existing & Emerging Carbon Markets

## TA 9062: Supporting Low-Carbon Development in Asia and the Pacific through Carbon Markets

Budget	\$1.5 million
Funding (donors)	Government of Finland and the Government of Luxembourg
Implementation period	24 months (January 2016 - December 2017)
Objectives	<ul style="list-style-type: none"><li>• Capacity building support to develop domestic ETS and/or to link their domestic ETS to other national or regional ETSs in the future</li><li>• Support for the development of new carbon markets and mechanisms</li><li>• Support existing CDM projects and transfer knowledge and skills developed under the CDM to new market mechanisms</li></ul>

# Thank you !

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