Strategy and Financing for Clean Energy Development in Asia and the Pacific Region and Clean Energy Project Pipeline

ASIAN DEVELOPMENT BANK

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ADB Business Opportunities Seminar
Zurich, Switzerland
02 November 2016

Outline

- ADB Strategy 2020
- Energy Policy
- Clean Energy Investments
- Climate financing
- Future priorities
- Final remarks

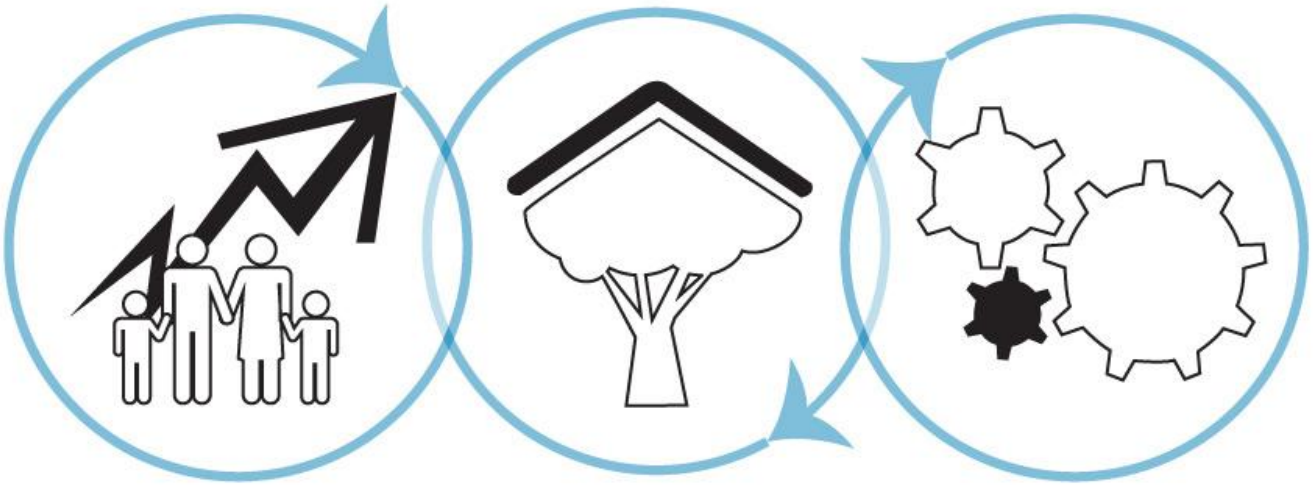
ADB's MISSION

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

STRATEGY 2020

ADB's Long-Term Strategic Framework 2008-2020

Three Agendas



Inclusive Growth

Environmentally Sustainable Growth

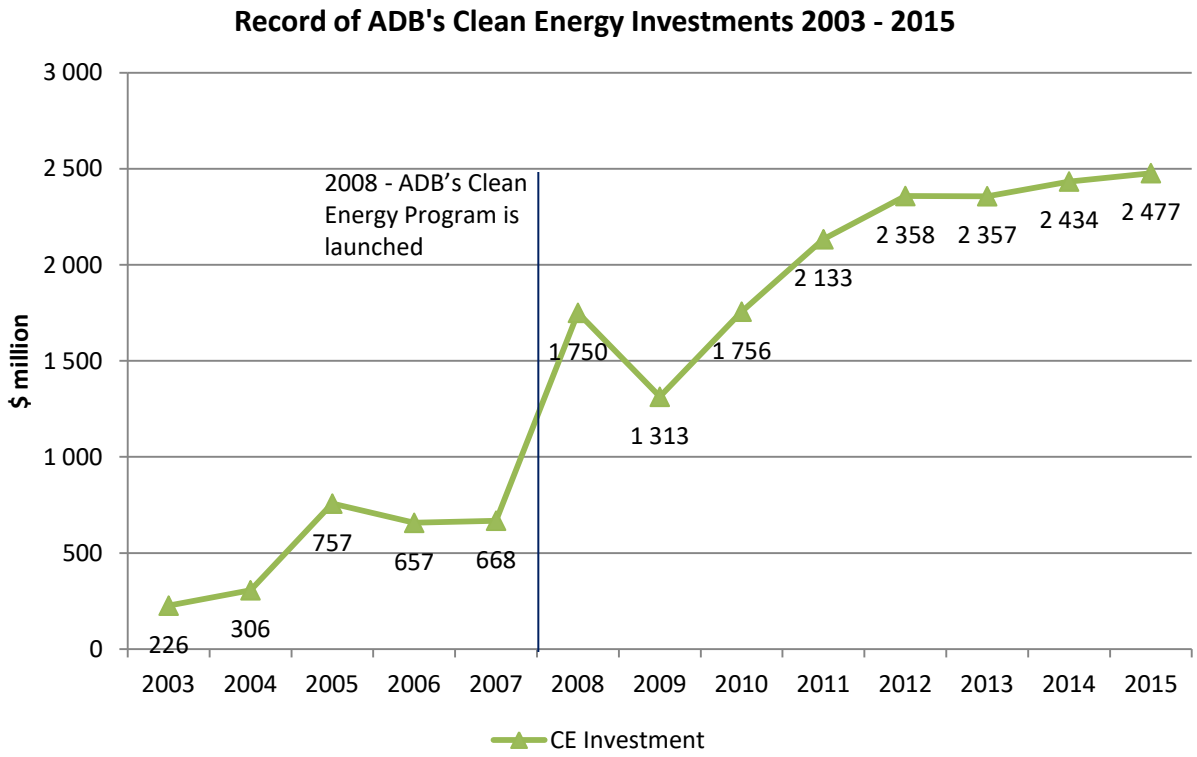
Regional Integration

ADB's Current Energy Policy

- Prioritizes sustainable energy and low-carbon development
- Three main pillars:
  - Accelerate clean energy development in all sectors
  - Maximizing access to energy for all especially the rural poor
  - Reforms in energy sector to support low-carbon development

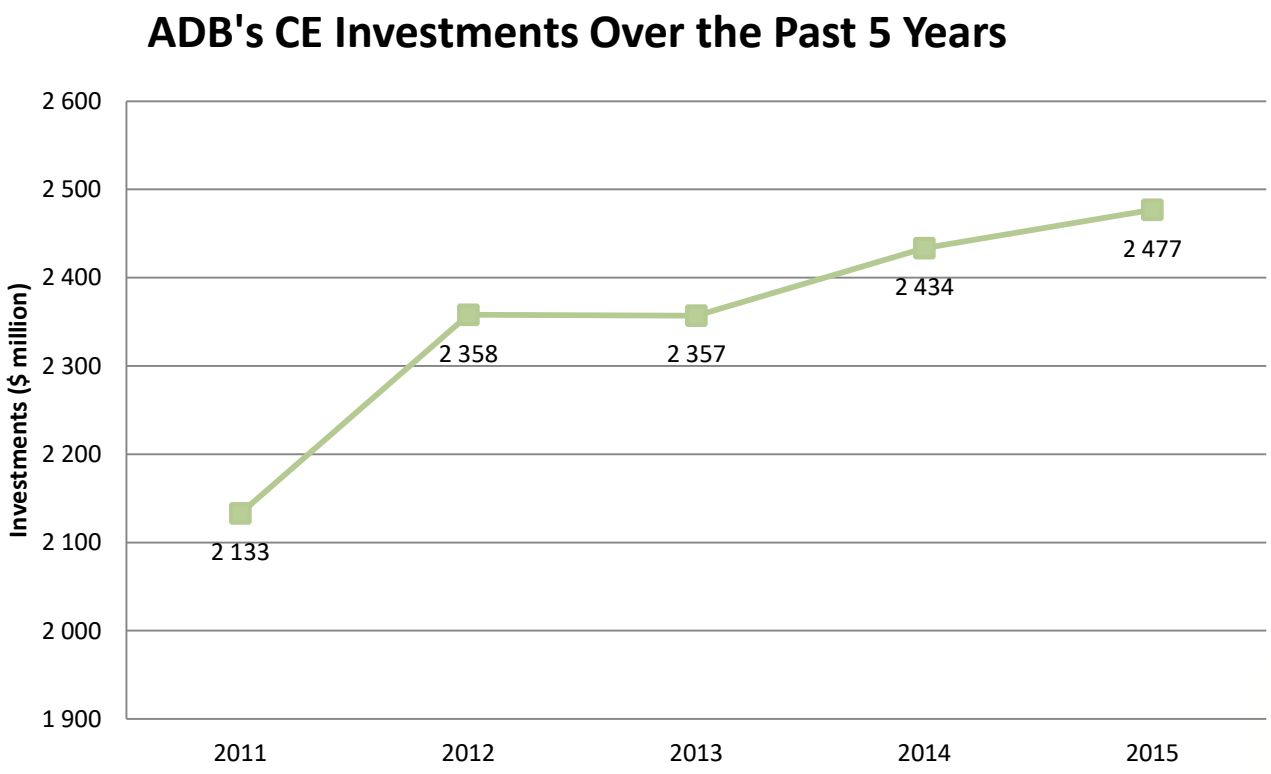
ADB's Clean Energy Investment

- ADB responded to Asia's high appetite for clean energy
- Mature technologies and an improving policy landscape led to high investments

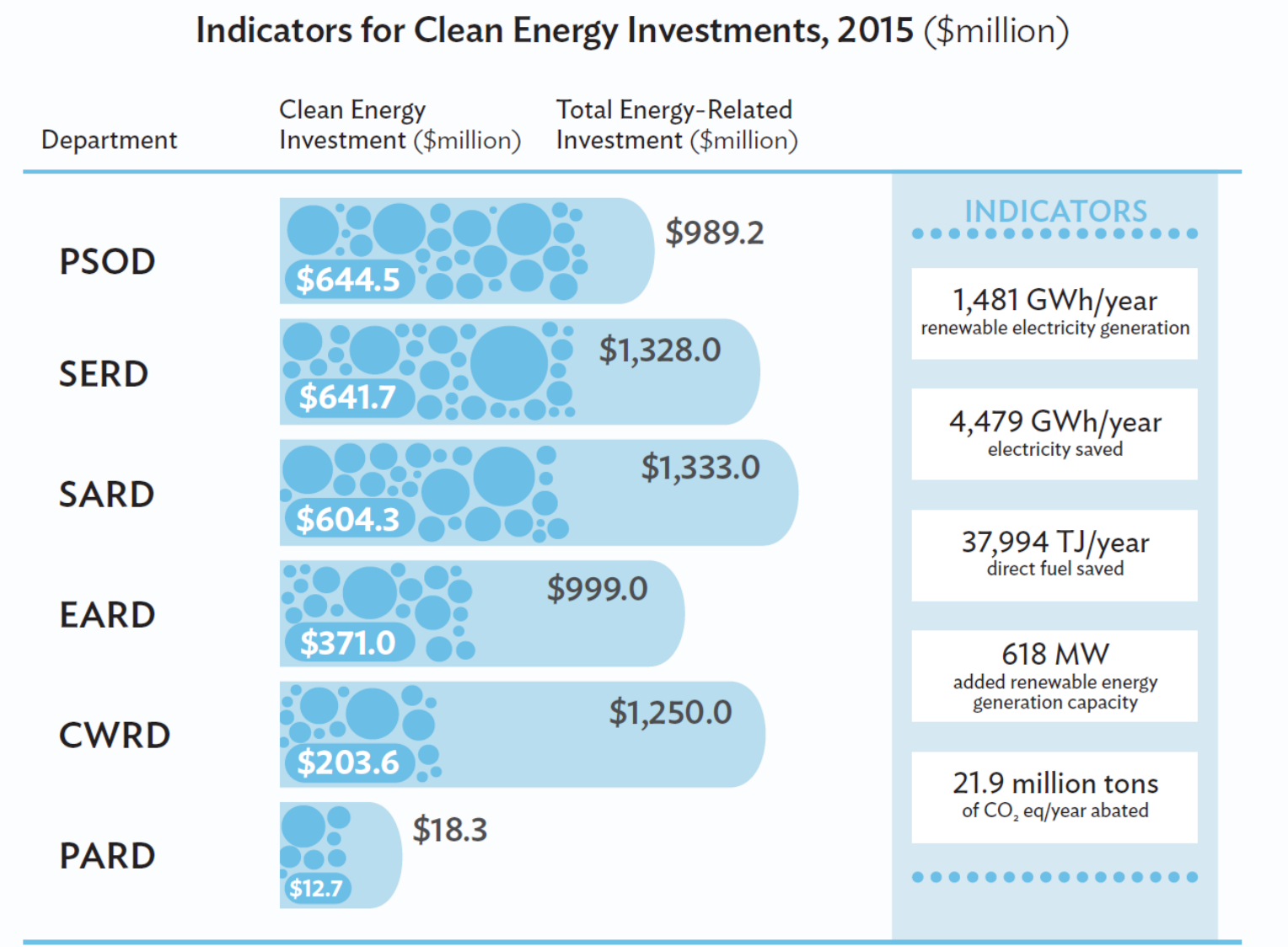


ADB's Clean Energy Investment

- ADB has achieved clean energy investment levels of at least $2 billion annually since 2011
- But the region is full of untapped potential in RE and EE



ADB's Clean Energy Investment

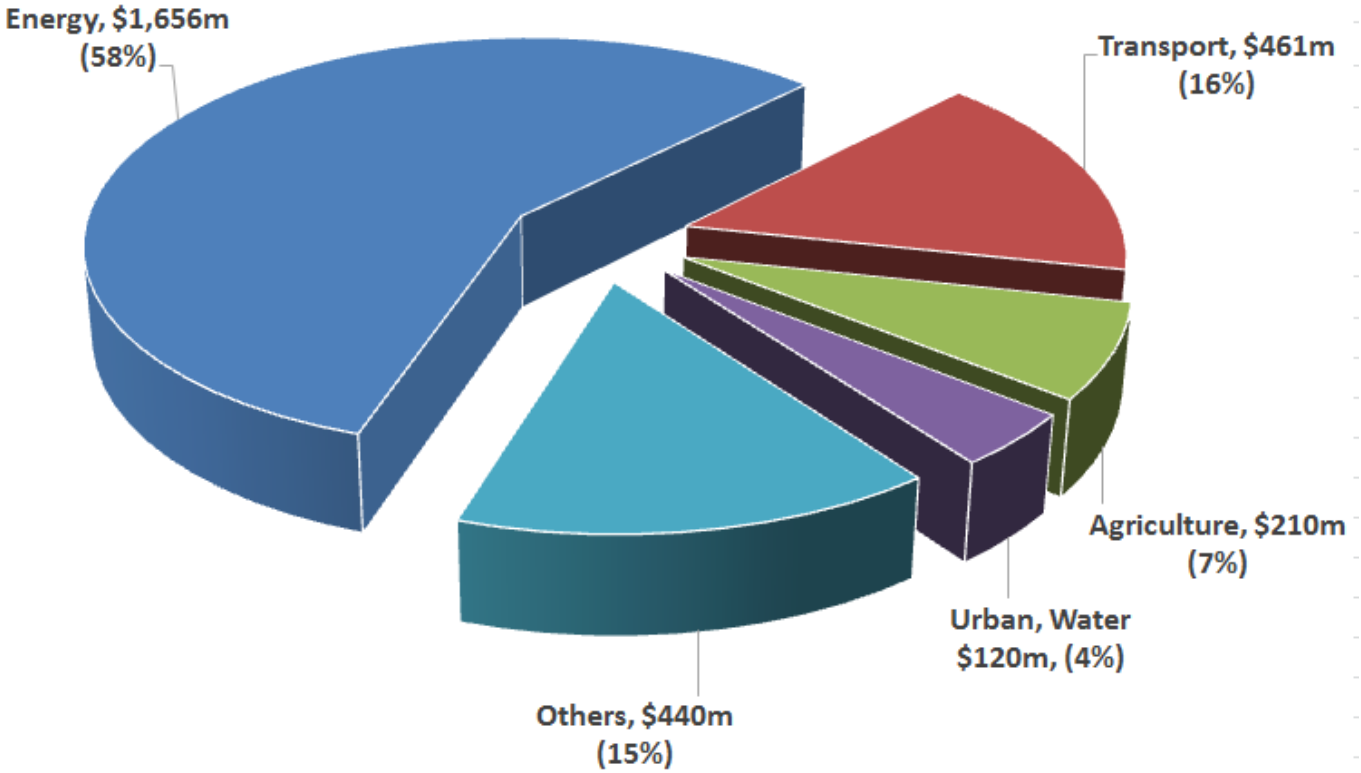


ADB

Clean Energy and Climate Finance

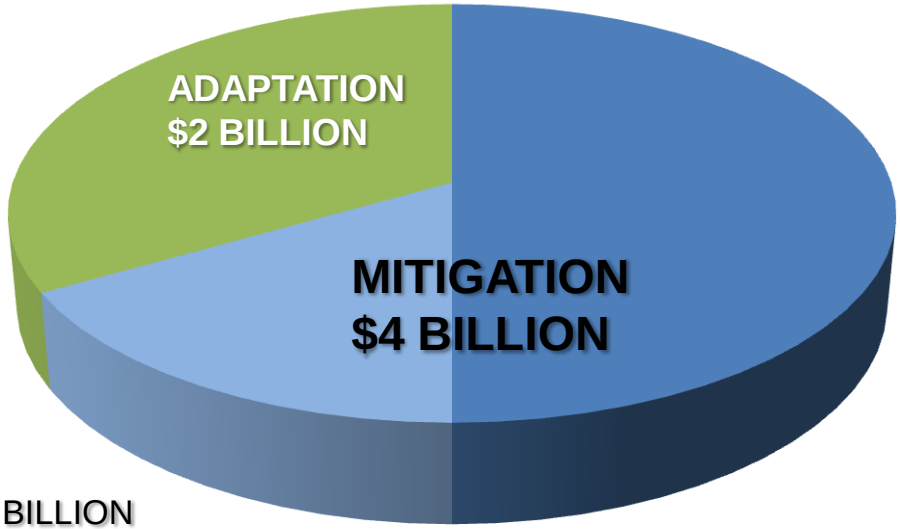
- ADB set new climate change financing targets in July 2015, part of a long-term strategic climate response to 2030
- Asia estimated to need $40 billion annually to adapt to climate change
  - in comparison, MDBs mobilized $81 billion in climate financing, worldwide, in 2015
- ADB has pledged to raise climate financing to $6 billion annually by 2020

ADB Climate Finance 2015
About 3 billion



New Targets for Climate Finance

Phase 1: 2016 to 2020
$6 billion annually by 2020
(2x current financing levels)



$3 BILLION
RENEWABLES
ENERGY EFFICIENCY

$1 BILLION
SUSTAINABLE TRANSPORT
SUSTAINABLE CITIES

Financing Flows for Clean Energy

- Combined lending operations
  - Asian Development Fund (ADF) and ordinary capital resources (OCR) balance sheets.
- ADF originally limited to the least developed countries
- Merger will boost ADB's total annual lending and grant approvals to as high as $20 billion
  - 50% more than the current level.
- Assistance to poor countries to rise by 70%

Clean Energy Financing Partnership Facility

- Clean Energy Financing Partnership Facility
  - manages ADB's main clean energy funds
- Single donor Asia Clean Energy Fund and multi-donor Clean Energy Fund
  - Government of Japan – Asian Clean Energy Fund
  - Governments of Australia, Norway, Spain, Sweden and the United Kingdom – Clean Energy Fund
- CEFPF highly effective at leveraging additional financing

Clean Energy Financing Partnership Facility

Cumulative Results 2007-2015

Funds Allocated
$138 million
(for 131 projects)

Investments Leveraged
ADB – $2.16 billion
Private – $841.8 million
Non-private – $869.1 million

Impacts/Outcomes
7.6 million tCOe/year reduction
6.7 TWh energy savings
733.6 MW installed renewable energy capacity

ADB's Green Bonds

- Green bonds support greenhouse gas mitigation and adaptation to consequences of climate change
- Inaugural issue in 2015 raised $500 million
- By Aug 2016, $1.3 billion raised
  - through the issue of dual-tranche 3-year and 10-year green bonds

ADB and Green Climate Fund

- ADB first accredited multilateral development bank with GCF
- GCF was established in 2010 under UNFCCC to serve as the central global investment vehicle for climate finance
- Currently $10.2 billion pledged to the fund
- ADB has already begun channeling resources to climate mitigation projects

Future Financing Priorities

- Since COP21, ADB's priority
  - Align intended nationally determined contributions (INDCs) with ADB's country strategies and project pipelines
- Need to shift away from "opportunity-based" approach to climate financing
- Need a strategic, tactical approach based on countries' INDCs

Future Financing Priorities

- A majority of countries
  - clean energy development as their chosen solution to greenhouse gas mitigation
- But many INDCs “conditional”
  - need financing and technical support to achieve them
- ADB focus
  - aligning its lending with INDC priority actions

Final Remarks

- Energy Sector Lending
  - Mostly focused on clean energy
- Technological and financial innovation
- Creating a conducive investment environment

Clean Energy Project Pipeline

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- ADB’s Operations
- Clean Energy Projects
- Project Pipeline
- Final Remarks

ADB's
CORE BUSINESS

- Finance and Advice for Development Solutions
- Loans
- Technical Assistance
- Grants
- Guarantees
- Equity Investments
- Policy Dialogue
- Knowledge and Partnerships

ADB's
2015 OPERATIONS

TOTAL ASSISTANCE

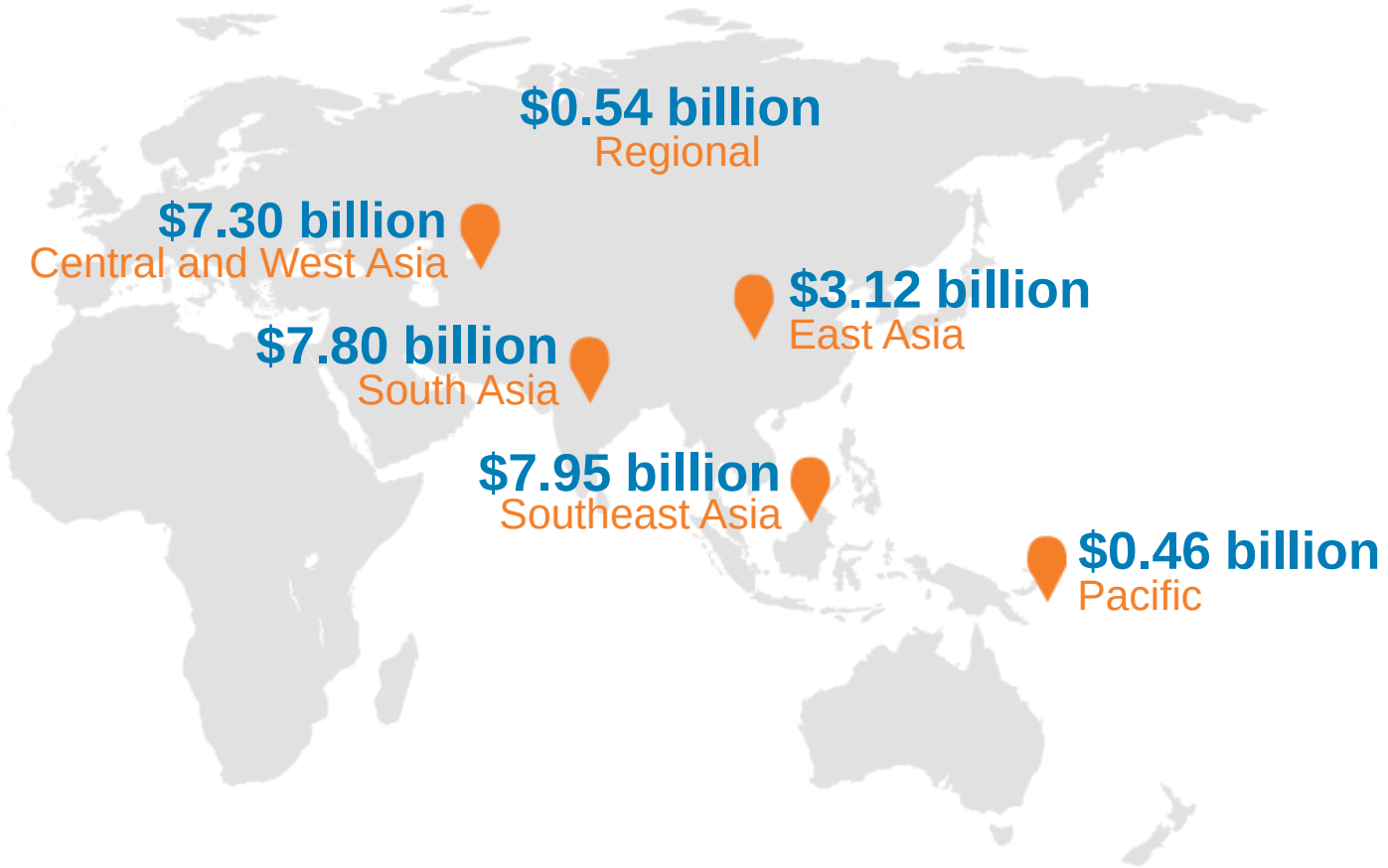
$27.17 BILLION

- **$16.29 billion** from ADB and its Special Funds
- **$10.74 billion** from cofinancing partners

ASSISTANCE BY REGION

TOTAL ASSISTANCE

$27.17 BILLION

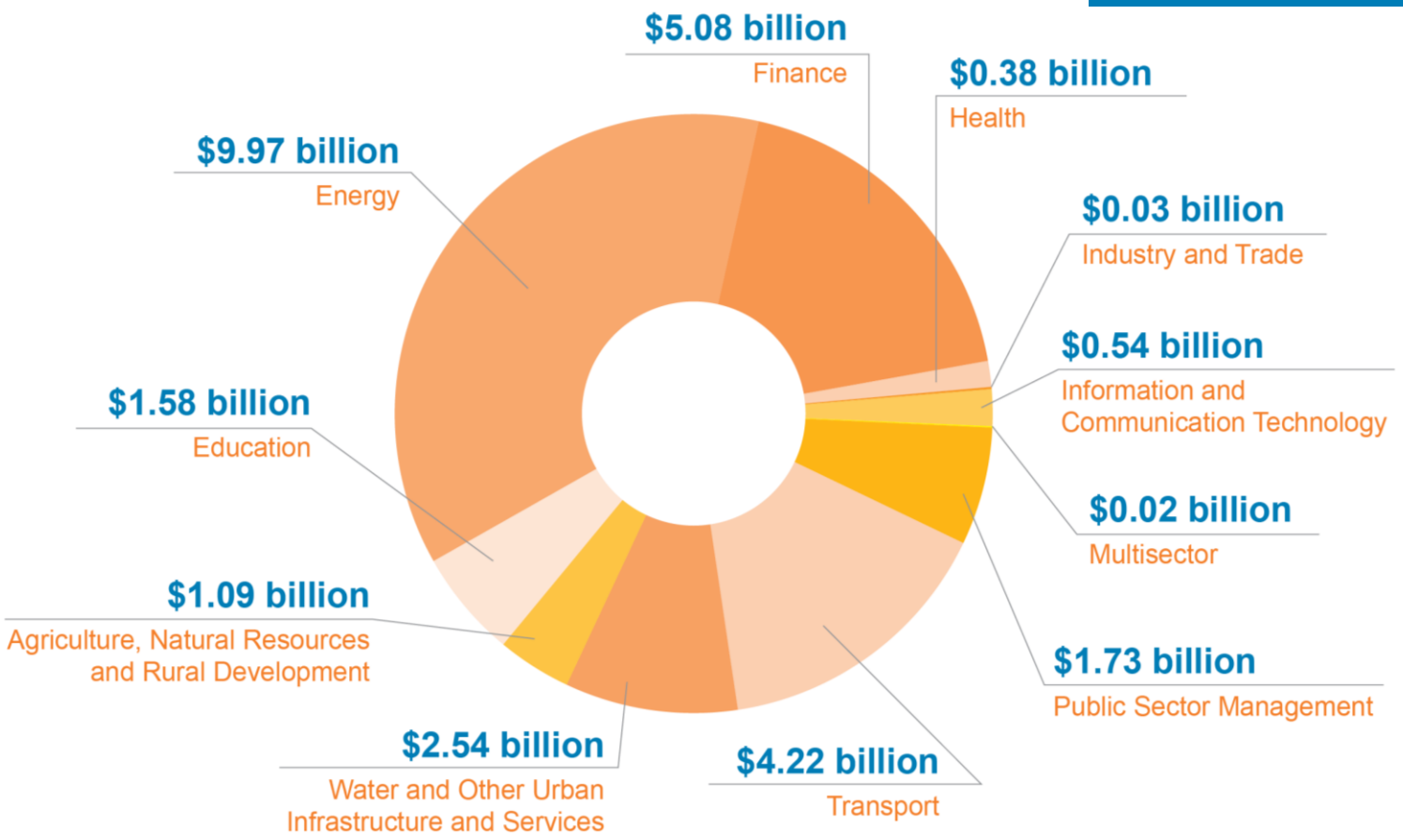


50 YEARS ADB

ASSISTANCE BY SECTOR

TOTAL ASSISTANCE

$27.17 BILLION



50 YEARS ADB

ADB Clean Energy Projects

- Solar and Wind projects
- Hydropower projects
- Concentrated solar thermal power project
- Solar Rooftop program
- Solar-wind-diesel hybrid project
- Off-grid prepaid solar PV

ADB CE projects….

- Generation efficiency improvements
  - Replacing aging hydroelectric equipment and controls
  - Replacing old gas turbine plants with combined cycle plants
  - Adding steam turbines to existing gas turbine plants

ADB CE projects ….

- Transmission and distribution improvement
  - New lines, substations to reduce overloading
  - High temperature low sag conductors to almost double capacity (Nepal)
  - Segregation of consumers (India)
  - HV distribution

ADB CE projects ….

- Demand side EE
  - Efficient lighting – Households, small businesses and street lighting
  - Smart metering for prudent use
- Mass transport systems
- Efficient water supply systems
- Improving policy and regulatory environment for CE development

Innovative Projects

- PAK: Power Distribution Enhancement Investment Program II
- UZB: Advanced Electricity Metering Project Phase 2
  - Smart metering
- PRC: Chemical Industry Energy Efficiency and Emission Reduction Project
  - Energy and process efficiency
- PRC: Qingdao Smart Low Carbon District Energy Project
  - RE for district heating and cooling coupled with smart EMS
- COO: Renewable Energy Sector Project
- MLD: Additional Financing for POISED – JFJCM
  - RE integration in mini-grids with smart EMS

Innovative Projects ……

- IND: Simpa Energy India Private Ltd - Off-Grid Prepaid Solar Leasing Project
  - Innovative financing
- IND: Green Energy Corridor and Grid Strengthening Project
  - RE Evacuation across states
- BAN: Second SASEC Bangladesh-India Electrical Grid Interconnection Project
  - Regional cooperation
- Results–Based Loan for INO: Electricity Grid Strengthening —Sumatra
  - First energy sector RBL
- INO: Sustainable and Inclusive Energy Program
  - Sector reforms

ENERGY PROJECT PIPELINE

Energy projects
2017-2019 ADF and OCR Operations

Department	2017	2018	2019
CWRD	1,869.76	1,875.00	1,408.80
SARD	1,577.00	1,015.29	1,165.00
EARD	100.00	600.00	500.00
PARD	41.00	155.10	69.00
SERD	1,100.00	500.00	1,913.00
PSOD			
TOTAL	**4,687.76**	**4,145.39**	**5,055.80**
GRAND TOTAL			**13,888.95**

CLEAN ENERGY PROJECT PIPELINE

Clean energy projects only
2017-2019 ADF and OCR Operations

Department	2017	2018	2019
CWRD	119.76	380.00	645.00
SARD	727.00	515.29	650.00
EARD	100.00	-	-
PARD	36.00	47.10	9.00
SERD	-	-	100.00
PSOD	725	800	875
TOTAL	**1,707.76**	**1,742.39**	**2,279.00**
GRAND TOTAL			**5,729.15**

Energy Strategy: PRC

- Support for structural transformation of the PRC's energy sector, and INDC commitment to peak CO_2 emissions by around 2030; lower CO_2 per unit of GDP by 60%-65% from the 2005 level; increase the share of non-fossil fuels, etc.
- primary energy consumption to around 20%
- Country Operations Business Plan 2016-2018
  - Energy: $350 million, 8% of COBP envelope

Energy Strategy: INDIA

- The energy program will focus on expanding the availability of and access to energy by reducing losses, strengthening infrastructure, promoting clean energy, and increasing energy efficiency.
  - includes transmission and distribution networks at the state and central levels renewable energy development, particularly solar
  - demand side energy efficiency
  - new technologies such as smart grids
- Country Operations Business Plan 2016-2018
  - Energy: $3.1 billion (OCR) and $210 million (cofinancing), 21% of COBP envelope

Energy Strategy: PAKISTAN

- Energy security through greater availability, affordability, efficiency, and competition in the energy sector
- Reliable and affordable energy services through the development of domestic energy resources (hydropower, renewable energy, coal, and gas) and the strengthening of transmission and distribution networks
- Country Operations Business Plan 2015-2018
  - Energy: $2.0 billion, 40% of resource envelope

Energy Strategy: INDONESIA

- The energy related areas of ADB's Country Partnership Strategy with Indonesia focus on:
  - sustainable and inclusive energy
  - developing infrastructure through better engineering services
  - improved engineering services for clean energy projects
- Country Operations Business Plan 2015-2017
  - Energy: $2.55 billion, 46% of resource envelope

Final Remarks

- Energy sector lending increasing
- Continues its efforts in clean energy development
  - Hand-in-hand with energy access improvement
- Provide soft support to create an enabling environment
  - Introduce new and high level technologies
  - Lessons from other countries and regions
  - Encourage new policies/regulations
  - South-South cooperation

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