International Forum for Sustainable Asia and the Pacific

ADB's Role in Technology Collaboration for Low-Carbon Development

Virender Kumar Duggal, Principal Climate Change Specialist, ADB

10 November 2020

Asia-Pacific Climate Change and Disaster Risk Management Challenges

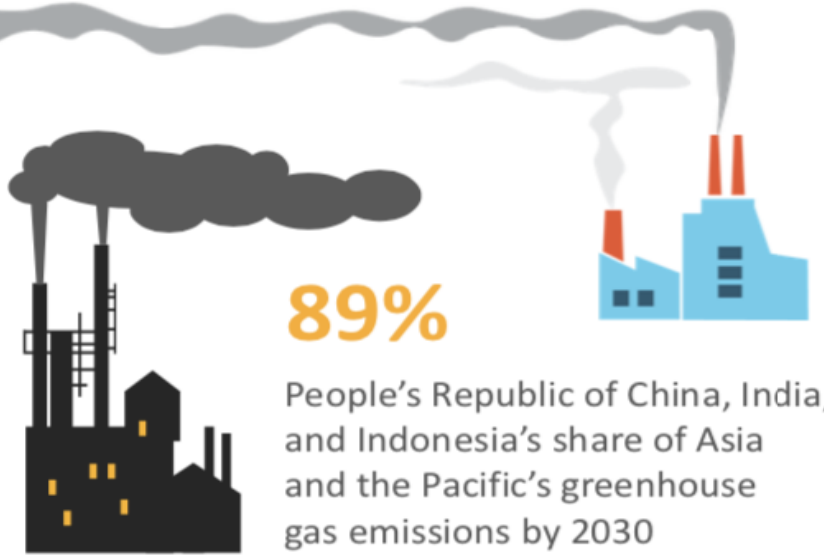
Climate Change and DRM Challenges

ASIA AND THE PACIFIC IS KEY

2017 CO_2 emissions:

43% Asia and the Pacific

57% Rest of the world



89%

People's Republic of China, India, and Indonesia's share of Asia and the Pacific's greenhouse gas emissions by 2030

Developing Asia's share of world electricity demand will grow to*

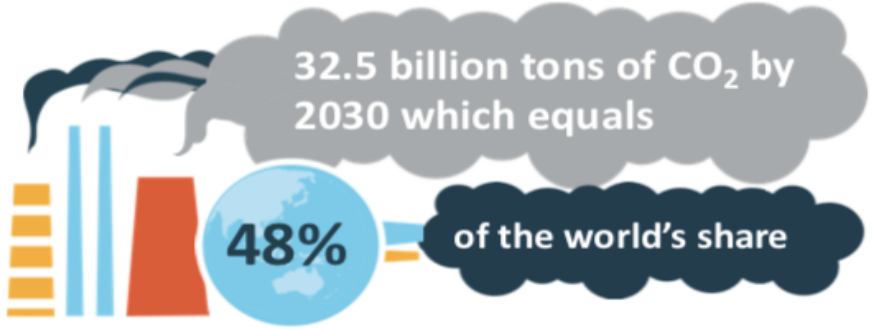
43%
in 2030

The PRC and India will make up

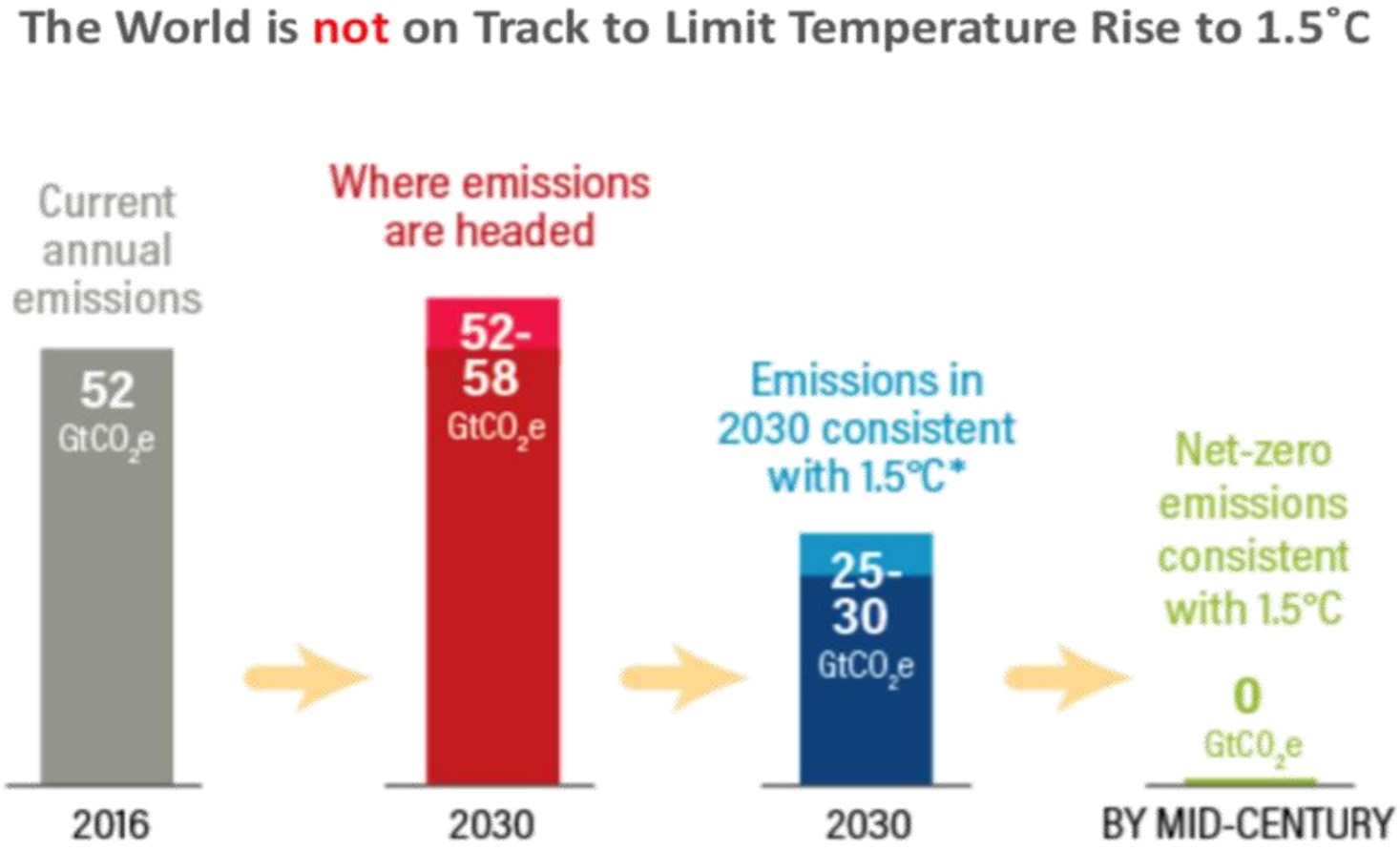
64%
of Asia's power consumption

*projection under New Policies scenario

Without radical changes, Asia and the Pacific will emit



The Alarming Gap



Notes: *on average, no or low overshoot.

WORLD RESOURCES INSTITUTE

ADB

The Alarming Gap

Pre-COVID-19 global commitments were already insufficient to meet the Paris Agreement's goals.

Current commitments in NDCs would lead to a temperature rise of **3.2°C** this century.

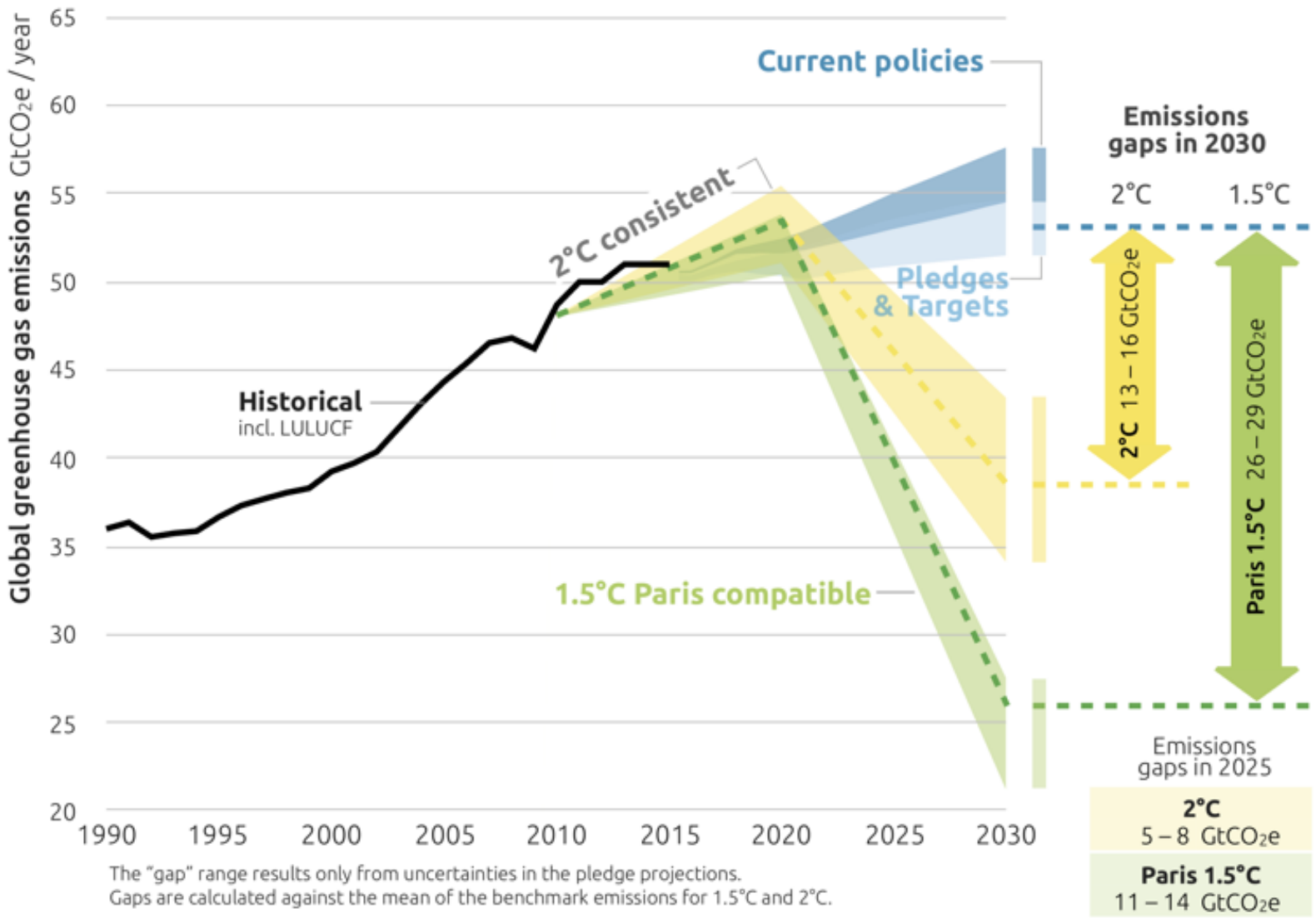


Image Source:
Climate Action Tracker, April 2020

Barriers to Low-Carbon Development

- **Financial barriers**
  - High capital cost of the advanced low-carbon technologies
  - Unfavorable economic returns due to higher upfront capital costs compared with incumbent technologies
  - High transaction costs associated with technology transfer
  - Misaligned incentives
  - Lack of standardization for assessing economic and other benefits
- **Technical barriers**
  - Lack of knowledge and expertise to absorb new technology
  - Lack of skills and know-how to implement the technology transferred
- **Institutional and political barriers**
  - Political instability
  - Weak enforcement of policies

Priorities of ADB on Climate Change and Disaster Risk Management

ADB Strategy 2030:
Achieving a Prosperous, Inclusive, Resilient, and Sustainable Asia and the

Target 75% of ADB's of the number of committed operations *(on a 3-year rolling average) will support climate mitigation and adaptation by 2030*

Target Climate finance from ADB's own resources reach $80 billion (2019-2030)

Enhancing Actions to Tackle Climate Change

Clean Energy

- Expand **demand side** energy efficiency projects (e.g. electrical lighting), requiring new business models
- Increase **cross sectoral projects** (finance, urban, transport, water, agriculture etc.) requiring new financing instruments; integrated approach, e.g. **low carbon cities**

Sustainable transport

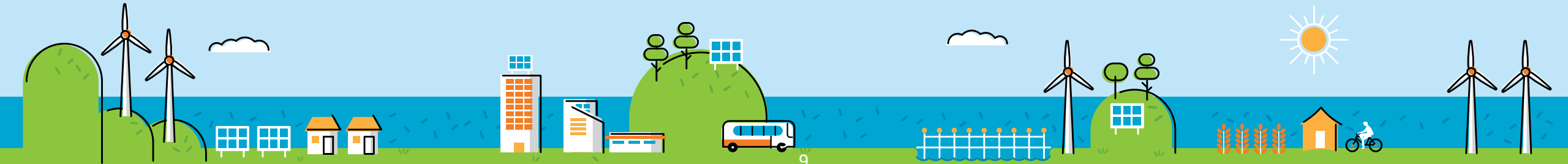
- Focus on low carbon transport modes (public transport, railways, e-vehicles)
- Ensure climate resilience in project design (additional drainage, raised road levels, storm surge protection)
- Achieving ADB climate change targets in transport sector support

Sustainable urban development

- Promote an integrated approach to address climate risks.
- Knowledge exchange on climate mitigation and adaptation measures.
- Build capacities of cities to utilize climate finance to achieve local environmental improvement objectives.
- Link nationally determined contribution frameworks to city-level greenhouse gas accounting.

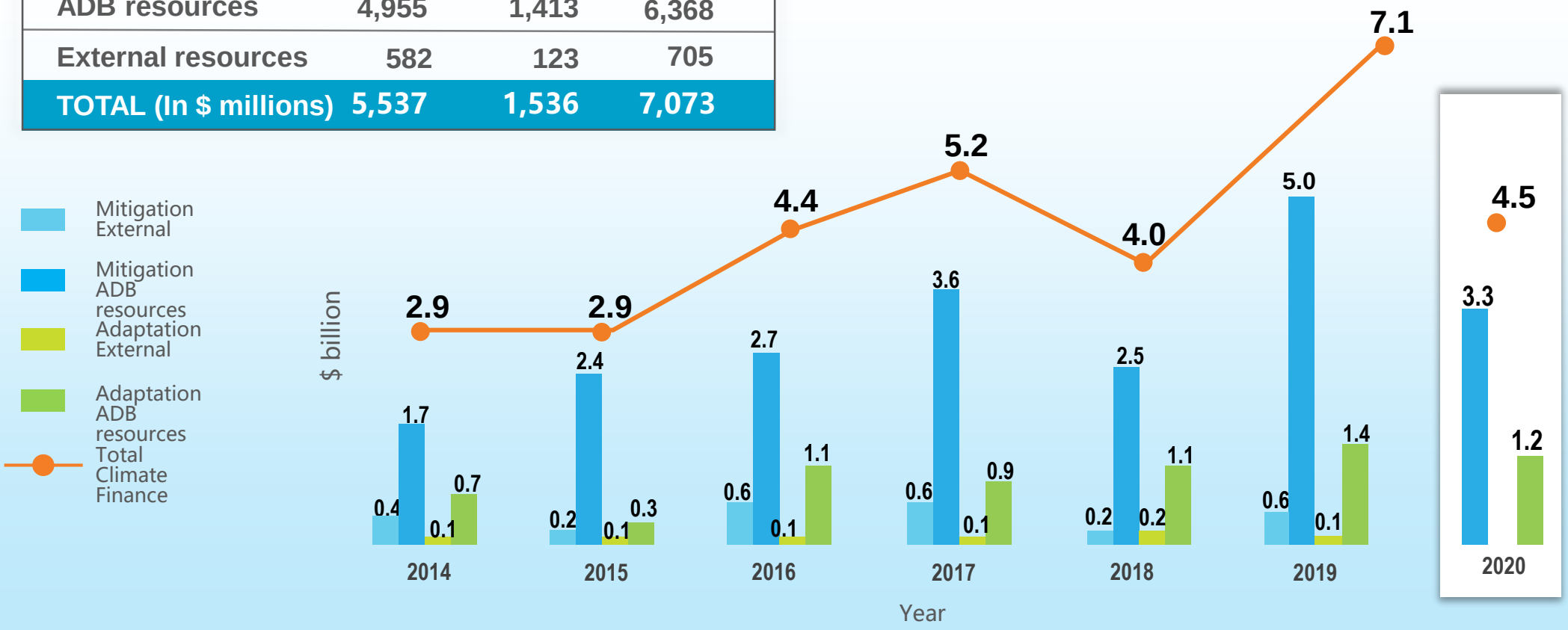
Climate-smart agriculture

- Explore new approaches, innovative ideas, and partnerships to ensure ADB investments are climate-smart by 2030
- Identify adaptation and mitigation measures to integrate in project pipelines
- Prepare guidance notes to track climate finance investments



ADB Climate Finance based on Approvals

2019 Climate Finance	Mitigation	Adaptation	TOTAL
ADB resources	4,955	1,413	6,368
External resources	582	123	705
TOTAL (In $ millions)	5,537	1,536	7,073



Note: Climate finance amounts from ADB resources for 2020 are only for investments and are only estimates based on project pipelines of ADB's Operating Departments (CWRD, PARD, SARD - 30 June 2020; EARD - 6 July 2020; SERD - 1 July 2020; PSOD - 3 July 2020).

ADB Approach to Climate Finance Mobilization

Deploying concessional resources

Internally managed resources (ADB donor trust funds and special funds)

- Climate Change Fund (CCF)
- Clean Energy Financing Partnership Facility (CEFPF)
- Urban Climate Change Resilience Trust Fund (UCCRTF)
- **Asia-Pacific Climate Finance Fund (ACliFF)**
- **High Level Technology Fund (HLTF)**
- Others with bilaterals

Multilateral funds

- Climate Investment Funds (CIF)
- Global Environment Facility (GEF)
- Green Climate Fund (GCF)

Maximizing market mechanisms

- **Upfront carbon finance**
  - Asia Pacific Carbon Fund
  - Future Carbon Fund
- **Carbon Market Technical Support Facility**
  - Clean Development Mechanism support
  - domestic emissions trading
- **Japan Fund for the Joint Crediting Mechanism**
- **Green and Climate Bonds**
- Supporting **other market mechanisms** (e.g. 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

ADB's High-Level Technology (HLT) Fund

- a multi-donor trust fund established in April 2017 - Government of Japan is the first donor to the fund.
- encourages more widespread adoption of HLT **to address development challenges** in developing member countries.
- provides grant financing to promote the **integration of HLT and innovative solutions** into ADB-financed and administered sovereign and nonsovereign projects **throughout the project cycle**—from identification to implementation and operation.
- provide grants for technical assistance projects, investment projects, and recruitment of technology experts.
- also supports the **Technology Innovation Challenge**, which seeks proposals of proof-of-concept/pre-feasibility studies of HLT applications from technology providers in developing countries' context.

The HLT and innovative solutions to be supported by the fund will have at least one of the following characteristics:

- ✓ improves efficiency, productivity, quality, functionality, and/or access to service delivery;
- ✓ addresses climate change mitigation, and adaptation, including resilience to disaster risks;
- ✓ introduces innovation in processes, methods, techniques, and the use of new improved equipment and materials in construction, operations, and maintenance;
- ✓ reduces environmental and social costs;
- ✓ reduces life-cycle cost, increases durability, and improves long-term performance;
- ✓ enhances the scaling up of HLT and market opportunities for scale-up; and
- ✓ promotes synergies and increases scale and impact through cross-sector collaboration.

Japan Fund for Joint Crediting Mechanism

- Established in June 2014 as one of ADB's trust funds
- Contribution by Government of Japan: **$79.3M** (2014-2020)
- Provides **financial incentives (grant)** for adoption of **advanced low-carbon technologies** in **ADB-financed projects** that use the Joint Crediting Mechanism (JCM)*
- Both **sovereign** and **nonsovereign** projects are eligible

* JCM is a bilateral carbon market mechanism initiated by the Government of Japan.

#	Projects (Approved/for Approval)	Country	JFJCM grant	Approval	Technologies supported
1	Preparing Outer Islands for Sustainable Energy Development Project (POISED)	Maldives	**$5 million**	Mar 2015	Advanced battery system and energy management system (EMS) **– with approved JCM methodology: MV_AM002**
2	Provincial Water Supply and Sanitation Project	Cambodia	**$10 million**	Dec 2017	Energy efficient wastewater treatment system
3	Southwest Transmission Grid Expansion Project	Bangladesh	**$7 million**	Jul 2018	Energy efficient transmission lines
4	Upscaling Renewable Energy Sector Project	Mongolia	**$6 million**	Sep 2018	Solar PV with advanced battery system and EMS
5	Improving Access to Health Services for Disadvantaged Groups Investment Program	Mongolia	**$3.48 million**	Oct 2019	Energy efficient HVAC, high insulation window, rooftop solar PV and ground source heat pump
6	Greater Male Waste to Energy Project	Maldives	**$10 million**	Aug 2020	Waste to energy plant (incineration)

Thank You

V.K. Duggal
Principal Climate Change Specialist
Fund Manager - Future Carbon Fund
Sustainable Development and Climate Change Department
Asian Development Bank
Tel (632) 632-5937
vkduggal@adb.org
www.adb.org