

The views expressed in this presentation are the views of the author/s and do not necessarily reflect the views or policies of the Asian Development Bank, or its Board of Governors, or the governments they represent. ADB does not guarantee the accuracy of the data included in this presentation and accepts no responsibility for any consequence of their use. The countries listed in this presentation do not imply any view on ADB's part as to sovereignty or independent status or necessarily conform to ADB's terminology.

ADB

Energy Sector Group

14 October 2021

Dae Kyeong Kim, Consultant
Sector Advisory Service Cluster–Energy Sector Group

BUSINESS
OPPORTUNITIES



Contents

- I. Overview of Energy Sector Operations
- II. Country Planning Documents
- III. Indicative Clean Energy Projects for 2021-2023
- IV. Energy Sector Outlook

Energy Sector Operations **Guiding Principles**

Increased deployment of renewable energy and energy efficiency

Integration of advanced technologies, innovative business models, and financing instruments

Creating and enabling regulatory frameworks for effective market and sector development

GLOBAL COMMITMENTS TO UNIVERSAL ACCESS AND CLIMATE ACTION

SDG 7: Universal Energy Access by 2030

Paris Agreement: Nationally Determined Contributions (NDCs)

ADB STRATEGY 2030

7 Operational Priorities

Energy Sector Contributions to S2030

7 Operational Priorities

Increased access to clean energy to meet basic needs, income generation through RE employment

OP 1: Addressing remaining poverty and reducing inequalities

Job creation and skills development for women in RE; productive use of women's time for income generation

OP2: Accelerating progress in gender equality

Climate change mitigation and adaptation, air quality improvement, energy water nexus

OP3: Tackling climate change, building disaster resilience

Supporting energy smart buildings, electric vehicles, microgrids, waste-to-energy, and demand-side energy efficiency

OP4: Making cities more livable

Distributed renewable energy applications in irrigation and agriculture (e.g. solar pumping), biomass-to-energy

OP5: Promoting rural development and food security

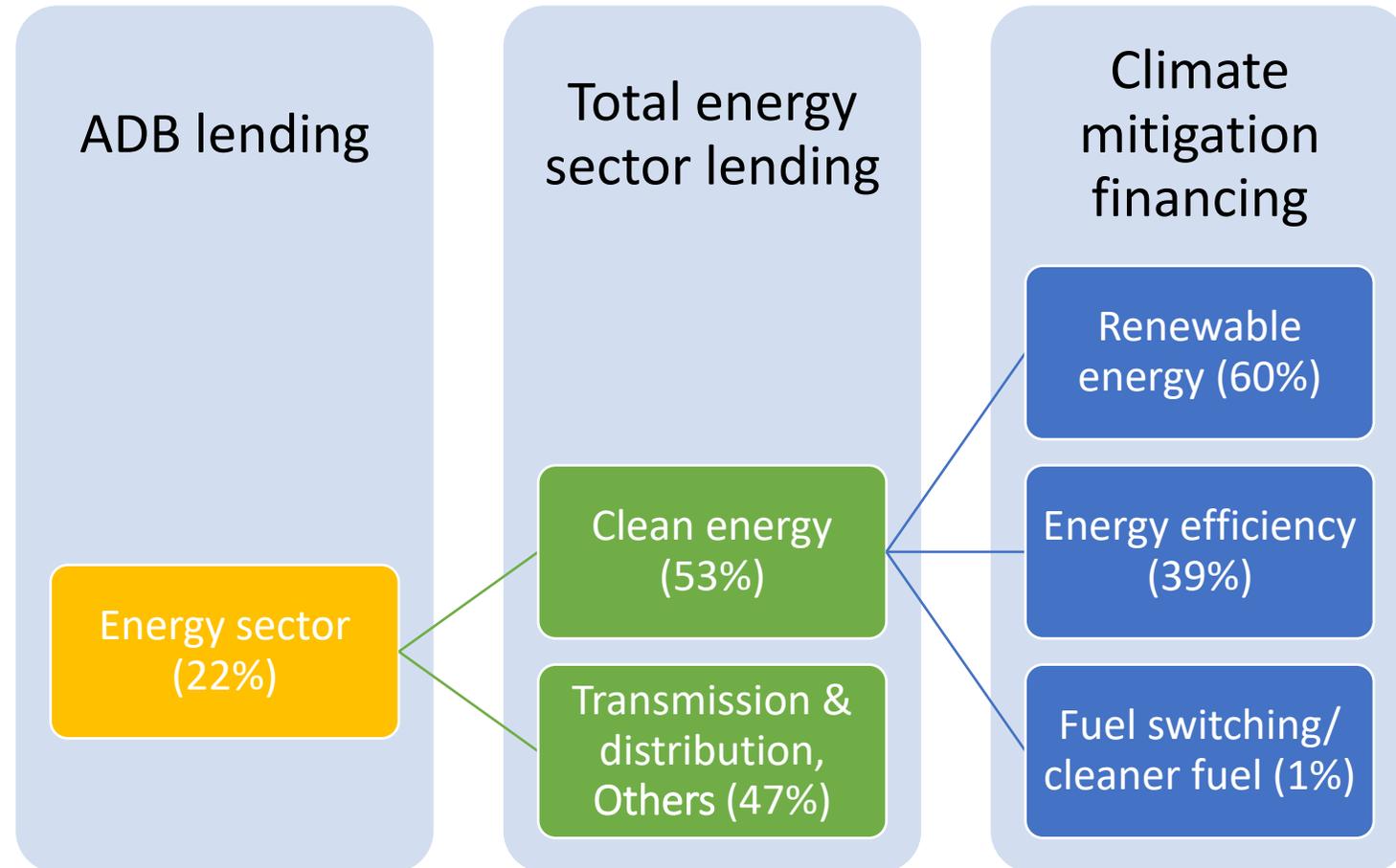
Promoting energy sector reforms and enabling clean energy development

OP 6: Strengthening governance and institutional capacity

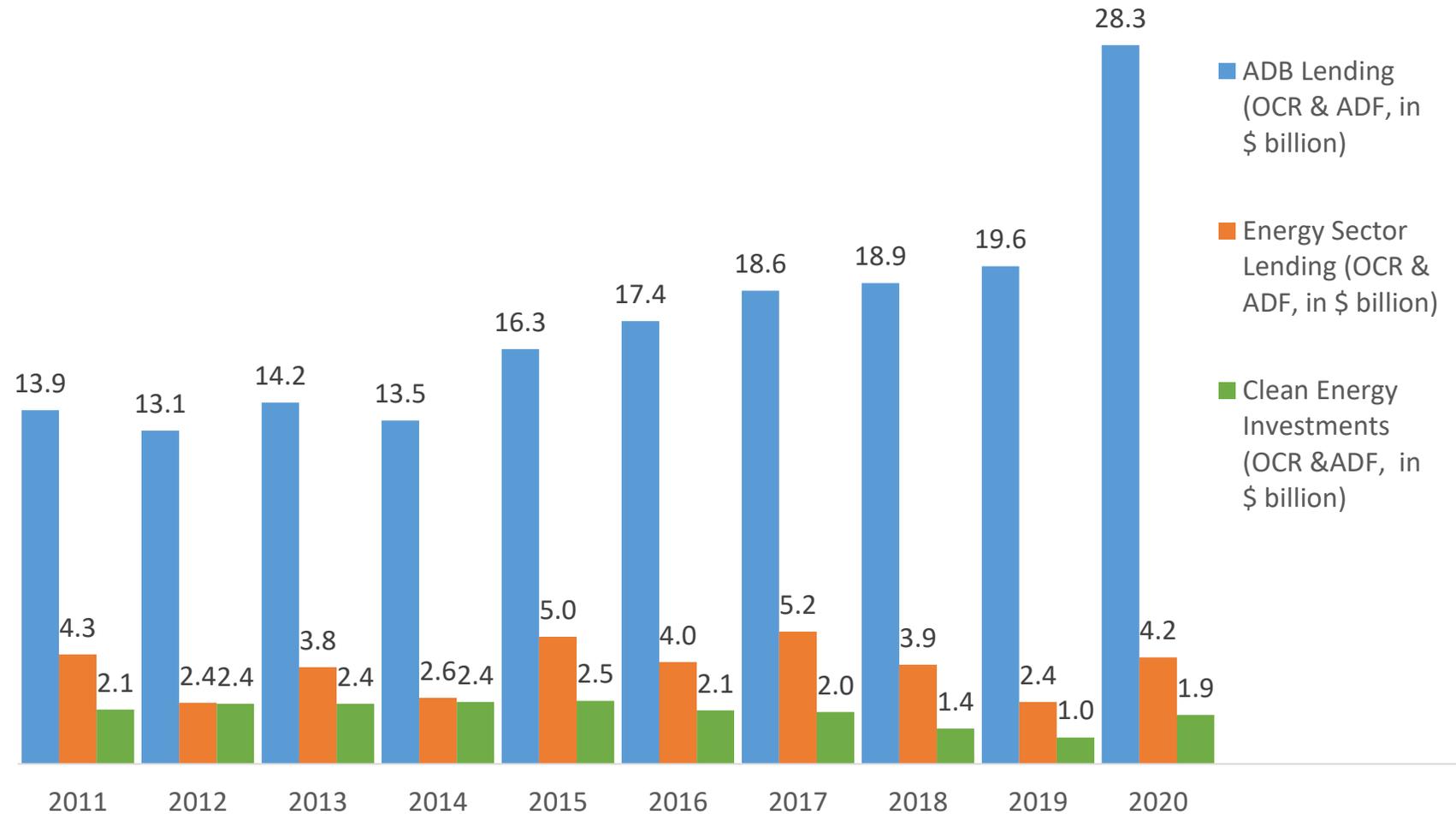
Promoting energy connectivity, cross-border clean energy trade, and knowledge exchange

OP 7: Fostering regional cooperation and integration

Energy Sector Lending, 2011–2020 (annual average share)



ADB Lending, Energy Sector Lending and Clean Energy Investments

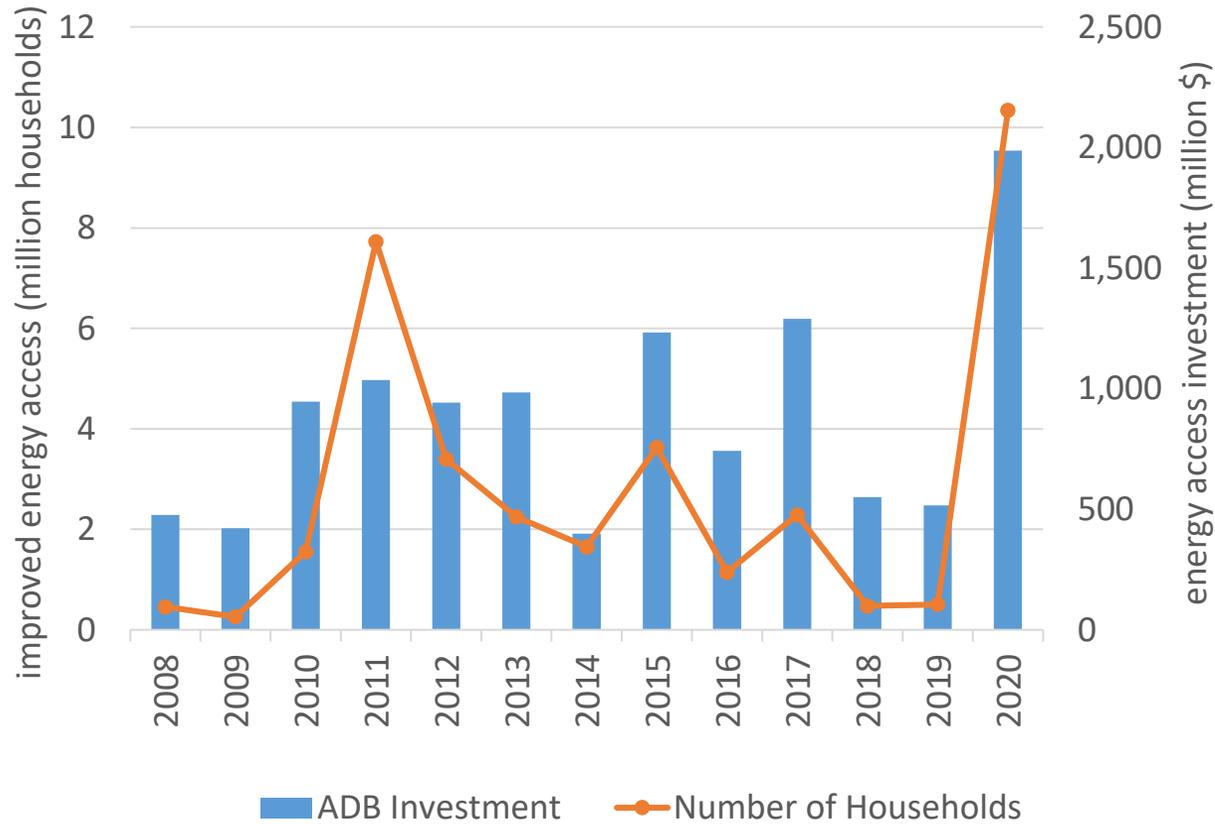


Energy Sector Lending by Sub-Region in 2020

(\$ millions)

	Central and West Asia	East Asia	Pacific	South Asia	Southeast Asia	Private Sector	TOTAL
Climate Finance	174	264	6	839	443	272	1,997
- Mitigation	161	264	6	794	424	269	1,917
- Adaptation	13	0	0	44	19	4	80
T & D, Others	277	186	7	838	756	119	2,184
Total	451	450	13	1,676	1,199	392	4,181

Outcomes from Operations: Progress in Energy Access



ADB has invested a total of **\$2.0 billion** in energy access in 2020, and \$10.3 billion cumulatively from 2008 to 2020

It provided energy access (electricity, clean cooking) to **10.3 million households** in 2020, and 35.6 million households cumulatively from 2008 to 2020

Transmission and distribution projects in Afghanistan, Bangladesh, India, Indonesia, Myanmar and Nepal contributed to this upsurge

Outcomes from Operations:

Climate Impact of Energy Projects

Estimating greenhouse gas emission reduction

- 6.9 million tons of CO₂ equivalent per year—emission reduction (2020)

Assessing climate change impact of projects

- 3.4 GW additional RE capacity installed (2020)
- 8.3 TWh/year RE electricity generation (2019)
- 1.1 TWh/year electricity savings (2019)

ADB Energy Sector Knowledge Work

Handbooks, Cases, Guide Notes

- Carbon Capture, Utilization and Storage
- Clean Cooking
- Distributed Renewable Energy Solutions
- Energy Storage
- Hydrogen
- Microgrids
- Smart Grids
- Waste-to-Energy
- Energy Sector Perspective for the Reopening of the Economy (COVID-19)
- Financing Clean Energy in Developing Asia

Technical Notes, Op-ed, Blogs

- No Place for “Dirty Energy” in ADB’s Climate Vision
- The Pandemic May Break Value Chains, But Solar Energy Can Still Shine
- Covid-19 is an Opportunity to Retool Health Sector's Energy Supply
- It’s Clean, Powerful And Available: Are You Ready For Hydrogen Energy?
- Artificial Intelligence and Human Education, Needed to Advance Energy Efficiency
- Managing Infectious Medical Waste During COVID-19 Pandemic

Workshops, Forum, Collaborations

- Asia Clean Energy Forum
- Cooling, Heating, and Cooking Technologies and Business Models
- Green and Low-Carbon Hydrogen Energy
- Carbon Capture, Utilization, and Storage Technologies
- Collaborations with SEforALL and IEA

Projected Energy Sector Lending in 2021–2022

In 2020, energy sector lending is about \$4.2 billion

- 48% clean energy
- 52% transmission & distribution, others
- challenges due to COVID-19—resource allocation priorities of developing member countries, field work constraints

In 2021–2022, projected average energy sector lending is \$5 billion per year

- clean energy representing about 40–50% of the lending

Country Planning Documents (1 of 2)

- **The Country Partnership Strategy (CPS)** provides the strategic framework for ADB to engage with each developing member country (DMC).
- **The Regional Cooperation Strategy (RCS)** is a strategy for an ADB-defined region or subregion in Asia and the Pacific to achieve the desired objectives of regional cooperation.

Country/Region	Strategy Type and Period	Country Consultation	Strategic Priorities Meeting	Board Consideration and Endorsement	Team Leader
India	CPS 2023-2027	Mar 2022	Apr 2022	Sep 2022	Hoe Yun Jeong
Kazakhstan	CPS 2022-2026	Nov 2020 - Mar 2021	Feb 2022	Jun 2022	Lyaziza Sabyrova✉
Lao PDR	CPS 2021-2025	Oct-Dec 2021	Mar 2022	Jun 2022	Emma Allen
Sri Lanka	CPS 2023-2027	15 Jun - 9 Jul 2021	Q4 2021	Mar 2022	Utsav Kumar
Timor-Leste	CPS 2023-2027	May-June 2021	mid-Oct 2021	Aug 2022	Kavita Iyengar
Viet Nam	CPS 2022-2025	Nov 2020 - Mar 2021	8 Sep 2021	Feb 2022	Cuong Minh Nguyen

Country Planning Documents (2 of 2)

- **The Country Operations Business Plan (COBP)** describes the consistency of the business plan with the country partnership/regional cooperation strategy, including grants and projects in the pipeline.

COUNTRY PLANNING DOCUMENTS | 17 FEB 2021

Pakistan: Country Operations Business Plan (2021-2023)

The country operations business plan (COBP) for Pakistan, 2021–2023 of the Asian Development Bank (ADB) is consistent with its country partnership strategy for Pakistan, 2021–2025.

COUNTRY PLANNING DOCUMENTS | 17 DEC 2020

Eleven Small Pacific Island Countries: Country Operations Business Plan (2021-2023)

The Pacific Approach, 2016–2020 serves as the Asian Development Bank's (ADB's) country partnership strategy for the eleven small Pacific island countries (PIC-11). The priorities of the Pacific Approach, 2016–2020 will remain valid for the PIC-11 country operations business plan (COBP), 2021–2023 until the new Pacific Approach for 2021–2025 is considered in 2021.

COUNTRY PLANNING DOCUMENTS | 16 DEC 2020

Kyrgyz Republic: Country Operations Business Plan (2021-2023)

The Kyrgyz Republic country operations business plan, 2021–2023 of the Asian Development Bank (ADB) is consistent with its country partnership strategy (CPS) 2018–2022

Indicative Clean Energy Projects for 2021–2023 (1 of 2)

AFG: Renewable Energy Development (Solar and Wind) Project

BAN: Renewable Energy Project

CAM: Energy Efficiency Sector Development Program

CAM: Energy Efficiency Sector Development Program

BAN: Renewable Energy Development and Efficiency Improvement Project

BHU: Renewable Energy Project

BHU: Hydropower Rehabilitation Project

PRC: Low Carbon Transformation in Urban Areas

PRC: Shanxi Low-carbon and Beautiful Village Development

IND: Scaling Up Demand Side Energy Efficiency Sector Project-Additional Financing

Indicative Clean Energy Projects for 2021–2023 (2 of 2)

INO: Geothermal Power Expansion Project (formerly Geothermal Power Generation Project (Phase 2))

INO: Sustainable Transition Project - DAMRI E-buses

KIR: South Tarawa Renewable Energy Project (Phase 2)

MON: Supporting Renewable Energy Development

MON: MFF Smart grid system development

MON: MFF Smart grid system development (Tranche 1)

FSM: Renewable Energy Development Project, Phase 2

SAM: Alaoa Multi-Purpose Dam Project

TON: Nukualofa Electricity Network Project (Solar Plus Project)

TUV: Increasing Access to Renewable Energy Project - Phase 2

Energy Sector: The Way Forward

Increase clean energy investments

- Help develop and demonstrate viability of new renewables beyond solar PV and onshore wind in ADB DMCs
- Develop projects with other sectors to reap scale and scope economies in energy efficiency

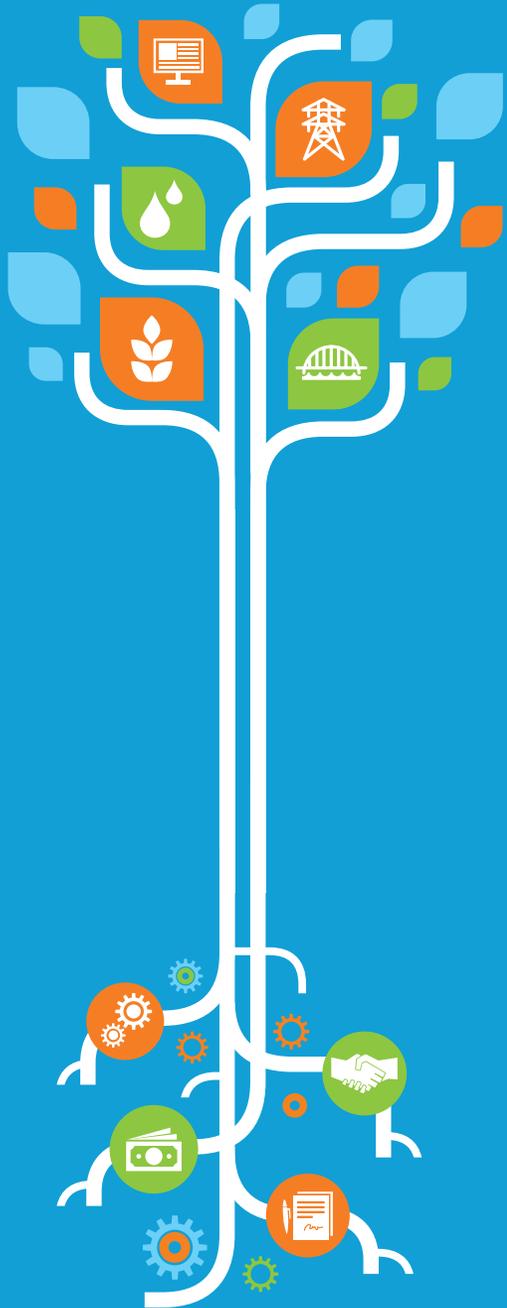
Support for more flexible, resilient and smarter energy systems

- Support the deployment of ICT, digital applications, and energy storage in the T&D subsector

Strengthen multi-sectoral approach

Draft Energy Policy: Guiding Principles

1. Securing Energy for a Prosperous and Inclusive Asia
2. Building a Sustainable and Resilient Energy Future
3. Engaging with Institutions and Framing Policy Reforms
4. Promoting Regional Cooperation to Enhance Energy Security
5. Cross Sectoral Operations to Maximize Development Impact



Thank you!

DAE KYEONG KIM

Consultant, SDSC-ENE

dkkim.consultant@adb.org