

Energy Sector Group

27 July 2020

Energy Sector Operations Guiding Principles

Increased deployment of renewable energy, energy efficiency

Integration of advanced technologies/ innovative business models and financing instruments

Creating and enabling regulatory framework for effective markets/sector development

SDG 7 (Universal Energy Access)

Global Climate Goals/NDCs

ADB Strategy 2030 (7 Operational Priorities)

Energy Sector Contributions to S2030 7 Operational Priorities

Increased access to clean energy help meet basic needs, facilitate SME development and job creation

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

electric vehicles, microgrids, wasteto-energy, and demand-side

OP4: Making cities more livable

applications in irrigation and agriculture (e.g. solar pumping),

OP5: Promoting rural development and food security

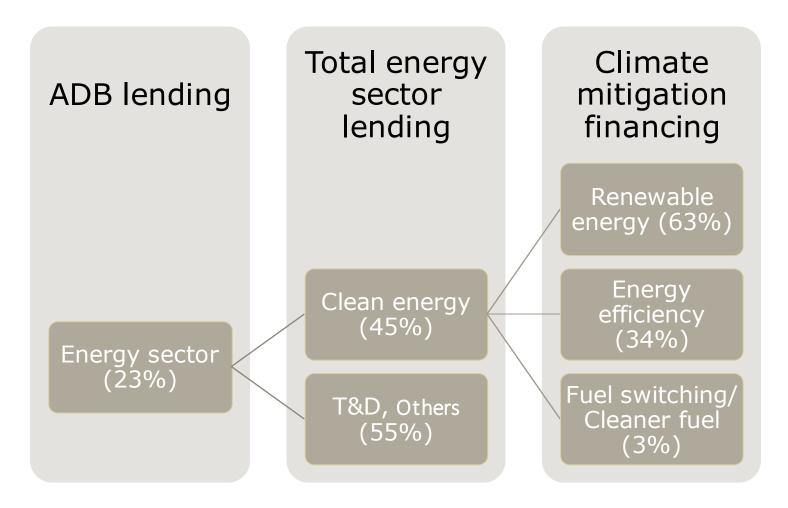
Promoting energy sector reforms and enabling clean energy development

OP 6: Strengthening **governance and** institutional capacity

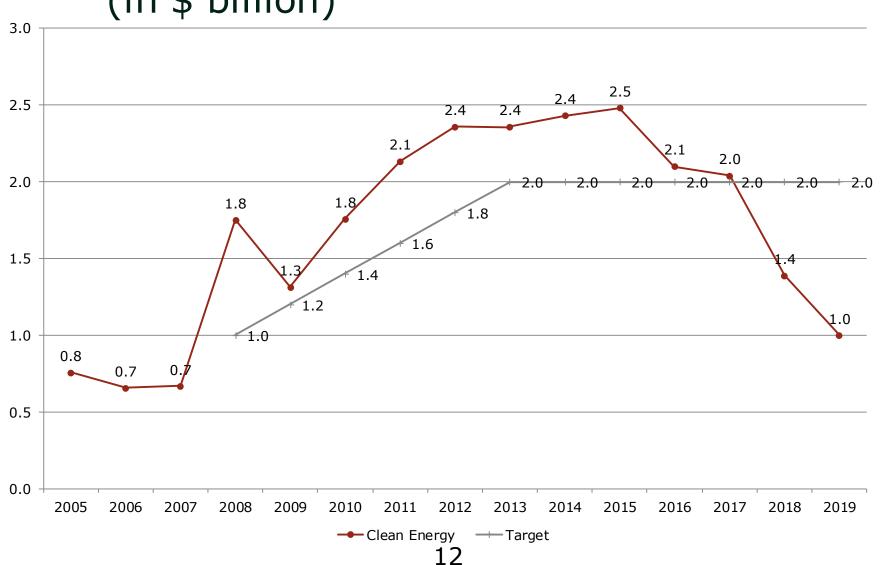
Promoting energy connectivity, crossborder clean energy trade, and knowledge exchange

OP 7: Fostering regional cooperation and integration

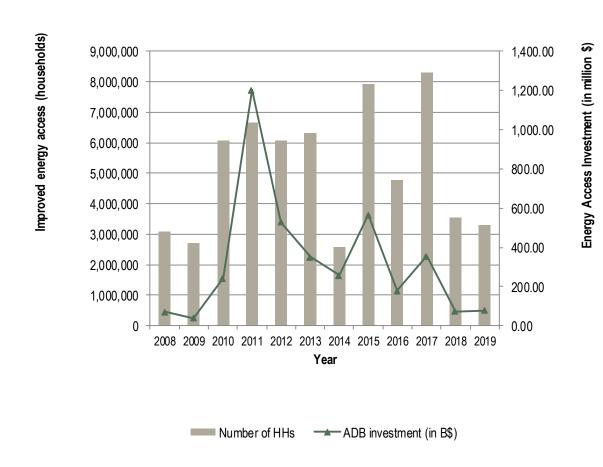
Energy sector lending, 2009-2019 (annual average share, in %)



Energy Sector Clean Energy Finance 2009-2019 (in \$ billion)



Outcomes from Operations: Progress in Energy Access



- ADB has invested a total of \$ 9.5 billion in energy access from 2008 to 2019
- And provided energy access (electricity, clean cooking) to 25 million households cumulatively in the same period

Outcomes from Operations: Progress in Clean Energy Indicators

Indicator	Unit	201 1	201 2	201 3	201 4	201 5	201 6	2017	2018	2019
Additiona I RE capacity installed	GW	0.9	2.5	1.4	2.1	0.6	2.1	1.6	0.6	4.0
CO ₂ emission reduction	million tons/ year- equivale nt	13. 7	16.0	7.1	9.0	21.8	13.5	11.8	10.7	6.7
Electricit y savings	TWh/ year	3.3	0.9	2.0	0.1	4.5	4.7	0.7	4.0	1.1
RE electricit y generatio n	TWh/ year	3.3	4.9	5.2	5.9	1.5	4.6	4.8	2.4	8.3

Energy Sector Lending in 2019

- Total approvals in the Energy Sector in 2019 amounted to \$2.4 billion including \$ 0.40 billion from PSOD (17% of total energy sector lending)
- Total climate mitigation finance approved 2019 amounted \$1.0 billion including \$333.7 million from PSOD (or 32% of the total climate mitigation finance)

 Transmission and distribution projects without energy efficiency improvement and fossil fuel-based projects are not considered climate

Amount	CWRD	EARD	PARD	PSOD	SARD	SERD	Total
Total	460.0	460.0	85.2	403.7	1,001. 0	7.6	2,417.5
Climate Finance	200.0	87.3	85.2	333.7	452.6	7.6	1,166.4
- Mitigation	189.8	78.4	77.6	333.7	357.4	6.5	1,043.4
- Adaptation	10.2	8.9	7.6	0.0	95.2	1.2	123.0
T & D, Others	260.0	372.7	0.0	70.0	548.4	0.0	1,251.1

Contributions to S2030

Number of projects by Operational Priority tagged

S2030 Operational Priority	Number of projects		
Addressing remaining poverty and reducing inequalities	8		
Accelerating progress in gender equality	9		
Tackling climate change, building disaster resilience	24		
Making cities more livable	3		
Promoting rural development and food security	1		
Strengthening governance and institutional capacity	8		
Fostering regional cooperation and integration	4		

Key achievements in 2019 Strategic Operational Support

Technical enhancement in projects

- 27 project concept papers reviewed from sovereign and non-sovereign operations
- 38 RRPs from sovereign and non-sovereign operations reviewed
- Deployment of experts in project teams

Adoption of advanced technologies

- On-grid floating solar PV
- Utility-scale battery energy storage system and energy management system
- Smart metering for demand-side management
- Distributed renewable energy generation
- Fuel switching from coal to natural gas

Key achievements in 2019 Strategic Operational Support

- Leveraging clean energy investments
 - Allocated \$5.7 million of Clean Energy Financing Partnership Facility (CEFPF) funding to support 11 clean energy projects
 - Leverage ratio increased from 1:26 in 2018 to 1:31 in 2019

\$5.7 million (11 projects)

- 0.9 million tCO2-eq/year emission reduction
- 289 MW renewable energy capacity installed
- 1.1 TWh/year renewable energy generation

Key achievements in 2019 Knowledge management and sharing

- 14th Asia Clean Energy Forum
 - Gathered more than 1,600 participants from across the globe
 - Integrated cross-sectoral and cross-thematic tracks for the first time to align with S2030
 - Increased number of women in different discussion panels
 - Sustained the following sub-events
 - ADB Clean Energy Day for ADB staff
 - Dimsum with Entrepreneurs
 - · ADB on-the ground
- Opinion-editorials on:
 - "How to mobilize \$1 trillion for 1 trillion watts of solar power"
 - "It's clean, powerful and available: Are you ready for hydrogen energy?"
 - "Artificial intelligence and human education, needed to advance energy efficiency"
 - "Global renewable energy investment is slowing down should we worry"

Key achievements in 2019 Knowledge management and sharing

- Knowledge products
 - Guidebook for deploying distributed renewable energy systems – a case study on the Cobrador hybrid solar PV mini-grid
- Knowledge partnerships
 - MOU with the Korean Energy Agency for the continued cooperation in clean energy
 - Cooperation Arrangement with REN21 for the joint publication of the Asia Pacific Renewable Energy Status Report
- Sector Skills Development Program
 - Regional Workshop on High-Level Technology (Tokyo, JAP)
 - 14th Asia Solar Energy Forum (Manila, PHI)
 - Asia Pacific Forum on Low-Carbon Technology (Changsha, PRC)
 - Estimating Greenhouse Gas Emission Reduction Training (Manila, PHI)
 - Economic Analysis of Energy Projects (Manila, PHI)

The way forward for the energy sector

- 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 ADB developing member countries in transforming their energy systems to be more flexible, resilient and smarter
 - Support the deployment of ICT, digital applications, and energy storage in the T&D subsector
- Strengthening Multi-sectoral Approach



