ADB ENERGY AT A GLANCE

The Energy Sector Office leads ADB's work in improving access to reliable, affordable, low-carbon energy across Asia and the Pacific. Through its various financing instruments, ADB develops projects in renewable energy generation, electricity transmission and distribution, energy efficiency and conservation. Energy sector reform and institutional development has been central to ADB's approach in the sector to enable markets, encourage private sector investment, and promote the clean energy transition.

Vision

Support ADB's developing member countries (DMCs) achieve an inclusive, just, and affordable low-carbon energy transition in Asia and the Pacific through an integrated and differentiated approach

Key Trends and Challenges in the Region

- Asia and the Pacific region is home to the more dynamic of the world's economies. Development has not been homogenous across ADB DMCs, with many people still lacking access to reliable and affordable energy.
- There are still around 54 million people without any electricity at all and about 1.2 billion people in ADB DMCs who still rely on traditional ways of cooking that adversely affect their health and ways of life.
- Much of the expansion of energy systems in the region has relied on fossil fuels, leading to harmful climate, health, and environmental consequences.
- As the region has relied on fossil-fuels for more of its energy requirements, energy security is another dimension of the challenges that beset the region.
- Because Asia and the Pacific stands to be most vulnerable to the drastic effects of climate change, transitioning to a low-carbon order is an imperative for the region that is at the crux of the climate conundrum.

Key Opportunities and Operational Priorities

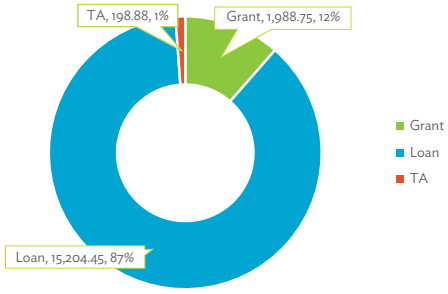
ADB will facilitate the transition to a low-carbon order by supporting its DMCs in:

- accelerating the deployment of renewable energy;
- pursuing strategic decarbonization and phase-out of coal while ensuring a just transition; and
- developing policies and regulations to support low-carbon technologies and introducing market-based instruments that include carbon pricing.

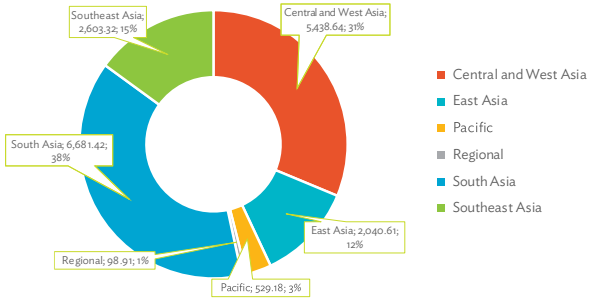
Energy sector operations support ADB DMCs transition to clean energy through various financing instruments in the areas of renewable energy generation, supply-side and demand-side energy efficiency, and policy and governance reforms. As of 31 March 2024, energy sector active portfolio reached **$17.4 billion**.

Active Sovereign Investments and Technical Assistance, as of 31 March 2024

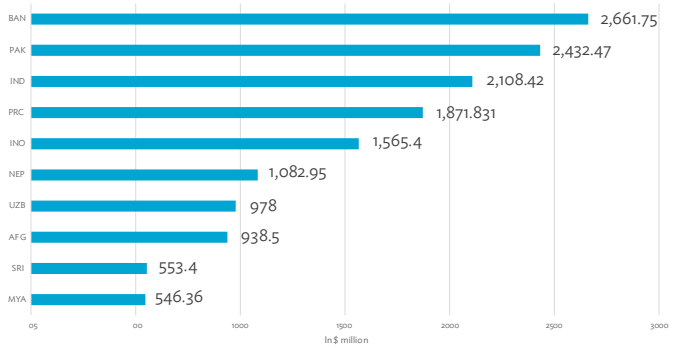
By lending instrument



By region

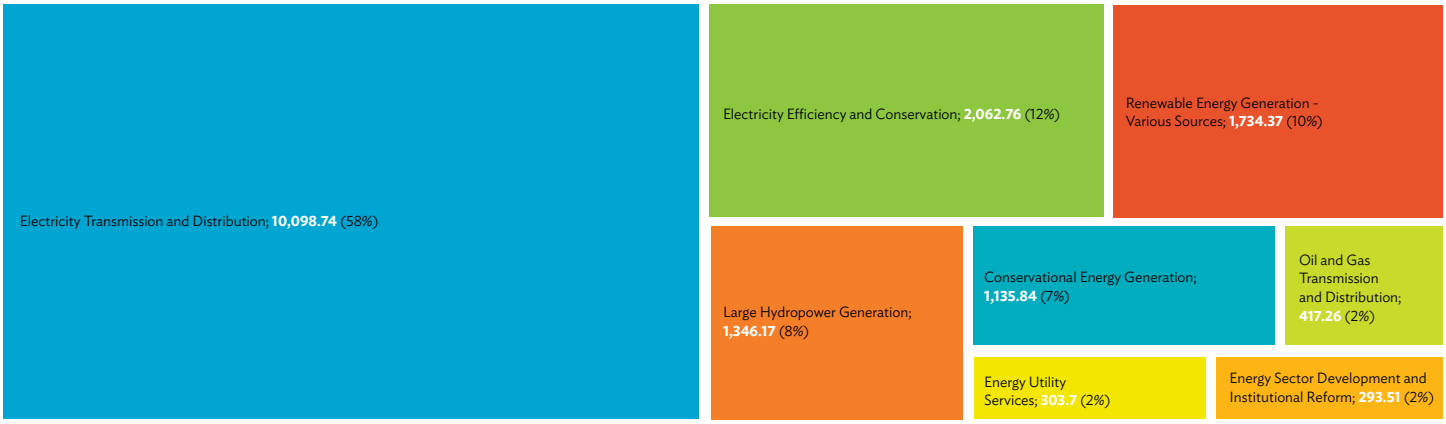


Top 10 DMCs by committed amount



Active Sovereign Investments and Technical Assistance, as of 31 March 2024

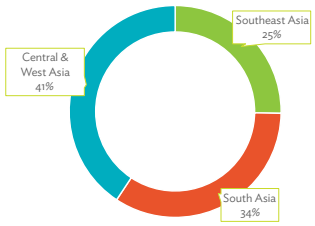
By subsector



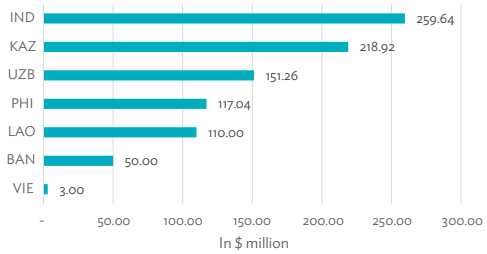
Nonsovereign lending committed, 2023

In 2023, nonsovereign investments committed in the energy sector came close to a billion dollars (**$909.8**).

By region



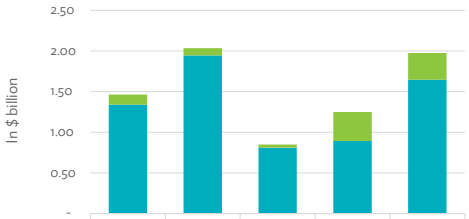
Top 10 DMCs by committed amount



Climate Change Shift

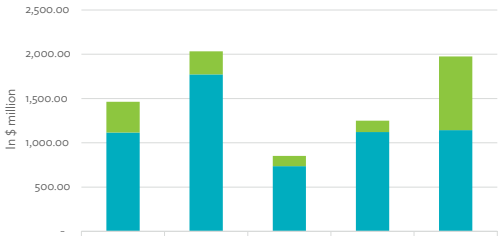
The energy sector contributes to ADB's climate finance goals through its Clean Energy Program. Clean energy investments is the mitigation finance portion of climate finance. Total climate finance in the energy sector reached an annual average of $1.5 billion from 2019-2023, which represents 25% on yearly average of the ADB climate finance. Of the total ADB mitigation finance, energy sector's share is 33% on average yearly from 2019-2023. Energy adaptation finance accounts a yearly average of 9% of ADB adaptation finance from 2019-2023. Sovereign operations account for about 78% on average per year of climate finance in the energy sector from 2019 to 2023, while nonsovereign operations has 22% share.

Climate finance in energy, 2019-2023



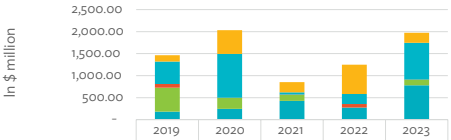
	20192	0202	0212	0222	023
Adaptation	0.12	0.09	0.04	0.36	0.33
Mitigation	1.34	1.94	0.81	0.89	1.65

Energy climate finance by operations, 2019-2023



	20192	0202	0212	0222	023
NONSOV	345.67	261.32	115.12	127.93	832.18
SOV	1,116.50	1,772.19	736.50	1,121.55	1,142.44

Energy climate finance by region, 2019-2023



	2019	2020	2021	2022	2023
Southeast Asia	143.46	539.50	231.08	664.18	230.04
South Asia	507.60	993.02	51.10	228.91	831.93
Pacific	85.155	.836	.40	78.50	2.00
East Asia	540.71	250.17	135.00	-1	30.14
Central & West Asia	185.25	244.45	428.04	277.90	780.50

CLEAN ENERGY FINANCING PARTNERSHIP FACILITY (CEFPF)

Total CEFPF contributions $372.7 million

The CEFPF was established in 2007 to provide financing to Developing Member Countries and help improve energy security and transition to low-carbon use through cost effective investments in clean energy technologies, which result in greenhouse gas mitigation. By promoting the use of clean energy, CEFPF helps decrease the impact of climate change. Further, CEFPF helps reduce poverty by facilitating access to affordable clean energy and opens more opportunities for the poor, including women and children.

ALLOCATION:
$293.7 million
244 PROJECTS*

- **$60.3 Million** 6 Concessional Financing
- **$50.5 Million** 23 Grant Component of Investments
- **$32.9 Million** 32 Technical Assistance Linked to Loan
- **$129.3 Million** 108 Technical Assistance
- **$6.7 Million** 73 Direct Charges

OUTPUTS:

- **$5.6 Billion** Clean Energy Investments
- **55** Clean Energy Technologies Deployed
- **19** Approches to Promote Clean Energy Technologies
- **398,985** Households with Access to Energy
- **22** National & Local Policies for Clean Energy Investment
- **20** Financial Models Used for Clean Energy Investment
- **440** Trainings, Workshops & Conferences

OUTCOME:

Increased Use of Clean Energy

- **29.1 Million Tons** CO_2 per Year Emission Reduction
- **12.6 TWh** Equivalent per Year Energy Savings
- **2,569.4 MW** Installed Capacity of Renewable Energy
- **8.6 TWh/Year** Renewable Energy Generation

IMPACT:

- Improved access to energy
- Enhanced energy security
- Accelerated GHG emissions
- reduction in DMCS

Active Trust Funds under CEFPF

Clean Energy Fund (CEF)

Total Contributions
$125.2 million Project
Allocations
$126.7 million to 156 projects
Remaining Balance
$14.2 million

Aims to improve energy security in Developing Member Countries and decrease the rate of climate change through increased use of clean energy.

Financing Partners
Governments of Australia, Norway Spain, Sweden and the United Kingdom

Asian Clean Energy Fund (ACEF)

Total Contributions
$57.1 million
Project Allocations
$63.0 million to 44 projects
Remaining Balance
$3.2 million

Aims to support the efforts of Developing Member Countries toward reducing greenhouse gases through the utilization of renewable energy and energy efficiency technologies.

Financing Partner
Government of Japan

Canadian Climate Fund for the Private Sector in Asia (CFPS)

Total Contributions
$77.4 million
Project Allocations
$77.8 million to 23 projects
Remaining Balance
$0.5 million

Aims to catalyze greater private investment in climate change mitigation and adaptation in Asia and the Pacific. It will aim to overcome leading edge technology risks and cost hurdles to initiate, and scale-up projects reduce greenhouse gas emissions and increase climate resilience.

Financing Partner
Government of Canada

Smart Energy Innovation Fund (SEIF)

Total Contributions
$13.9 million
(committed amount)

Aims to accelerate innovative artificial intelligence and digitalization technologies towards commercialization by advancing Technology Readiness Levels (TRLs)through pilot projects.

Financing Partner
Government of the United Kingdom

Energy Transition Mechanism Partnership Trust Fund (ETMPTF)

Total Contributions
$81.8 million
Project Allocations
$4.0 million to 3 projects
Remaining Balance
$79.6 million

Aims to catalyze public and private capital to accelerate the transition from carbon intensive to clean energy in ADB Developing Member Countries.

Financing Partners
Governments of Japan, Germany and New Zealand

Regional and Innovation Highlights

The regional highlights show projects, current and in the recent past - that exemplify climate and private sector shifts. Because of One ADB, climate change, and private sector development have been well entrenched in energy sector operations. These projects reflect efforts of each region to address climate change by adopting advanced technologies, increasing the share of renewables in the energy mix, improving energy efficiency. These are achieved through innovative business models and financing instruments and energy sector reforms that help enable the market and drawing the private sector.

South Asia

The region's approach to clean energy transition is also linked with addressing energy access and energy security. This is achieved through the utilization of advance technology, innovative financing, and regional cooperation and integration.

MLD: Accelerating Sustainable System Development Using Renewable Energy

- Aims to increase the share of clean energy sources in the power generation mix to 43%
- Will install grid-scale battery energy storage to attract private sector investments
- Integrates effective gender mainstreaming elements One-ADB collaboration- SG-ENE and OMDP

MLD: Preparing Outer Islands for Sustainable Energy Development Project

- Replace inefficient diesel-based power generation grids with more than 9.5 megawatts (MW) of solar photovoltaic capacity, 5.6 megawatt-hours of battery storage, 11.6 MW of energy efficient diesel generators, and associated investments in 70 outer islands
- An additional financing of $10.5 grant in 2020 further expanded the project in 12 outer islands; install solar-photovoltaic-based ice-making machines in four outer islands to support fisheries, develop and introduce a climate-and-disaster-resilient electricity distribution system in one outer island; and pilot test a solar-photovoltaic-battery-operated ferry for transportation

IND: Bengaluru Smart Energy Efficient Power Distribution Project

- The $190 million project that was processed jointly by sovereign and nonsovereign operation and approved on 2 December 2020, is financing the conversion of 7,200 kilometers (km) of overhead distribution lines to underground cables with parallel installation of 2,800 km of fiber optic communication cables
- Moving the distribution lines underground protects them from natural hazards and interference, reducing technical and commercial losses by about 30%
- Features an innovative financing arrangement, the first of its kind for ADB, combining public and private sector loans to a state government-owned enterprise
- This financing structure reduces the utility's sovereign exposure, while helping it raise resources for capital expenditure using a market-based approach

Central and West Asia

Despite being endowed with fossil fuel resources, the region in recent years has increasingly diversified their energy mix with the incorporation of renewable energy by effectively reigning in the private sector being paved by the public sector.

UZB: Distribution Network Digital Transformation & Resiliency

- 26 distribution substations upgraded to digital substations
- Digital protection installed
- Climate proofing design implemented to improve reliability and resilience of substations
- Increased integration of renewables

TAJ: Power Sector Development Program

- $105 million grant approved on 4 December 2020 that introduces advanced metering infrastructure to reduce power system losses, abating at least 516 tons of greenhouse gas emissions per year
- One ADB approach with OMDP, in the preparation and implementation support for the management contract

UZB: Power Sector Reform Program

- A $200 million policy-based loan approved on 28 September 2020 to support Uzbekistan's power sector reform program, which aims to improve quality of life and create jobs by developing a robust private sector.

UZB: Navoi Solar Power Project

- $13 million loan approved on 30 September 2020 that supports the construction of a 100-megawatt grid-connected solar power plant
- A landmark project as the first private sector renewable energy investment in Uzbekistan
- Has strong demonstration effect for private sector participation in Uzbekistan's energy sector that is rapidly liberalizing
- Has established a solid bankable precedent adopting international best practice

Southeast Asia

The region is ADB's launchpad for the Energy Transition Mechanism, which leverages the early retirement of coal-based power plants while increasing the uptake of renewables. Historically, the region is also the site of the first results-based lending that has helped achieve project outcomes more effectively. The National Solar Park Project in Cambodia has demonstrated how to effectively enable the market in drawing an efficient price through the appropriate financing instrument, design, and mechanism.

LAO: Monsoon Wind Power

- First cross border wind project in Asia
- First wind power plant in Laos PDR
- Largest wind power project in ASEAN
- ADB is the sole mandated arranger and bookrunner
- At least 748,867 tons of carbon dioxide equivalent of greenhouse gas emissions annually

CAM: National Solar Park Project

- $7.6 million loan approved on 17 April 2019
- Supports the construction of solar photovoltaic power plants in Cambodia
- Auctioning of 100-megawatt (MW) capacity in two phases: 60 MW (2019) and 40 MW (2021). Both phases resulted in lowest-ever tariff in ASEAN for grid-connected solar

PHI: Climate Change Action Program

- The $250 million subprogram of this program-based loan approved on 31 May 2022 is helping increase and intensify actions to transform key sectors toward a climate-resilient and low-carbon economy.
- It focuses on sectors that are of national priority for climate action, targeting adaptation in highly vulnerable sectors (agriculture, natural resources, and environment), and mitigation in emissions-intensive sectors (energy and transport).
- The program reform areas are (i) strengthening planning, financing, and institutional linkages for climate action; (ii) enhancing resilience to climate impacts; and (iii) strengthening low-carbon pathways.

Pacific

The energy transition path in the region is not only towards clean energy but also ensuring energy security. Through the Pacific Renewable Energy Investment Facility from public sector operations, economies of scale and scope were realized in scaling up renewable energy projects. The Pacific Renewable Energy Program in nonsovereign operations is helping to remove the barriers of private sector financing in renewable energy in the Pacific small island development states.

TUV: Increasing Access to Renewable Energy – Additional Financing

- ADB's first engagement in the country's energy sector
- Installation of a total of 224 kWp solar PV capacity to increase share of renewable energy in the generation mix
- 17,800 tons of carbon dioxide equivalent of greenhouse gas emissions to be reduced

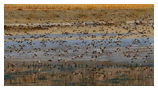
KIR: South Tarawa Renewable Energy Project

- Approved on 22 November 2020 the $8 million grant under the Pacific Renewable Investment Facility will install a solar photovoltaic and battery energy storage system, thereby reducing dependence on imported fossil fuel and carbon emissions;
- draft an energy act to enable increased deployment of renewable energy.

REG: Pacific Renewable Energy Program

- A $100 million regional investment facility approved on 17 April 2019
- Provides financing instruments and a credit enhancement product to support utilities in the Pacific to mainstream renewable energy generation
- Includes a combination of guarantees, direct loans, technical assistance, and a donor backed letter of credit to support offtake obligations of a power utility
- Uses the donor-backed letter of credit to support off-take obligations of the power utility in lieu of a government guarantee - an innovative product with both sovereign and private sector benefits.

East Asia



The multi-year and multi-pronged interventions in improving air quality in the Greater Beijing-Tianjin-Hebei region in the People's Republic of China and the utility-scale battery energy storage project in Mongolia demonstrate the direction in which the region is taking its clean energy transition: utilizing advance technology and myriad financing instruments to maximize climate co-benefits across different sectors.

PRC: Shanxi Low-Carbon and Inclusive Rural Development

- Inclusive, green, and sustainable urban-rural public services improved in Shanxi Province
- Greenhouse gas emissions and other air pollutants reduced
- Demonstrates application and deployment of low-carbon technologies in water resources management and heating
- Integrates cross-sectoral elements

MON: First Utility-Scale Energy Storage Project

- This $150 loan approved on 22 April 2020 increases renewable energy use in Mongolia by providing a large amount of regulation reserve, load shifting capacity, and emergency back up
- The largest battery energy storage system plant supported by ADB

PRC: Air Quality Improvement in the Beijing-Tianjin-Hebei Region – Green Financing Scale-Up Project

A financial intermediary loan that is part of a multiyear intervention that started in 2015. This FI loan amounting to $150 million approved on 2 December 2020:

- supports cutting-edge energy technologies to stimulate transformational change in energy use and supply;
- addresses the emerging challenge of increasing ground level ozone concentrations and hydrofluorocarbons emissions, in addition to conventional air pollutants and greenhouse gas;
- promotes financial inclusion through fintech-powered lending platform development for micro, small and medium-sized enterprises, and gender mainstreaming in clean energy investments; and
- leverages large amount of fund from domestic market, including private sector