

Solar and wind power in Mongolia: 2024 policy overview



SEI policy brief October 2024

Baigalmaa Chinbat,
Climate Policy Fellow, SEI

Miquel Muñoz Cabré,
Senior Scientist, SEI

Key messages:

- **Mongolia has significant wind and solar energy resources, yet as of 2023, renewable electricity production was about 9% of the total (6.2% wind, 2.3% solar, 0.5% hydro), well below estimated global average of 30% in 2023, highlighting the need for increased development and investment in this sector.**
- **Mongolia has a target of 30% renewable energy capacity by 2030, reflecting the country's commitment to transitioning to a low-carbon, green economy as outlined in the Vision 2050 strategy.**
- **Mongolia's share of women working in renewable energy is below global averages, underlining the need for additional measures to ensure gender equality in the sector.**

This brief provides an overview of the renewable energy policy landscape for wind and solar in Mongolia as of June 2024. Here, we discuss legislation and financing for renewable energy sources, as well as regulation regarding the social and environmental impacts of renewable energy projects. We also give an overview of institutions and civil society stakeholders engaging in renewables, and key information on existing solar and wind farms operating in the country.

Mongolia's renewable energy potential is estimated at 2600 gigawatts (GW), including wind and solar. This is over 1000 times larger than the 1.6 GW installed capacity of Mongolia's electricity system. Mongolia imported 22.3% of its electricity in 2023 from China and Russia.

Key policies and regulations

Mongolia's energy policy is defined by its [Vision 2050](#), the country's long-term development strategy approved by the Parliament in 2020. Vision 2050 outlines the government's target to achieve 30% renewable energy capacity by 2030. The 2021 [New Recovery Policy](#), a supporting policy to enhance the implementation of Vision 2050, includes a section on energy policy, which focuses on enhancing energy production and supply reliability by developing renewable energy facilities. Vision 2050 superseded the 2015 [State Policy on Energy](#).

The electricity sector in Mongolia is regulated by the 2001 [Energy Law](#). The legal framework for renewable energy is provided by the 2007 [Renewable Energy Law](#), as amended in 2008, 2011, 2012, 2015, 2019 and 2022. Under the Renewable Energy Law,

renewable energy developers must obtain a license from Energy Regulatory Commission (ERC) (Art. 7). Developers then obtain a USD-denominated tariff from the ERC, set in accordance with the payback period of the investment (Art. 11). A 2019 amendment capped the tariff at USD 0.085/kWh for wind power and 0.12/kWh for solar PV. Before 2019, the tariff ranged from USD 0.08 to 0.095/kWh for wind and USD 0.15 to 0.18/kWh for solar PV. A power purchase agreement (PPA) at the established tariff is then signed with the National Dispatching Center (the National Power Transmission Grid before the 2019 amendment). Article 11 creates a support tariff on the final user to promote renewable energy. Following a single buyer model, the distribution company collects the support tariff from end users along with the energy bill and transfers it into a zero balance account managed by National Dispatching Center and used to pay producers on a daily basis. The 2019 amendment also introduced a competitive auction system for renewable energy, which is not yet implemented (Art. 4), and requirements for project implementation guarantees in the form of a bank guarantee or cash deposit. All PPAs are required to include project implementation guarantees (Art. 10).

Tax incentives for renewable energy include: (i) VAT exemptions (Art. 13 of the Value Added Tax Law, as amended by the Law of 18 December 2015); and (ii) import duty exemptions (Art. 38 of Custom Tariffs and Custom Duties Law as amended by the Law of 18 December 2015).

Mongolia's Nationally Determined Contribution (NDC)¹ under the Paris Agreement emphasizes the role of renewable energy in achieving greenhouse gas mitigation targets, with a specific goal of reducing 2.97 megatonnes of CO₂ equivalent by deploying renewable energy by 2030.

In Mongolia, key public institutions involved in renewable energy include the Ministry of Energy (MoE), ERC and the National Dispatching Center. The MoE develops and implements state policies, conducts feasibility studies, drafts standards, and collaborates on human resource development for renewable energy projects. The ERC reviews and approves energy price calculations, sets tariffs, and monitors agreements between producers and the National Dispatching Center. The National Dispatching Center is responsible for purchasing electricity from producers at approved tariffs and managing grid expansion, excluding the connection of producers to the transmission grid. National Power Transmission Grid is responsible for connecting the transmission line from the renewable energy plant to the grid, which is built and paid for by the developer.

Financing

Mongolia has reached 12 operating solar and wind utility-scale renewable energy projects in 2023. The estimated total investment into these projects is USD 533 million, with 364 million going to wind and 169 million to solar (See Table 1).

Many international development finance institutions have engaged in renewable energy in Mongolia. For example, Asian Development Bank (ADB) approved a loan of USD 100 million in April 2020 toward a 125 megawatt (MW) battery storage system to increase the development of renewable energy. ADB also provided a USD 40 million loan and 20.6 million grant towards the Upscaling Renewable Energy Sector, together with Climate Investment Fund's Strategic Climate Fund and Japan's Fund for the Joint Crediting Mechanism. A World Bank USD 42 million loan and 12.5 million grant agreement supports utility-scale solar PV and other energy investments. Other international development partners active in Mongolia's renewable energy sector include, among others, the European Bank for Reconstruction and Development (EBRD), the European Investment

¹ In Mongolia, NDC usually refers to the National Dispatching Center.

Bank (EIB), the Green Climate Fund (GCF), the German Agency for International Cooperation, the Global Green Growth Institute, the International Finance Corporation (IFC), Japan Bank for International Cooperation (JBIC), Japan International Cooperation Agency (JICA), Netherlands Financing Agency (FMO), the UN Development Programme and USAID Mongolia.

Table 1: Existing utility scale solar and wind projects in Mongolia

Year operational	Project name	Project owner	Capacity	Investment	Key international public lenders
<i>Wind farms</i>			(MW)	(million USD)	
2013	Salkhit	Clean Energy	50	122.1	EBRD, FMO
2017	Tsetsii	Clean Energy Asia	50	120.7	EBRD, JICA
2018	Sainshand	Sainshand Salkhin Park	55	121.7	EIB, EBRD
Subtotal			155	364.5	
<i>Solar plants</i>					
2016	Nar (Darkhan)	Solar Power International	10	18.3	Joint Crediting Mechanism
2017	Monnaran	Everyday Farm	10	23	JBIC
2018	Gegeen	Naranteeg	15	26	100% equity
2019	Sumber	ESB Solar Energy	10	17.6	GCF
2019	Bukhug	Tenuungerel Construction	15	18.7	ADB
2020	Gobi	Desert Solar Power One	30	30.7	EBRD, FMO
2022	Khovd Nar (Myangad)	N/A	10	16.0	World Bank
2023	Borkh	MCS international	5	7.95	ADB
2023	Serven	MCS international	10	10.4	ADB
Subtotal			115	168.65	
Total			270	533.15	

Socioeconomic, equity and civil society aspects

Based on data from the MoE, the renewable energy sector's workforce is predominantly male, with only a slightly higher share of women employees than in the overall energy sector (29% vs. 26%). There is, however, a large difference in the gender balance between projects. For example, internal reports indicate that the Gegeen solar park (15 MW) implemented a policy to maintain gender balance, achieving a workforce that is 43% women. In contrast, the Nar solar power plant (10 MW) is solely operated by men. In between, at the Salkhit wind farm (50 MW), nine of the 38 (24%) employees are women, while at the Sainshand wind farm (55 MW) three of its 15 employees (20%) are women. With the exception of Gegeen, all plants are below the global average of 32% female employment in the renewable energy industry, and 40% for solar.

Several civil society organizations and think tanks in Mongolia are engaged in renewable energy, particularly in wind and solar power. The Economic Policy and Competitiveness Research Center (EPCRC), a Mongolian think tank, conducts a range of quantitative, survey-based research studies on economic development and the green economy. In 2018, the EPCRC prepared the Green Economy Policy Assessment: Mongolia report,

ACKNOWLEDGEMENTS

We are grateful to Jambaa Lkhagva, Managing Director of the Mongolian government's National Energy Reform Committee; Enkhtuvshin Ganbaatar, Ph.D, Director of Strategy and Planning Division, Policy and Planning Department at Mongolia's Ministry of Energy; Mr. Anar Sanjijalav, Senior Specialist of Renewable Energy Division, Policy and Planning Department, Ministry of Energy; and Sukhbaatar Tsegmid, CEO of Clean Energy LLC, for their valuable contributions to this brief.



Published by

Stockholm Environment Institute
Linnégatan 87D, Box 24218
104 51 Stockholm, Sweden
Tel: +46 8 30 80 44

DOI:

<https://doi.org/10.51414/sei2024.046>

Author contact

miquel.munozcabre@sei.org

Media contact

lynsi.burton@sei.org

Visit us: sei.org

Twitter: [@SEIresearch](https://twitter.com/SEIresearch)
[@SEIclimate](https://twitter.com/SEIclimate)

Editor: Lynsi Burton

Layout: Tyler Kemp-Benedict

Stockholm Environment Institute is an international non-profit research institute that tackles environment and sustainable development challenges.

We empower partners to meet these challenges through cutting-edge research, knowledge, tools and capacity building. Through SEI's HQ and seven centres around the world, we engage with policy, practice and development action for a sustainable, prosperous future for all.

which covers renewable energy opportunities. The state-owned [Mongolia Energy Economy Institute](#) provides technical advice. Representing the private sector, the [Mongolian Renewables Industries Association](#) works to improve policy, organize national and international conferences and seminars, and consolidate workforce capacity. Also, the [Mongol Energy Club](#), a non-government organization, seeks to deliver clean energy for all from within Mongolia's borders. Additionally, the [Energy Council](#), established by the Mongolian National Chamber of Commerce and Industry in September 2023, aims to create a platform for the public and private sectors to facilitate energy exporting in the long run.

Looking to the future

In June 2024, the [MoE](#) and the [IFC](#) signed an agreement to prepare comprehensive project due diligence and develop a 100 MW wind farm through the first competitive auction in the country. Aligned with Mongolia's Vision 2050 and the New Recovery Policy, the government plans to implement additional renewable energy projects, including the 90 MW [Erdeneburen Hydropower Plant](#), a 200 MW battery storage facility, and the 315 MW [Eg River Hydropower Plant](#). Under the [Upscaling Renewable Energy Sector Project with ADB](#), the 10 MW [Moron solar power plant](#) and a 17.5 MW solar plant are expected to begin operations between 2024 and 2025.

After the parliamentary election in June 2024, Prime Minister H.E Luvsannamsrai Oyun-Erdene announced his goal to liberalize the energy sector during the [Mongolian Economic Forum 2024](#).