



INTERNATIONAL
ENERGY CHARTER

In-Depth Energy Efficiency Review of Mongolia

Ozlem Duyan

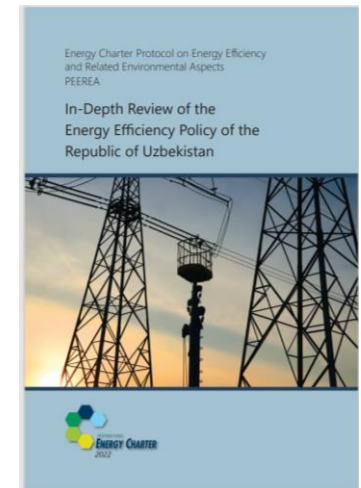
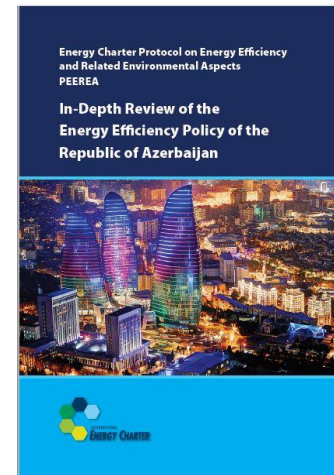
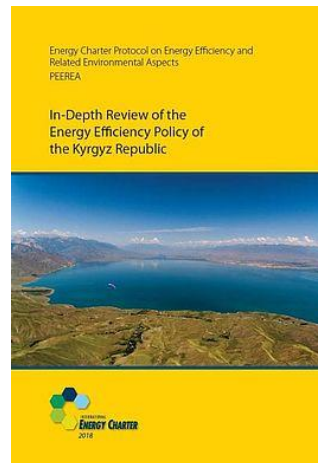
*29 November 2022,
Brussels*

IN DEPTH ENERGY EFFICIENCY REVIEW

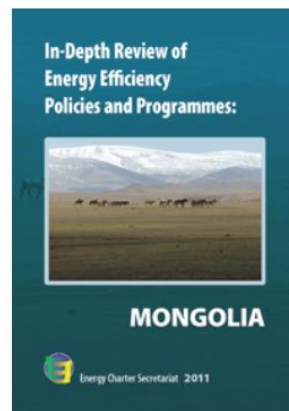
The Energy Charter's energy efficiency review process relies on two major complementary components: regular monitoring based on a standard review format and in-depth energy efficiency reviews.

Most recent In-Depth Review of the Energy Efficiency Policy Reports:

- Uzbekistan** - published in 2022
- Azerbaijan** - published in 2020
- Kyrgyzstan** - published in 2018



- Mongolia has ratified the Energy Charter Treaty and the Protocol for Energy Efficiency and Related Environmental Aspects (PEEREA) in 1999.
- A regular review of Mongolia's energy efficiency policies was presented in 2003.
- An in-depth review of energy efficiency policies of Mongolia was carried out in 2010 and published in 2011 (available at the link: [In-Depth Energy Efficiency Review of Mongolia \(2011\) - Energy Charter](#))



English



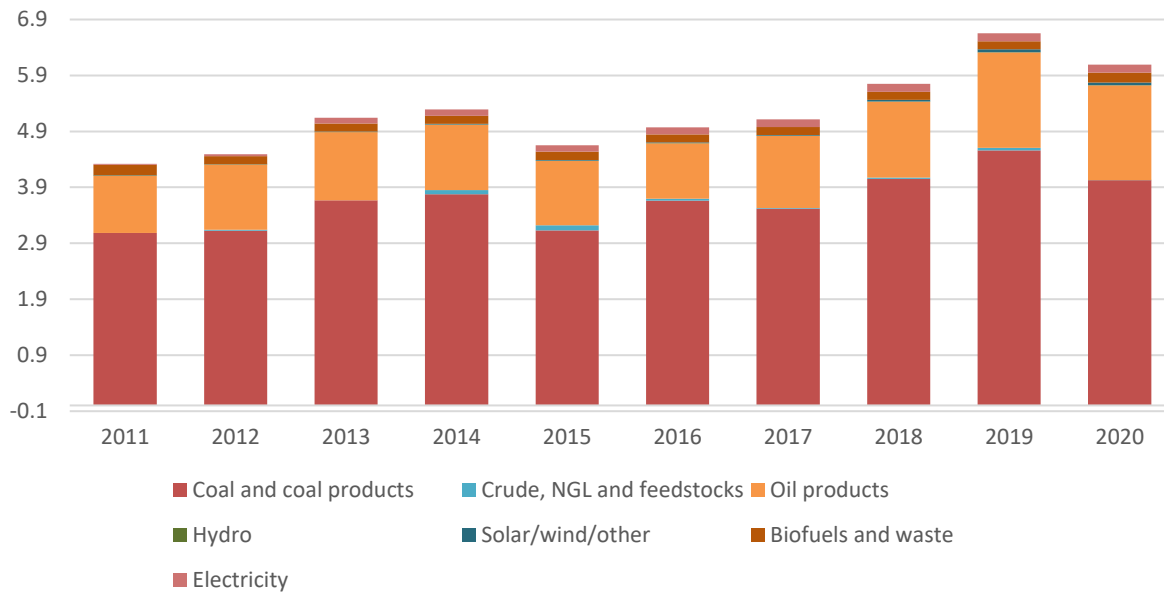
Русский



- The Law on Energy Conservation adopted 26.11.2015
- Energy Conservation Council has been operating as a specialized unit under the ERC for the implementation of energy efficiency policies following the enactment of Energy Conservation Law in 2015.
- The strategic framework on energy addresses two important energy-related problems of Mongolia:
 - High energy consumption on the supply and demand side
 - Deficit of power and heat reserved capacity

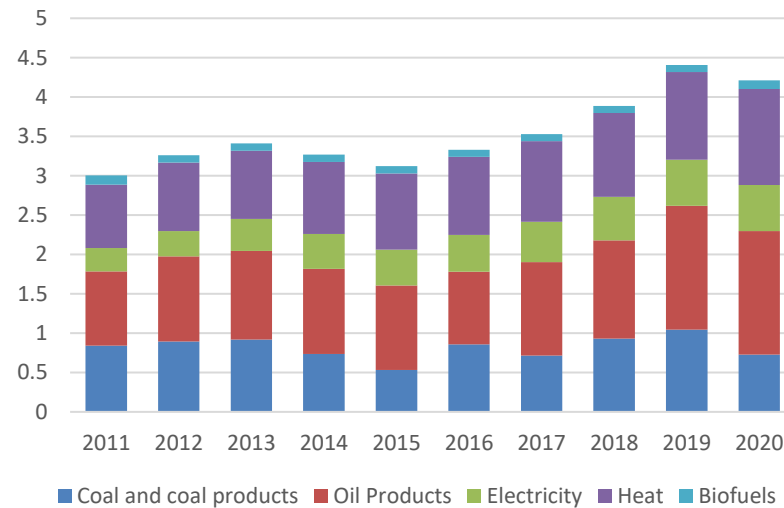
The Government of Mongolia built its long term energy related strategical framework on ensuring energy supply and becoming an energy exporter by 2030. The key policy documents envisages increasing renewable electricity capacity to 30% by 2030 as a share of total electricity generation capacity and increasing energy efficiency.

Total Energy Supply (TES), 2011–2020, Mtoe



Source : IEA (2022), World Energy Balances

Total final consumption per fuel, 2011-2020, Mtoe



- Heat consumption increased by 51.7% and electricity consumption of all sectors of economy almost doubled during 2011-2020
- No major investments were made to meet the growing demand which resulted in deficit of electricity supplies
- The total power installed capacity increased by 31.8% from 1,062 MW in 2011 to 1,400 MW in 2020 mainly due to the increased installed capacity of renewable energy sources



9.1 GENERAL RECOMMENDATIONS

9.2 INDUSTRY

9.3 ENERGY

9.4 DISTRICT HEATING

9.5 BUILDINGS

9.6 ENERGY USING PRODUCTS

9.7 TRANSPORT



9.1 GENERAL RECOMMENDATIONS

- The independence of the energy regulator should be strengthened
- Develop and adopt a comprehensive long-term energy strategy that covers all energy sectors and takes into account the “energy efficiency first” principle and demand side management
- Create an energy efficiency unit in each Regulatory Board of aimags and the capital city. The regional EE units should be responsible for the implementation of energy efficiency programs in the region and for the efficient coordination of activities with the ERC. Increase the human, technical and resource capacity of the Energy Conservation Council



9.1 GENERAL RECOMMENDATIONS

- Prioritise the development and approval of incentive tariff methodologies according to the best international practice. The utilities have to be incentivised to reduce their losses and operational costs and improve their decision-making process based on the least costs approach regarding network development
- Gradually introduce the cost-reflective energy tariffs along with the improvement of quality and reliability of supply which will eliminate the need for subsidies. All consumers should be confident that they are paying a fair price for reliable services. Ensure that the tariff reform still provides sufficient mechanisms to protect socially vulnerable consumers. Consumers should be regularly informed about the real costs of electricity supplied, including the return on the investments needed to maintain the reliability of supply



9.1 GENERAL RECOMMENDATIONS

- It may be advantageous to assign energy efficiency policy implementation responsibilities to the ERC, while policy evaluation functions should be kept within the MoE. Ensure effective feedback loops by improving coordination between the development, implementation and the evaluation of energy efficiency policy, energy sector strategy development and energy system planning. Monitoring and evaluation results should be publicly available.
- Carry out an energy efficiency potential assessment on technical and economic EE potential in all sectors in general and sub-sectors in particular. The studies may include different levels of energy efficiency ambition and the needed investments.



9.1 GENERAL RECOMMENDATIONS

- Create a national policy framework for EE finance in various sectors. A separate fund for Energy Efficiency investments could be created based on stable revenue streams.
- Launch a targeted public communication campaign promoting the multiple benefits of energy efficiency. Consider the establishment of sustainable energy information centers promoting energy efficiency and renewable energy solutions.



9.2 INDUSTRY

- Ensure high quality energy audits, introduce specific financial incentives that can be used for mandatory implementation of certain energy conservation measures.
- Prioritize ecodesign requirements for all industrial appliances.
- Develop and approve a methodology for ancillary services. Network operators can be required to encourage the demand side to participate in the ancillary service market.



9.2 INDUSTRY

- Introduce Monitoring and Verification Platform (MVP) for tracking down energy consumption of designated consumers to track energy savings. It could contribute to the development of efficiency indicators and benchmarking analysis
- Establish specific energy efficiency targets for each sub-sector based on the sectoral energy savings target and monitor the progress through the M&V Platform.
- Introduce financial incentives for the implementation of energy efficiency measures.



9.3 ENERGY

- Introduce auction mechanism for construction of high efficient and maneuvering generation plants that will provide input for achieving flexibility and acceptance of more renewable energy to the grid. Gradually close down the outdated units of CHPs and replace them with new flexible and maneuvering units.
- Improve the decision-making process related to the development and rehabilitation of power networks. The decision should be based on the least costs approach and equally consider supply and demand-side options
- Improve tariff menu to address the problem of peak demand of the power grid



9.3 ENERGY

- Prioritize the reduction of specific fuel consumption and power plants' own use. Introduce incentives for the management and the staff of the plant to improve overall plant efficiency and reduce fuel consumption. Increase transparency and regularly publish data on key performance indicators of the power-generating sector.
- Provide incentives for the transmission and distribution operators to decrease power losses. Saved costs should remain with the companies and to be used for their needs.
- Switch state renewable electricity support scheme from the feed-in-tariff model to cost competitive auctions. Consider conducting the auctions prepared by the Ministry of energy land plots and grid connection points
- Strengthen state policy and introduce financial mechanisms to stimulate development of consumer RES installations (e.g. rooftop solar).



9.4 DISTRICT HEATING

- Prioritise the installation of heat meters per building. Introduce the billing system based on the amount of heat consumed to provide ‘fair treatment’ and motivate building occupants to implement the energy efficiency measures.
- Create a financial support mechanism to renovate district heating systems e.g. cost-reflective heat tariffs, incentives. The DH companies should be allowed to use energy savings for the repayment of investment in EE and, once the debt has been repaid, to keep the energy savings each year
- Provide incentives for the transmission and distribution operators to decrease heat losses. Saved costs should remain with the companies and to be used for their needs.



9.4 DISTRICT HEATING

- Assess the installation of small scale HOBs for remote areas to reduce water leakages and associated heat losses for DH companies.
- Conduct a separate assessment of the waste heat potential of the industrial sector and further integration of the waste heat into the district heating system.
- Assess the potential of biomass and municipal solid waste incineration.



9.5 BUILDINGS

- Assign a single state authority for greater coordination of the implementation of energy efficiency policies, ranging from research activities to financing schemes and dedicated programmes.
- Conduct up-to-date assessment of energy efficiency potential in residential, commercial and public buildings. The analysis should also include the potential impact of EE policy measures on job creation, the development of local insulation materials market and a wider economic impact.
- Introduce specific targets on improving energy efficiency in new and existing buildings and implement the M&V Platform to track the progress



9.5 BUILDINGS

- Prioritise the mandatory application of minimum energy performance requirements for new and renovated buildings.
- Promote the exemplary role of the public sector with regard to building renovation.
- Develop a system of tariff incentives to change consumer behaviour and promote investment in energy efficiency.
- Introduce incentives for local authorities and the owners of public buildings to reduce energy consumption and implement EE measures. Local authorities should be allowed to use energy savings for the repayment of investment in EE and, once the debt has been repaid, to keep the energy savings each year.



9.5 BUILDINGS

- Create appropriate conditions for the ESCOs companies functioning. Prioritize the development of EPC legislation for the public sector.
- Make buildings' energy performance certificate compulsory for all newly constructed and renovated buildings, further introducing it as a mandatory element of renting and selling contracts.



9.6 ENERGY USING PRODUCTS

- Introduce ecodesign requirements for specific product groups with the highest energy efficiency potential and least difficult to implement. Prioritize the adoption of the draft energy labeling regulations.
- Improve data collection of energy-consuming products and develop a list of energy efficient equipment and materials. It could be used as a reference for developing targeted energy efficiency programmes.
- Introduction of green public procurement requirements in the relevant law or introduce other legislative changes mandating authorities to prioritise the purchase of appliances with the highest energy efficiency rating.



9.6 ENERGY USING PRODUCTS

- Introduce financial support mechanism for the replacement of inefficient products while encouraging the purchase of energy-efficient appliances.
- Provide general support and assistance to facilitate a higher uptake of highly efficient products and appliances. Develop targeted awareness-raising campaigns to enhance consumers' awareness of the benefits of using more energy-efficient appliances



9.7 TRANSPORT

- Amend the Law on Taxation of Motor Vehicles and create additional incentives to motivate users to buy less polluting cars. Introduce the maximum allowed age for the imported vehicles
- Establish EURO 5 standard as a minimum fuel quality
- Prioritize the establishment of test facilities to ensure the high quality fuel integration
- Introduce car emissions labeling and mandate its availability at the moment of vehicle selling. Implement the tire labelling scheme and make it available at the moment of tire selling
- Assess the impact of the development of electric transport on the reliability and potential increase in electricity deficit



9.7 TRANSPORT

- Prioritize the renovation and promotion of public transportation by increasing the quality of service. Unify all public transport providers in one single system/platform, which will simplify route planning and increase the attractiveness of municipal transport.
- Promote eco driving as one of the most economically efficient measures to reduce CO2 emissions and save fuel, especially using seminars for instructors. Organise campaigns for spreading main advice on green driving.



***THANK
YOU***

Contact

ozlem.duyan@encharter.org